RADIACID 0605

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
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Issue date: 11/09/2026 Revision date: 21/06/2024 Supersedes version of: 15/06/2023 Version: 4.14

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Substance
Trade name	:	RADIACID 0605
IUPAC name	:	Hexanoic acid
EC no.	:	205-550-7
CAS No.	:	142-62-1
REACH registration No.	:	01-2119978228-24
C&L notification reference no	:	02-2119692941-27-0000
Label name	:	Caproic acid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Main use category	:	Industrial use
Use of the substance/mixture	:	Chemical intermediate

Title	Life cycle stage	Use descriptors
General overview of industrial uses of commercial fatty acids	Industrial	SU0, SU1, SU4, SU5, SU8, SU9, SU10, SU17, SU23, PC0, PC9a, PC9b, PC9c, PC14, PC15, PC18, PC19, PC20, PC21, PC23, PC24, PC25, PC32, PC34, PC35, PC37, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15, PROC17, PROC18, PROC19, PROC21, PROC23, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7, ERC8a, ERC8c, ERC8d, ERC8f, ERC9a, ERC9b, ERC10a, ERC11a
General overview of professional uses of commercial fatty acids	Professional	SU0, SU1, SU4, SU5, SU8, SU9, SU10, SU17, SU23, PC0, PC8, PC20, PC21, PC27, PC28, PC31, PC35, PC39, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC19, ERC4, ERC5, ERC8a, ERC8b, ERC8c, ERC8d, ERC8f, ERC9b
General overview of consumer uses of commercial fatty acids	Consumer	PC0, PC1, PC3, PC8, PC27, PC28, PC29, PC31, PC35, PC39, ERC8a, ERC8c, ERC8d, ERC8f
Exposure Scenario FA C6 (Association ref code: FAC Exposure Scenario FA C6)		
General overview of manufacturing uses of commercial fatty acids	Manufacture	SU3, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15, ERC1
General overview of formulation uses of commercial fatty acids	Formulation	SU3, PC0, PC3, PC8, PC9a, PC9b, PC9c, PC18, PC20, PC23, PC24, PC27, PC28, PC31, PC32, PC34, PC36, PC39, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC12, PROC13, PROC14, PROC15, PROC21, PROC24, ERC2, ERC3

Full text of use descriptors: see section 16

1.3. Details of the supplier of the safety data sheet

OLEON N.V.
Assenedestraat 2
BE 9940 Ertvelde
Belgium
T +32 9 341 10 11, F +32 9 341 10 00
sds@oleon.com, www.oleon.com

1.4. Emergency telephone number

Emergency number : 24/7 EMERGENCY NUMBER (SGS ERS; Oleon contract nr 76858)
+32 3 575 55 55 (worldwide); +1 888 765 6554 (USA tollfree)

Country/Area	Organisation/Company	Address	Emergency number	Comment
	World directory of poisons centres (Yellow Tox) WHO-OMS	Website	http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 1, Sub-Category 1C H314
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) : Danger
Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.
Precautionary statements (CLP) : P260 - Do not breathe mist, spray, vapours.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Other hazards which do not result in classification : None under normal conditions.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hexanoic acid	CAS No.: 142-62-1 EC no.: 205-550-7 REACH-no: 01-2119978228-24	> 95	Skin Corr. 1C, H314

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Keep the victim calm, avoid physical strain. Prevent cooling by covering the victim (no warming up). Ingestion of large quantities: immediately to hospital. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Take victim to fresh air, in a quiet place in an half laying position, do artificial respiration if necessary and urgently take medical advice. If victim is in shock, place him on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Keep watching the victim. Give psychological aid.

First-aid measures after inhalation : Remove victim to fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash off immediately with soap and plenty of water. Continue to rinse for at least 15 minutes.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Consult an ophthalmologist if irritation persists. Do not apply (chemical) neutralizing agents.

First-aid measures after ingestion : Rinse mouth out with water. Ingestion of large quantities: immediately to hospital. Call a poison center (www.who.int/ipcs/poisons/centre/directory/en).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : No supplementary information available.

Symptoms/effects after inhalation : Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

Symptoms/effects after skin contact : Tingling/irritation of the skin.

Symptoms/effects after eye contact : Irritation of the eye tissue.

Symptoms/effects after ingestion : Possible esophageal perforation. Nausea. Vomiting. Abdominal pain. Burns to the gastric/intestinal mucosa.

4.3. Indication of any immediate medical attention and special treatment needed

No supplementary information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : AFFF foam. BC-powder. Carbon dioxide. Dry sand. Dry chemical powder. Use the extinguishing media recommended for the burning materials and fire situation.

Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD: Combustible. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard.

Explosion hazard : DIRECT EXPLOSION HAZARD: Fine dust dispersed in air may ignite. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

Reactivity in case of fire : On burning: release of carbon monoxide/carbon dioxide.

5.3. Advice for firefighters

Other information : No supplementary information available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows. In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. In case of dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosionproof appliances/lighting equipment. Wash contaminated clothing before reuse.

For non-emergency personnel

Protective equipment : See "Material-Handling" to select protective clothing.

For emergency responders

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent soil and water pollution.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean contaminated surfaces with a soap solution. Flush/dilute with water. Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite or powdered limestone.

Other information : No supplementary information available.

6.4. Reference to other sections

Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling temperature : ≥ 10 °C above melting point

7.2. Conditions for safe storage, including any incompatibilities

Information on mixed storage : KEEP AWAY FROM: Oxidizing agents. reducing agents. bases. strong bases.

Storage area : Store in a dry area. Meet the legal requirements. Store at room temperature.

Special rules on packaging : Store in a closed container. Suitably labelled. Meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: Stainless steel. aluminium. glass. steel with plastic inner lining.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL and PNEC

RADIACID 0605 (142-62-1)	
DNEL/DMEL (additional information)	
Additional information	Please contact Oleon for further information (sds@oleon.com)
PNEC (additional information)	
Additional information	Please contact Oleon for further information (sds@oleon.com)

8.2. Exposure controls

Personal protection equipment

Personal protective equipment:

Gloves. Face shield. Protective clothing. In case of dust production: protective goggles. Dust production: dust mask with filter type P2.

Personal protective equipment symbol(s):



Skin protection

Other skin protection

Materials for protective clothing:

Good resistance: Rubber

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Colourless or yellow. Light brown.

Appearance (room temperature) : Liquid.

Molecular mass	:	116.16 g/mol
Odour	:	Characteristic. Unpleasant odour.
Odour threshold	:	Not available
Melting point	:	ca. -4 °C
Freezing point	:	Not available
Boiling point	:	203 °C (1013 hPa)
HMIS Flammability	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	104 °C (Open cup, ISO 2592)
Auto-ignition temperature	:	380 °C (1013 hPa, T2)
Decomposition temperature	:	> 250 °C
SADT	:	Not applicable
pH	:	No data available in the literature
Viscosity, kinematic	:	3.452 mm^2/s
Viscosity, dynamic	:	ca. 3.2 mPa·s (20°C)
Solubility	:	Water: 1.1 g/100ml (25°C)
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	1.75 (Weight of evidence approach, Equivalent or similar to OECD 107, 25 °C)
Vapour pressure	:	< 0.001 hPa (20°C)
Vapour pressure at 50 °C	:	Not available
Density	:	ca. 927 kg/m^3 (20°C)
Relative density	:	Not available
Relative vapour density at 20°C	:	4
Relative density of saturated gas/air mixture	:	1
Particle characteristics	:	Not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosion limits	:	1.3 – 9.3 Vol-%

Other safety characteristics

Minimum ignition energy	:	No data available in the literature
Specific conductivity	:	No data available in the literature
VOC content	:	≈ 100 % (2004/42/EC; SR 814.018)
Other properties	:	Gas/vapour heavier than air at 20°C,Slightly volatile
Additional information	:	This product is absent from Annex 1 and Annex 2 of the Swiss ordinance 814.018 (OVOC)

SECTION 10: Stability and reactivity

10.1. Reactivity

On burning: release of carbon monoxide/carbon dioxide.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No supplementary information available.

10.5. Incompatible materials

No supplementary information available.

10.6. Hazardous decomposition products

No supplementary information available.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

RADIACID 0605 (142-62-1)	
LD50 oral rat	> 2000 mg/kg (BUA Report 241)

Skin corrosion/irritation : Causes severe skin burns.
pH: No data available in the literature

Serious eye damage/irritation : Assumed to cause serious eye damage
pH: No data available in the literature

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

RADIACID 0605 (142-62-1)	
Viscosity, kinematic	3.5 mm^2/s

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not dangerous for the ozone layer (Council Regulation (EC). No 2037/2000, O.J. L244 of 29/09/2000). TA-Luft Klasse 5.2.5/I.

Ecology - water : Mild water pollutant (surface water)
Ground water pollutant
Harmful to fishes
Harmful to invertebrates (Daphnia)
pH shift
Slightly or not bioaccumulative
Readily biodegradable in water
test: 69% 20D WAR. RESP.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

RADIACID 0605 (142-62-1)	
LC50 - Fish [1]	88 mg/l (96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Lethal)

12.2. Persistence and degradability

RADIACID 0605 (142-62-1)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

RADIACID 0605 (142-62-1)	
Partition coefficient n-octanol/water (Log Pow)	1.75 (Weight of evidence approach, Equivalent or similar to OECD 107, 25 °C)

12.4. Mobility in soil

RADIACID 0605 (142-62-1)	
Surface tension	23.4 mN/m (70 °C)

12.5. Results of PBT and vPvB assessment

RADIACID 0605 (142-62-1)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

RADIACID 0605 (142-62-1)	
Other information	Readily biodegradable

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite,Scoop absorbed substance into closing containers,Carefully collect the spill/leftovers,Damaged/cooled tanks must be emptied,See "Material-handling" for suitable container materials,Clean contaminated surfaces with an excess of water,Take collected spill to manufacturer/competent authority,Wash clothing and equipment after handling

Regional waste regulation : No supplementary information available.

Ecological waste information : Wastes not otherwise specified. Hazardous waste (91/689/EEC). Remove to an authorized incinerator equipped with an. afterburner and a flue gas scrubber. packaging containing residues of or contaminated by. dangerous substances.

European List of Waste (LoW, EC 2000/532) : No supplementary information available

HP Code : HP8 - "Corrosive:" waste which on application can cause skin corrosion.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 2829	UN 2829	UN 2829	UN 2829	UN 2829
14.2. UN proper shipping name				
CAPROIC ACID	CAPROIC ACID	Caproic acid	CAPROIC ACID	CAPROIC ACID
Transport document description				
UN 2829 CAPROIC ACID, 8, III, (E)	UN 2829 CAPROIC ACID, 8, III	UN 2829 Caproic acid, 8, III	UN 2829 CAPROIC ACID, 8, III	UN 2829 CAPROIC ACID, 8, III
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-A EmS-No. (Spillage): S-B	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Transport regulations (ADR)	:	Subject to the provisions
Classification code (ADR)	:	C3
Limited quantities (ADR)	:	5l
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	:	MP19
Portable tank and bulk container instructions (ADR)	:	T4
Portable tank and bulk container special provisions (ADR)	:	TP1
Tank code (ADR)	:	L4BN
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V12
Hazard identification number (Kemler No.)	:	80
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2X

Transport by sea

Transport regulations (IMDG)	:	Subject to the provisions
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P001, LP01
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SGG1, SG36, SG49
Properties and observations (IMDG)	:	Oily, colourless or yellowish liquid. Melting point: -4°C. Partially miscible with water. Corrosive to mild steel. Causes burns to skin, eyes and mucous membranes.

Air transport

Transport regulations (IATA)	:	Subject to the provisions
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y841
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	852
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	856
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A803
ERG code (IATA)	:	8L

Inland waterway transport

Classification code (ADN)	:	C3
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T

Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Transport regulations (RID)	:	Subject to the provisions
Classification code (RID)	:	C3
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T4
Portable tank and bulk container special provisions (RID)	:	TP1
Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12
Colis express (express parcels) (RID)	:	CE8
Hazard identification number (RID)	:	80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Council Regulation (EC) for the control of dual-use items

Not listed on the COUNCIL REGULATION (EC) of dual-use items.

VOC Directive (2004/42)

VOC content	:	≈ 100 % (2004/42/EC; SR 814.018)

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Chemical inventories	:	Compliant with AICIS, DSL, EU REACh, IECSC, INSQ, Japan ENCS, Japan ISHL, KECL, NCI, NZIoC, PICCS, TCSI, TECI_DIW, TECI_FDA, TR EAEU, TSCA
KKDIK number (Turkey)	:	not preregistered
K-REACh (Korea)	:	not preregistered
UK-REACh (Great Britain)	:	No DUIN submitted (max.1tpa)
Swiss ChemO (SR 813.11)	:	This substance is not subject to the obligation to register pursuant to art.61 of the Chemicals Ordinance (ChemO)

Germany

Water hazard class (WGK)	:	WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 1667).
VOC content	:	≈ 100 % (2004/42/EC; SR 814.018)

Netherlands

ABM category	:	B(3) - hazardous for aquatic organisms
SZW List of Carcinogenic Substances	:	The substance is not listed
SZW List of Mutagenic Substances	:	The substance is not listed
SZW List of Reprotoxic Substances – Breastfeeding	:	The substance is not listed
SZW List of Reprotoxic Substances – Fertility	:	The substance is not listed
SZW List of Reprotoxic Substances – Development	:	The substance is not listed

Denmark

Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

The chemical safety assessment has been carried out, an exposure scenario is attached.

SECTION 16: Other information

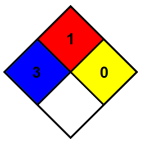
Training advice	:	No supplementary information available.
Chemical inventories legend	:	AICIS = Australian Inventory of Industrial Chemicals DSL = Canadian Domestic Sustances List EU REACh = European Union REACH Regulation 1907/2006 IECSC = Inventory of Existing Chemicals Substances in China INSQ = Mexico National Inventory of Chemical Substance Japan ENCS = Japanese Existing Chemical Substances (ISHL) Japan ISHL = Japanese Existing and New Chemical Substances (CSCL) KECL = Korean Existing Chemical List NCI = Vietnam National Chemical Inventory NZIoC = New Zealand Inventory of Chemicals PICCS = Philippines Inventory of Chemicals and Chemical Substances TCSI = Taiwan Chemical Substance Inventory TECI_DIW = Thailand Existing Chemicals Inventory - Department of Industrial Works List TECI_FDA = Thailand Existing Chemicals Inventory - Food and Drug Administration List TR EAEU = Eurasian Economic Union Unified list of chemicals TSCA = USA Toxic Substances Control Act
SDS changed sections	:	11 - Toxicological information;12 - Ecological information
SDS Reason for revision	:	No supplementary information available

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

NFPA image :



Other information : No supplementary information available.

Full text of H- and EUH-statements:	
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
H314	Causes severe skin burns and eye damage.

Full text of use descriptors	
ERC1	Manufacture of the substance
ERC10a	Widespread use of articles with low release (outdoor)
ERC11a	Widespread use of articles with low release (indoor)
ERC2	Formulation into mixture
ERC3	Formulation into solid matrix
ERC4	Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC5	Use at industrial site leading to inclusion into/onto article
ERC6a	Use of intermediate
ERC6b	Use of reactive processing aid at industrial site (no inclusion into or onto article)
ERC6c	Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
ERC6d	Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
ERC7	Use of functional fluid at industrial site
ERC8a	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8b	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8c	Widespread use leading to inclusion into/onto article (indoor)
ERC8d	Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
ERC8f	Widespread use leading to inclusion into/onto article (outdoor)
ERC9a	Widespread use of functional fluid (indoor)
ERC9b	Widespread use of functional fluid (outdoor)
PC0	Other
PC1	Adhesives, sealants
PC14	Metal surface treatment products
PC15	Non-metal-surface treatment products
PC18	Ink and Toners
PC19	Intermediate

Full text of use descriptors	
PC20	Metal surface treatment products
PC21	Laboratory chemicals
PC23	Leather treatment products
PC24	Lubricants, greases, release products
PC25	Metal working fluids
PC27	Plant protection products
PC28	Perfumes, fragrances
PC29	Pharmaceuticals
PC3	Air care products
PC31	Polishes and wax blends
PC32	Polymer preparations and compounds
PC34	Textile dyes, and impregnating products
PC35	Washing and cleaning products
PC36	Water softeners
PC37	Water treatment chemicals
PC39	Cosmetics, personal care products
PC8	Biocidal products
PC9a	Coatings and paints, thinners, paint removers
PC9b	Fillers, putties, plasters, modelling clay
PC9c	Finger paints
PROC10	Roller application or brushing
PROC11	Non industrial spraying
PROC12	Use of blowing agents in manufacture of foam
PROC13	Treatment of articles by dipping and pouring
PROC14	Tabletting, compression, extrusion, pelettisation, granulation
PROC15	Use as laboratory reagent
PROC17	Lubrication at high energy conditions in metal working operations
PROC18	General greasing /lubrication at high kinetic energy conditions
PROC19	Manual activities involving hand contact
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC21	Low energy manipulation and handling of substances bound in/on materials or articles
PROC23	Open processing and transfer operations at substantially elevated temperature
PROC24	High (mechanical) energy work-up of substances bound in /on materials and/or articles

Full text of use descriptors	
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC5	Mixing or blending in batch processes
PROC6	Calendering operations
PROC7	Industrial spraying
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
SU0	Other
SU1	Agriculture, forestry, fishery
SU10	Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU17	General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
SU23	Electricity, steam, gas water supply and sewage treatment
SU3	Industrial uses: Uses of substances as such or in preparations at industrial sites
SU4	Manufacture of food products
SU5	Manufacture of textiles, leather, fur
SU8	Manufacture of bulk, large scale chemicals (including petroleum products)
SU9	Manufacture of fine chemicals

The classification complies with : ATP 12

SDS EU Oleon Annex II

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Annex to the safety data sheet

Product exposure scenario(s)	
ES Type	**ES title**
Worker	FAC Exposure Scenario FA C6 - Version 1: Exposure Scenario FA C6

Table of contents of the Annex		
Identified Uses	**Es N°**	**Association ref code**
Exposure Scenario FA C6	1	FAC Exposure Scenario FA C6

Annex to the extended Safety Data Sheet (eSDS)

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

CAS number : 142-62-1

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Identified uses

ES001: Adhesives, sealants; Manufacture (22, 23, 24, 25, 26, 27, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 21) - Formulation or re-packing/Industrial: PROC02, PROC03, PROC04, PROC05, PROC08b, PROC09, PROC10, PROC14; ERC02

ES002: Adhesives, sealants; Professional use ("FEICA-UseR 22-"7, "FEICA-UseR 22-"8, "FEICA-UseR 22-"9, "FEICA-UseR 22-"10, "FEICA-UseR 22-"11, "FEICA-UseR 22-"12, "FEICA-UseR 22-"13, "FEICA-UseR 22-"14, "FEICA-UseR 22-"1, "FEICA-UseR 22-"2, "FEICA-UseR 22-"3, "FEICA-UseR 22-"4, "FEICA-UseR 22-"5, "FEICA-UseR 22-"6) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC08a, PROC10, PROC11; ERC08c, ERC08f

ES003: Adhesives, sealants ("FEICA-UseR 3-"23, "FEICA-UseR 3-"24, "FEICA-UseR 3-"25, "FEICA-UseR 3-"26, "FEICA-UseR 3-"27, "FEICA-UseR 3-"31, "FEICA-UseR 3-"32, "FEICA-UseR 3-"33, "FEICA-UseR 3-"34, "FEICA-UseR 3-"1, "FEICA-UseR 3-"2, "FEICA-UseR 3-"3, "FEICA-UseR 3-"4, "FEICA-UseR 3-"5, "FEICA-UseR 3-"6, "FEICA-UseR 3-"7, "FEICA-UseR 3-"8, "FEICA-UseR 3-"9, "FEICA-UseR 3-"10, "FEICA-UseR 3-"14, "FEICA-UseR 3-"15, "FEICA-UseR 3-"16, "FEICA-UseR 3-"17, "FEICA-UseR 3-"18, "FEICA-UseR 3-"19) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC04, PROC05, PROC07, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC14; ERC05

ES004: Automatic substance metering, feeding into mixing unit Solids Ex. CB, Si (ETRMA 2) - Formulation or re-packing/Industrial: PROC08b; ERC03

ES005: Automatic substance metering in closed feeding system, injection into mixing chamber Liquids Ex silane, oils (ETRMA 3) - Formulation or re-packing/Industrial: PROC08b; ERC03

ES006: Balance grinding and trimming (ETRMA 19) - Formulation or re-packing/Industrial: PROC21; ERC03

ES007: Blending (TEGEWA 1) - Formulation or re-packing/Industrial: PROC05, PC24, PC34; ERC02

ES008: Casings are selected and cleaned (ETRMA 21) - Formulation or re-packing/Industrial: PROC21; ERC03

ES009: Cement and paint application (ETRMA 9) - Formulation or re-packing/Industrial: PROC10; ERC03

ES010: Cement application (ETRMA 12, ETRMA 18) - Formulation or re-packing/Industrial: PROC10; ERC03

ES011: Compound assembling from stocks (ETRMA 15) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC21; ERC06d

ES012: Compound processing; Cooling extruded compound (ETRMA 10) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d

ES013: Compound transfer into a vessel, mixing and transfering cement into portable drums (ETRMA 7) - Formulation or re-packing/Industrial: PROC09; ERC03

ES014: Consumer use of products such as pH-regulators, flocculants, precipitants etc (EM 64) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PC20; ERC08d

ES015: Covers the direct use of the substance by converters including pouring/unloading from drums, bags or containers; and exposures during the processing step and cleaning/maintenance activities, Covers the use as a component in order to further transform them into articles (Croda 4, Croda 5) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC10, PROC12, PROC13, PROC14; ERC03, ERC05

ES016: Covers the use as a component in order to further transform them into articles (Croda 6a, Croda 6b, Croda 9a, Croda 9b, Croda 12a, Croda 12b, Croda 15a, Croda 15b, Croda 18a, Croda 18b) - Formulation or re-packing/Industrial: PROC21, PROC24; ERC03

ES017: Covers the use as a component of cleaning and maintenance products including material transfer and preparation. Exposures during cleaning activities (including spraying, brushing, dipping, wiping automated and by hand), hand-mixing and associated laboratory activities. (C9 acid) (ECO 4, ECO 5) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19; ERC08a

ES018: Covers the use as a component of cleaning and maintenance products including material transfer and preparation. Exposures during cleaning activities (including spraying, brushing, dipping, wiping automated and by hand), lubrication at high energy conditions, high energy work-up and related equipment cleaning and maintenance and associated laboratory activities. (C9 acid) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02,

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PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15, PROC17; ERC04, ERC05, ERC06b, ERC08a

ES019: Covers the use as a component of lubricant in an open system including exposures during use due to application by dipping, brushing or spraying. - Professional: ERC08a, ERC08d

ES020: Covers the use in compounders plants, including exposures during use (including materials transfer from bulk and semi-bulk and other manual application tasks) and equipment cleaning (Croda 2) - Formulation or re-packing/ Industrial: PROC14; ERC03

ES021: Covers the use in lubricants including exposures during use (including material transfer or preparation, application by dipping, brushing or spraying) and draining, maintenance, cleaning of equipment. (C9 acid) - Industrial/ Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11, PROC13; ERC08a

ES022: Covers the use in lubricants including exposures during use (including material transfer, mixing/blending, application by dipping, brushing or spraying,) and draining, maintenance, cleaning of equipment. (C9 acid) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC07, PROC08b, PROC09, PROC10, PROC13; ERC02, ERC04

ES023: Covers the use in masterbatch producers plants, including exposures during use (including materials transfer from bulk and semi-bulk and other manual application tasks) and equipment cleaning (Croda 3a, Croda 3b) - Formulation or re-packing/Industrial: PROC21, PROC24; ERC03

ES024: Covers the use in polymers production plants, including exposures during use (including materials transfer from bulk and semi-bulk and other manual application tasks) and equipment cleaning (Croda 1) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09; ERC03

ES025: Covers the use of a plastic, compound or masterbatch in calendering applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during moulding and cleaning activities (automated and by hand) and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 13, Croda 14) - Formulation or re-packing/Industrial: PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC12, PROC14; ERC03

ES026: Covers the use of a plastic, compound or masterbatch in extrusion applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during moulding and cleaning activities (automated and by hand) and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 7, Croda 8) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PROC12, PROC14; ERC03

ES027: Covers the use of a plastic, compound or masterbatch in injection moulding, blow moulding, rotational moulding applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during moulding and cleaning activities (automated and by hand) and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 10, Croda 11) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PROC12, PROC14; ERC02, ERC03

ES028: Covers the use of a plastic, compound or masterbatch in spread coating or dip coating applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during enduction or dip coating and cleaning activities (automated and by hand); and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 16, Croda 17) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC12, PROC13; ERC03, ERC05

ES029: Cutting, trimming, regrooving, abrading (ETRMA 29) - Formulation or re-packing/Industrial: PROC21; ERC03

ES030: Direct extrusion on the prepared casings of cushion gum layer (ETRMA 26) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d

ES031: Drying and/or solvents evaporation (ETRMA 30) - Formulation or re-packing/Industrial: PROC10; ERC03

ES032: Equipment treatment with manual application of releasing agents on surfaces. Applied on mould (warm) (ETRMA 14) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07; ERC06d

ES033: Evacuation of the warm compound, treatment of the rubber sheet using antitack bath (water-based) and drying with cooling fans (ETRMA 6) - Formulation or re-packing/Industrial: PROC09; ERC03

ES034: Extrusion (EM 7) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14, PC32, PC34; ERC06c

ES035: Feeding from stock, milling, and feeding the calender (ETRMA 11) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d

ES036: Food industry (TNO) - Industrial: ERC02

ES037: Formulation & (re)packing of substances and mixtures in batch or continuous operations, including storage, materials transfers, mixing, large and small scale packing, maintenance and associated laboratory activities. (C9 acid) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15; ERC02

ES038: Formulation of Construction Chemicals, closed systems (CC-2) - Formulation or re-packing/ Professional: PROC03, PROC08b, PROC09; ERC02

ES039: Formulation of Construction Chemicals, open systems (CC-1-1) - Formulation or re-packing/ Professional: PROC05, PROC08b, PROC09; ERC02

ES040: Formulation of Construction Chemicals, open systems without local exhaust ventilation (CC-1-2) - Formulation or re-packing/ Professional: PROC05, PROC08b, PROC09; ERC02

ES041: Formulation of Construction Chemicals, closed systems (CC-2) - Formulation or re-packing/ Professional: PROC03, PROC08b; ERC02

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ES042: Formulation of Pharmaceutical products (OL8) - Formulation or re-packing/Industrial: PROC05; ERC02
ES043: Formulation of washing and cleaning products (OL7) - Formulation or re-packing/Industrial: PROC05; ERC02
ES044: Handling (TEGEWA 2, TEGEWA 6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b, PC24, PC34; ERC04, ERC05
ES045: Solvent use (Processing aid) (”FEICA-UseR 3-”40, “FEICA-UseR 3-”41, “FEICA-UseR 3-”35, “FEICA-UseR 3-”36, “FEICA-UseR 3-”37, “FEICA-UseR 3-”38, “FEICA-UseR 3-”39) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC03, PROC07, PROC08a, PROC08b, PROC10, PROC13; ERC04
ES046: Industrial use of façade/surface cleaning products (AISE-P907, AISE-P906) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08a, PROC11, PC35; ERC04
ES047: Industrial use of vehicle cleaning products (AISE-P713, AISE-P710, AISE-P711, AISE-P714, AISE-P709, AISE-P712) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PROC10, PROC11, PC35; ERC04
ES048: Industrial application of coatings and inks (PC 9a, 9b, 9c, 18) (CEPE AI0101, CEPE AI0102, CEPE AI0201, CEPE AI0202, CEPE AI0301, CEPE AI0302, CEPE AI0303, CEPE AI0309, CEPE AI0310, CEPE AI0311, CEPE AI0103, CEPE AI0104, CEPE AI0203, CEPE AI0204, CEPE AI0502, CEPE AI0503 CEPE AI0504, CEPE AI0505 CEPE AI0506, CEPE AI0002, CEPE AI0003, CEPE AI0004, CEPE AI0601 CEPE AI0607 CEPE AI0613, CEPE AI0602 CEPE AI0608 CEPE AI0614, CEPE AI1001, CEPE AI0501, CEPE AI0105, CEPE AI0106, CEPE AI0107, CEPE AI0603 CEPE AI0609 CEPE AI0615, CEPE AI0604 CEPE AI0610, CEPE AI0605 CEPE AI0611 CEPE AI0616, CEPE AI0606 CEPE AI0612 CEPE AI0617, CEPE AI0901, CEPE AI0304, CEPE AI0305, CEPE AI0306, CEPE AI0307, CEPE AI0308, CEPE AI0312, CEPE AI0207, CEPE AI0001, CEPE AI0108, CEPE AI0110, CEPE AI0205, CEPE AI0206, CEPE AI0208, CEPE AI0209, CEPE AI1002) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PC09a, PC09b, PC09c, PC18; ERC04, ERC05
ES049: Industrial finishing processes for textiles, films, fabrics (OL1) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC06; ERC05, ERC06a, ERC06c
ES050: Industrial manufacture of coatings and inks (PC9a, 9b, 9c, 18) (CEPE MS0021 MW0021, CEPE MS0022 MW0022, CEPE MS0023 MW0023, CEPE MS0024 MW0024, CEPE MS0032 MW0032, CEPE MS0051 MW0051, CEPE MS0052 MW0052, CEPE MS0013 MW0013, CEPE MS0013 MW0013, CEPE MS0014 MW0014, CEPE MS0014 MW0014, CEPE MS0015 MW0015, CEPE MS0033 MW0033, CEPE MS0071 MW0071, CEPE MS0072 MW0072, CEPE MS0034 MW0034, CEPE MS0035 MW0035, CEPE MS0053 MW0053, CEPE MS0054 MW0054, CEPE MS0111 MW0111, CEPE MS0112 MW0112, CEPE MS0043 MW0043, CEPE MS0044 MW0044, CEPE MS0011 MW0011, CEPE MS0011 MW0011, CEPE MS0012 MW0012, CEPE MS0012 MW0012, CEPE MS0025 MW0025, CEPE MS0026 MW0026, CEPE MS0027 MW0027, CEPE MS0028 MW0028, CEPE MS0070 MW0070, CEPE MS0073 MW0073, CEPE MS0091 MW0091, CEPE MS0092 MW0092, CEPE MS0041 MW0041, CEPE MS0042 MW0042) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PC09a, PC09b, PC09c, PC18; ERC02
ES051: Industrial use of Construction Chemicals, Service life: indoor (CC-3-1) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC11a
ES052: Industrial use of Construction Chemicals, Service life: outdoor (CC-4-1) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC10a
ES053: Industrial use of Construction Chemicals, without spraying, Service life: outdoor (CC-4-2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC10a
ES054: Industrial use of Construction Chemicals, without spraying, Service life: indoor (CC-3-2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC11a
ES055: Industrial use of Food beverage and pharmacos products (AISE-P809, AISE-P806, AISE-P804, AISE-P807, AISE-P803, AISE-P810, AISE-P801, AISE-P802, AISE-P805, AISE-P811) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PC35; ERC04
ES056: Industrial use of laundry products (AISE-P108, AISE-P109, AISE-P101, AISE-P104, AISE-P107, AISE-P110) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC08a, PROC08b, PROC09, PC35; ERC04, ERC6b, ERC08a
ES057: Industrial use of metal treatment products (AISE-P1001b, AISE-P1004, AISE-P1009, AISE-P1002, AISE-P1001a, AISE-P1006, AISE-P1007, AISE-P1008, AISE-P1003, AISE-P1005, AISE-P1010, AISE-P1011, AISE-P1001) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC17, PROC18, PROC23, PC14, PC25, PC35; ERC04, ERC05
ES058: Industrial use of quality control (AISE-P1250) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC15, PC21; ERC04
ES059: Industrial use of vehicle cleaning products (AISE-P707, AISE-P708) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PC35; ERC04
ES060: Industrial use of water treatment products (AISE-P903, AISE-P904, AISE-P905) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC04, PROC08a, PROC08b, PROC09, PC35, PC37; ERC04
ES061: Blowing agents (OL2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC12; ERC07, ERC08c
ES062: Industrial use of greasing agents (OL3) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC18; ERC04, ERC08f, ERC09b, ERC11a

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ES063: Industrial uses (OL6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC03, PC19; ERC06a
ES064: Industrial use resulting in manufacture of another substance (use of intermediates) (ECO 3) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15; ERC06a
ES065: Intermediate (P&G/Croda) - Industrial: ERC06a
ES066: Laboratory use (AISE-P1200) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC15, PC21; ERC08a
ES067: Manual application of precured tread (ETRMA 25) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC21; ERC06d
ES068: Manual metering, weighting possible, mainly synthetic rubbers and mixtures (ETRMA 1) - Formulation or re-packing/Industrial: PROC09; ERC03
ES069: Manufacture of detergents and maintenance products (AISE-M1, AISE-M8, AISE-M9, AISE-M2, AISE-M3, AISE-M4, AISE-M5, AISE-M6, AISE-M7) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC09, PROC14, PROC15; ERC02
ES070: Adhesives, sealants; Manufacture (EM 16, EM 24, EM 25, EM 26, EM 27, EM 17, EM 28, EM 18, EM 9, EM 10, EM 11, EM 19, EM 12, EM 20, EM 13, EM 21, EM 14, EM 22, EM 15, EM 23) - Formulation or re-packing/Industrial/ Professional: PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC12, PROC13, PROC14; ERC02
ES071: Artists Supply and Hobby preparations; Manufacture (EM 42, EM 43, EM 44, EM 45) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC05; ERC02
ES072: Automotive care products; Manufacture (EM 34, EM 35, EM 36, EM 37) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC06; ERC02
ES073: Manufacture of substance - Industrial: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15; ERC01
ES074: Air care products; Manufacture (EM 97, EM 98, EM 99, EM 100) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC03; ERC02
ES075: Biocidal products; Manufacture (EM 101, EM 102, EM 103, EM 104, EM 105, EM 106, EM 107) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PC08; ERC02
ES076: Manufacture of cosmetic products (COLIPA M6, COLIPA M8, COLIPA M3, COLIPA M1, COLIPA M5.2, COLIPA M5.1, COLIPA M2, COLIPA M4, COLIPA M7) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15, PC15, PC39; ERC02
ES077: Lawn and garden preparations, including fertilizers; Manufacture (EM 50, EM 51, EM 52, EM 53) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC22; ERC02
ES078: Metal surface treatment products, including galvanic and electroplating products; Manufacture (EM 1, EM 2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC07, PC14; ERC05
ES079: Non-metal surface treatment products; Manufacture (EM 3, EM 4, EM 5, EM 6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC07, PROC08a, PROC09, PC15; ERC05
ES080: Perfumes, fragrances; Manufacture (EM 74, EM 75, EM 76, EM 77) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC28; ERC02
ES081: Plant protection products; Manufacture (EM 66, EM 67, EM 68, EM 69) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC27; ERC02
ES082: Polishes and wax blends; Manufacture (EM 82, EM 83, EM 84, EM 85) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC31; ERC02
ES083: Products such as pH-regulators, flocculants, precipitants etc; Manufacture (EM 58, EM 59, EM 60, EM 61) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC20; ERC02
ES084: Water softeners; Manufacture (EM 89, EM 90, EM 91, EM 92) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC36; ERC02
ES085: Mixing in closed mixing unit (i.e. Banbury mixer) (ETRMA 4) - Formulation or re-packing/Industrial: PROC05; ERC03
ES086: Open mill mixing (tipical for laboratory scale) (ETRMA 5) - Formulation or re-packing/Industrial: PROC05; ERC03
ES087: Painting, cement application and tyre treatment with lubricants (ETRMA 28) - Formulation or re-packing/ Industrial: PROC10; ERC03
ES088: Part of rubber and rusted cords are removed from casing. Casing cleaning. (ETRMA 22) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC21; ERC06d
ES089: Production of agrochemicals - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC03, PC19
ES090: Production of food chemicals - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC03, PC19
ES091: Production of intermediate in Industrial uses/Lubricants - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC03
ES092: Professional use. Use as a solvent; Indoor (Processing aid) (”FEICA-UseR 22-”19, “FEICA-UseR 22-”20, “FEICA-UseR 22-”21, “FEICA-UseR 22-”17, “FEICA-UseR 22-”18) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC08b, PROC10, PROC11, PROC13; ERC08a
ES093: Professional use. Use as a solvent; Outdoor (Processing aid) (”FEICA-UseR 22-”24, “FEICA-UseR 22-”25,

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"FEICA-UseR 22-"26, "FEICA-UseR 22-"22, "FEICA-UseR 22-"23) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC08b, PROC10, PROC11, PROC13; ERC08d
ES094: Professional use of construction chemicals; Indoor (CC-5-1) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC11, PROC13, PROC19, PC10; ERC08c
ES093: Professional use of construction chemicals; Indoor, without spraying (CC-5-2) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC13, PROC19, PC10; ERC08c
ES096: Professional use of construction chemicals; Outdoor (CC-6-1) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC11, PROC13, PROC19, PC10; ERC08f
ES097: Professional use of construction chemicals; Outdoor, without spraying (CC-6-2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC13, PROC19, PC10; ERC08f
ES098: Cosmetic products (ECO 7) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC19; ERC08a
ES099: Professional use of façade/surface cleaning products (AISE-P901, AISE-P902) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08a, PROC11; ERC08d
ES100: Professional Use of Food beverage and pharmacos products (AISE-P808) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PC35; ERC08a
ES101: Professional use of hand cleaners (AISE-P1300) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC19, PC39; ERC08a
ES102: Professional use of maintenance products (AISE-P605) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC08a, PC31; ERC08a
ES103: Professional use of medical devices (AISE-P1104, AISE-P1102, AISE-P1103, AISE-P1101) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PROC11, PROC13, PC35; ERC08a
ES104: Professional use of vehicle cleaning products - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PROC10, PROC11, PC35; ERC8a
ES105: Professional application of coatings and inks (CEPE AP0404, CEPE AP0405, CEPE AP0406, CEPE AP0402, CEPE AP0403, CEPE AP0501, CEPE AP0407, CEPE AP0302, CEPE AP0504 CEPEAP0505, CEPE AP0506 CEPEAP0507, CEPE AP0701, CEPE AP0102, CEPE AP0103, CEPE AP0104, CEPE AP0201, CEPE AP1201, CEPE AP0502, CEPE AP0503, CEPE AP0202, CEPE AP0203, CEPE AP0303, CEPE AP0304, CEPE AP0702, CEPE AP0703, CEPE AP0704, CEPE AP0705, CEPE AP1101, CEPE AP0101, CEPE AP0204, CEPE AP0205, CEPE AP0305, CEPE AP0401, CEPE AP1202, CEPE AP1203) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC03, PROC04, PROC05, PROC08a, PROC10, PROC11, PROC19; ERC08a
ES106: Adhesives, sealants (EM 31, EM 32, EM 33, EM 29, EM 30) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC08b, PROC10, PROC11, PROC19; ERC08a
ES107: Air care products (AISE-P501, AISE-P504, AISE-P503, AISE-P502, AISE-P505) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC11, PROC13; ERC08a
ES108: Artists Supply and Hobby preparations (EM 47, EM 46) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC05; ERC08c
ES109: Automotive care products (EM 38, EM 39) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC11, PC06; ERC08a
ES110: Professional use of dishwash products (AISE-P203, AISE-P201, AISE-P202, AISE-P204) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC08a, PROC09, PROC10; ERC08a
ES111: Professional use of floor care products (AISE-P401, AISE-P403, AISE-P404, AISE-P405, AISE-P406, AISE-P407, AISE-P409, AISE-P410, AISE-P402, AISE-P408, AISE-P411) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11; ERC08a
ES112: Professional use of general surface cleaning products (AISE-P301, AISE-P303, AISE-P305, AISE-P310, AISE-P312, AISE-P314, AISE-P316, AISE-P317, AISE-P302, AISE-P304, AISE-P306, AISE-P307, AISE-P308, AISE-P311, AISE-P313, AISE-P315, AISE-P309) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11, PROC13; ERC08a
ES113: Professional use of laundry products (AISE-P102, AISE-P103, AISE-P105, AISE-P106, AISE-P111, AISE-P112, AISE-P113) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC08a, PROC11; ERC08a
ES114: Professional use of biocidal products (EM 108, EM 109) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC11, PC08; ERC08f
ES115: Lawn and garden preparations, including fertilizers (EM 55, EM 54) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC22; ERC08d
ES116: Professional use of maintenance products (AISE-P601, AISE-P603, AISE-P608, AISE-P602, AISE-P604, AISE-P609, AISE-P606, AISE-P607) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11; ERC08a
ES117: Perfumes, fragrances (EM 79, EM 78) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC28; ERC08c
ES118: Plant protection products (EM 71, EM 70) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC27; ERC08c
ES119: Polishes and wax blends (EM 87, EM 86, EM 88) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC11, PC31; ERC08c

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ES120: Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (EM 63) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC19, PC20; ERC08a
ES121: Water softeners (EM 94, EM 93) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC31; ERC08a
ES122: Rubber latex and water dispersed ingredients deposit into a thin layer by coagulation (ETRMA 31) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13; ERC06d
ES123: Skived cavities are filled with extruded rubber (ETRMA 24) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
ES124: Spray application, wiping cement. (ETRMA 23) - Formulation or re-packing/Industrial: PROC07; ERC03
ES125: Textile application: calendering (EM 8) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC06, PC34; ERC05
ES126: Transferring cement into portable drums (ETRMA 8) - Formulation or re-packing/Industrial: PROC09; ERC03
ES127: Treatment with lubricant. Lubrifiant, improve flox during mechanical treatment (ETRMA 17) - Formulation or re-packing/Industrial: PROC10; ERC03
ES128: Treatment with releasing agents Applied on tyre (cold) (ETRMA 13) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07; ERC06d
ES129: Use as an intermediate or process chemical Includes recycling/recovery, material transfer, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container). (C9 acid) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15; ERC02, ERC03, ERC04
ES130: Use of the substance within laboratory settings, including material transfer and equipment cleaning. (C9 acid) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC15; ERC04
ES131: Use of the substance within laboratory settings, including material transfer and equipment cleaning. (C9 acid) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC15; ERC08a, ERC08b
ES132: Vulcanization of green cushion layer or green tyre and evacuation of cured article and fumes (ETRMA 27) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
ES133: Vulcanization, evacuation of cured article and fumes, cooling (for continuous processes) (ETRMA 16) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
ES134: Wide dispersive indoor use of substances in closed systems (OL4) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07; ERC09a
ES135: Wide dispersive outdoor use of substances in closed systems (OL5) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b; ERC09b
ES136: Application of non processing aids (TEGEWA 8, TEGEWA 9, TEGEWA 7) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC13, PROC17, PC24, PC34; ERC05
ES137: Application of processing aids (TEGEWA 4, TEGEWA 5) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC13, PROC17, PC24, PC34; ERC04
ES138: Blending (TEGEWA 1) - Formulation or re-packing/Industrial: PROC05, PC20, PC23, PC32; ERC02
ES139: Blending LEV (TEGEWA Leather 2) - Formulation or re-packing/Industrial: PROC05, PC20, PC23, PC32; ERC02
ES140: Handling (TEGEWA Leather 8, TEGEWA Leather 10, TEGEWA Leather 9, TEGEWA Leather 4, TEGEWA Leather 7, TEGEWA Leather 3, TEGEWA Leather 5, TEGEWA Leather 11, TEGEWA Leather 6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC08b, PROC09, PC20, PC23, PC32; ERC04, ERC05, ERC06b
ES141: Use for leather finishing 1 (TEGEWA Leather 15) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC04
ES142: Use for leather finishing 2 (TEGEWA Leather 16) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC05
ES143: Use for leather finishing 3 (TEGEWA Leather 17) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC04
ES144: Use for leather finishing 4 (TEGEWA Leather 18) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC05
ES145: Use in wet end 2 (TEGEWA Leather 13) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13, PC20, PC23; ERC05
ES146: Use in wet end 3 (TEGEWA Leather 14) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13, PC20, PC23; ERC06b
ES147: Use in wet end 1 (TEGEWA Leather 12) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13, PC20, PC23; ERC04
ES148: Use in adhesives (”FEICA-UseR 21-”1, “FEICA-UseR 21-”2, “FEICA-UseR 21-”3) - Consumer: PC01; ERC08c, ERC08f
ES149: Consumer solvent use, indoor ("FEICA-UseR 21-"14,"FEICA-UseR 21-"15) - Consumer: PC01; ERC08a
ES150: Consumer solvent use, outdoor ("FEICA-UseR 21-"17,"FEICA-UseR 21-"18) - Consumer: PC01; ERC08d
ES151: Consumer use in cleaning agents and maintenance products (incl. Air care products) (ECO 6) - Consumer: PC03, PC31, PC35; ERC08a
ES152: Cosmetic Products and Pharmaceuticals (ECO 8) - Consumer: PC28, PC29, PC39; ERC08a

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ES153: Consumer application of coatings or inks (CEPE AC0101, CEPE AC0102, CEPE AC0103, CEPE AC0104, CEPE AC0201, CEPE AC0202, CEPE AC0203, CEPE AC0204, CEPE AC0301 AC0401, CEPE AC0302 AC0402, CEPE AC0303 AC0403, CEPE AC0304 AC0404, CEPE AC0305 AC0405, CEPE AC0501, CEPE AC0601, CEPE AC0602, CEPE AC0603, CEPE AC0801, CEPE AC0802, CEPE AC0803) - Consumer: PC05; ERC08c
ES154: Perfumes, fragrances (EM 80) - Consumer: PC28; ERC08c
ES155: Consumer use of pest control products (AISE-C19) - Consumer: PC08; ERC08a
ES156: Plant protection products (EM 72) - Consumer: PC27; ERC08c
ES157: End use of cosmetic products (COLIPA U1) - Consumer: PC39; ERC08c
ES158: Sealants (”FEICA-UseR 21-”13) - Consumer: PC01; ERC08c
ES159: Service Life of Scented Articles (ECO 9) - Service life - Consumers: AC30, AC31, AC32, AC34, AC36; ERC11b

Please do not print unless necessary, favor electronic consultation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES001:** Adhesives, sealants; Manufacture (22, 23, 24, 25, 26, 27, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 21) - Formulation or re-packing/Industrial: PROC02, PROC03, PROC04, PROC05, PROC08b, PROC09, PROC10, PROC14; ERC02
Process Category: PROC02, PROC03, PROC04, PROC05, PROC08b, PROC09, PROC10, PROC14
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 001

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Chemical production where opportunity for exposure arises

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Mixing or blending in batch processes

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Roller application or brushing

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.013714 mg/kg bw/day. Risk characterisation ratio: 0.001371. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.275868.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.006857 mg/kg bw/day. Risk characterisation ratio: 0.000686. **Worker - inhalative, long-term - systemic:** 1.452 mg/m³. Risk characterisation ratio: 0.082349. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.083035.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.068571 mg/kg bw/day.
Risk characterisation ratio: 0.006857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.144106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.082339.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.068571 mg/kg bw/day.
Risk characterisation ratio: 0.006857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.144106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.301925.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day. Risk characterisation ratio: 0.003429. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.140677.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES002:** Adhesives, sealants; Professional use ("FEICA-UseR 22-"7, "FEICA-UseR 22-"8, "FEICA-UseR 22-"9, "FEICA-UseR 22-"10, "FEICA-UseR 22-"11, "FEICA-UseR 22-"12, "FEICA-UseR 22-"13, "FEICA-UseR 22-"14, "FEICA-UseR 22-"1, "FEICA-UseR 22-"2, "FEICA-UseR 22-"3, "FEICA-UseR 22-"4, "FEICA-UseR 22-"5, "FEICA-UseR 22-"6) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC08a, PROC10, PROC11; ERC08c, ERC08f
Process Category: PROC05, PROC08a, PROC10, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c, ERC08f

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c
Widespread use leading to inclusion into/onto article (outdoor) - ERC08f

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Roller application or brushing - PROC10
Non industrial spraying - PROC11

Number of the ES : 002

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Widespread use leading to inclusion into/onto article (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day:1-4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 5: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 6: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Widespread use leading to inclusion into/ onto article (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.178412.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.42546.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.439174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.214286 mg/kg bw/day.
Risk characterisation ratio: 0.021429.

Worker - inhalative, long-term - systemic: 5.808 mg/m³.
Risk characterisation ratio: 0.329396.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.350825.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES003:** Adhesives, sealants (”FEICA-UseR 3-”23, “FEICA-UseR 3-”24, “FEICA-UseR 3-”25, “FEICA-UseR 3-”26,“FEICA-UseR 3-”27, “FEICA-UseR 3-”31, “FEICA-UseR 3-”32, “FEICA-UseR 3-”33, “FEICA-UseR 3-”34, “FEICA-UseR 3-”1, “FEICA-UseR 3-”2, “FEICA-UseR 3-”3, “FEICA-UseR 3-”4, “FEICA-UseR 3-”5, “FEICA-UseR 3-”6, “FEICA-UseR 3-”7, “FEICA-UseR 3-”8, “FEICA-UseR 3-”9, “FEICA-UseR 3-”10, “FEICA-UseR 3-”14, “FEICA-UseR 3-”15, “FEICA-UseR 3-”16, “FEICA-UseR 3-”17, “FEICA-UseR 3-”18, “FEICA-UseR 3-”19) - Industrial/ Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC04, PROC05, PROC07, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC14; ERC05
Process Category: PROC02, PROC04, PROC05, PROC07, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 003

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Contributing scenario controlling worker exposure for 3: Chemical production where opportunity for exposure arises

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Industrial spraying

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Industrial use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Roller application or brushing

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Non industrial spraying

Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Professional use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Treatment of articles by dipping and pouring

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 11: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.013714 mg/kg bw/day. Risk characterisation ratio: 0.001371. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.275868.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production where opportunity for exposure arises

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.068571 mg/kg bw/day. Risk characterisation ratio: 0.006857. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.144106.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.180106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.082339.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.068571 mg/kg bw/day.
Risk characterisation ratio: 0.006857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.144106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.071 mg/kg bw/day.
Risk characterisation ratio: 0.107143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.656137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.288211.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.140677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES004:** Automatic substance metering, feeding into mixing unit Solids Ex. CB, Si (ETRMA 2) - Formulation or re-packing/Industrial: PROC08b; ERC03
Process Category: PROC08b
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at dedicated facilities -** PROC08b

Number of the ES : 004

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES005:** Automatic substance metering in closed feeding system, injection into mixing chamber Liquids Ex silane, oils (ETRMA 3) - Formulation or re-packing/Industrial: PROC08b; ERC03
Process Category: PROC08b
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at dedicated facilities -** PROC08b

Number of the ES : 005

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES006:** Balance grinding and trimming (ETRMA 19) - Formulation or re-packing/Industrial: PROC21; ERC03
Process Category: PROC21
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21

Number of the ES : 006

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm^2.

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day. Risk characterisation ratio: 0.282857. **Worker - inhalative, long-term - systemic:** 3 mg/m³. Risk characterisation ratio: 0.170145. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.453002.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various products (PC24, PC34)

List of use descriptors : **Identified use name: ES007:** Blending (TEGEWA 1) - Formulation or re-packing/ Industrial: PROC05, PC24, PC34; ERC02
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC24, PC34

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 007

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES008:** Casings are selected and cleaned (ETRMA 21) - Formulation or re-packing/Industrial: PROC21; ERC03
Process Category: PROC21
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21

Number of the ES : 008

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm^2.

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day. Risk characterisation ratio: 0.282857. **Worker - inhalative, long-term - systemic:** 3 mg/m³. Risk characterisation ratio: 0.170145. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.453002.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES009:** Cement and paint application (ETRMA 9) - Formulation or re-packing/Industrial: PROC10; ERC03
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 009

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.164677.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES010:** Cement application (ETRMA 12, ETRMA 18) - Formulation or re-packing/Industrial: PROC10; ERC03
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 010

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.164677.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES011:** Compound assembling from stocks (ETRMA 15) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC21; ERC06d
Process Category: PROC21
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21

Number of the ES : 011

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day. Risk characterisation ratio: 0.282857. **Worker - inhalative, long-term - systemic:** 3 mg/m³. Risk characterisation ratio: 0.170145. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.453002.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES012:** Compound processing; Cooling extruded compound (ETRMA 10) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 012

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES013:** Compound transfer into a vessel, mixing and transfering cement into portable drums (ETRMA 7) - Formulation or re-packing/ Industrial: PROC09; ERC03
Process Category: PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Transfer of substance or mixture into small containers (dedicated filling line, including weighing) -** PROC09

Number of the ES : 013

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (PC20)

List of use descriptors : **Identified use name: ES014:** Consumer use of products such as pH-regulators, flocculants, precipitants etc (EM 64) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PC20; ERC08d
Process Category: PROC05
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d
Market sector by type of chemical product: PC20

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) -** ERC08d

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 014

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

PC20

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day:>4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

hexanoic acid	Exposure Scenario: 014	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (PC20)***

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES015:** Covers the direct use of the substance by converters including pouring/unloading from drums, bags or containers; and exposures during the processing step and cleaning/maintenance activities, Covers the use as a component in order to further transform them into articles (Croda 4, Croda 5) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC10, PROC12, PROC13, PROC14; ERC03, ERC05
Process Category: PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC10, PROC12, PROC13, PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03, ERC05

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03
Use at industrial site leading to inclusion into/onto article - ERC05

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Calendering operations - PROC06
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Use of blowing agents in manufacture of foam - PROC12
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 015

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Calendering operations

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Roller application or brushing

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Use of blowing agents in manufacture of foam

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 10: Treatment of articles by dipping and pouring

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 11: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:

Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Calendering operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day.
Risk characterisation ratio: 0.548571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.68582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day.
Risk characterisation ratio: 0.548571.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.823068.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES016:** Covers the use as a component in order to further transform them into articles (Croda 6a, Croda 6b, Croda 9a, Croda 9b, Croda 12a, Croda 12b, Croda 15a, Croda 15b, Croda 18a, Croda 18b) - Formulation or re-packing/Industrial: PROC21, PROC24; ERC03
Process Category: PROC21, PROC24
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21
High (mechanical) energy work-up of substances bound in/on materials and/or articles - PROC24

Number of the ES : 016

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: High (mechanical) energy work-up of substances bound in/on materials and/or articles

Product characteristics : Solid, low dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day.
Risk characterisation ratio: 0.282857.

Worker - inhalative, long-term - systemic: 3 mg/m³.
Risk characterisation ratio: 0.170145.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.453002.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: High (mechanical) energy work-up of substances bound in/on materials and/or articles

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day.
Risk characterisation ratio: 0.282857.

Worker - inhalative, long-term - systemic: 1 mg/m³.
Risk characterisation ratio: 0.056715.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.339572.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES017:** Covers the use as a component of cleaning and maintenance products including material transfer and preparation. Exposures during cleaning activities (including spraying, brushing, dipping, wiping automated and by hand), hand-mixing and associated laboratory activities. (C9 acid) (ECO 4, ECO 5) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19; ERC08a
Process Category: PROC01, PROC02, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Chemical production where opportunity for exposure arises - PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13
Use as laboratory reagent - PROC15
Manual activities involving hand contact - PROC19

Number of the ES : 017

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Chemical production where opportunity for exposure arises

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Industrial: Exposure duration per day: >4 hours. Frequency: 5 days per week. Professional: Exposure duration per day: 1-4 hours. Frequency 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Industrial: Exposure duration per day: >4 hours. Frequency: 5 days per week. Professional: Exposure duration per day: 1-4 hours. Frequency 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Industrial: Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Professional: Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Industrial:
Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Professional:
Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 9: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Industrial:
Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Professional:
Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Dermal - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Use as laboratory reagent

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Professional use.

Contributing scenario controlling worker exposure for 11: Manual activities involving hand contact

Product characteristics	:	Covers percentage substance in the product up to 25%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1980 cm².
Other conditions affecting workers exposure	:	Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day. Risk characterisation ratio: 0.003429. **Worker - inhalative, long-term - systemic:** 0.048399 mg/m³. Risk characterisation ratio: 0.002745. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.006174.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	Industrial: **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 0.967986 mg/m³. Risk characterisation ratio: 0.054899. **Worker - combined, long-term - systemic:**

Risk characterisation ratio: 0.192042.

Professional:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Professional:
Worker - dermal, long-term - systemic: 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.850412.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Professional:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:

Risk characterisation ratio: 0.686031.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Professional:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 0.241996 mg/m³.
Risk characterisation ratio: 0.013725.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150868.

Professional:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.205767.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.09541.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Professional:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.308783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.836031

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES018:** Covers the use as a component of cleaning and maintenance products including material transfer and preparation. Exposures during cleaning activities (including spraying, brushing, dipping, wiping automated and by hand), lubrication at high energy conditions, high energy work-up and related equipment cleaning and maintenance and associated laboratory activities. (C9 acid) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15, PROC17; ERC04, ERC05, ERC06b, ERC08a
Process Category: PROC02, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15, PROC17
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05, ERC06b, ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a
Use of non-reactive processing aid at industrial site (no inclusion into or onto article) - ERC04
Use at industrial site leading to inclusion into/onto article - ERC05
Use of reactive processing aid at industrial site (no inclusion into or onto article) - ERC06b

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Chemical production where opportunity for exposure arises - PROC04
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13
Use as laboratory reagent - PROC15
Lubrication at high energy conditions in metal working operations - PROC17

Number of the ES : 018

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 4: Use of reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics	:	Low volatile liquid.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Other conditions affecting workers exposure	:	Indoor use.

Contributing scenario controlling worker exposure for 5: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 6: Chemical production where opportunity for exposure arises

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 20%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 11: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 12: Use as laboratory reagent

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 13: Lubrication at high energy conditions in metal working operations

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 4: Use of reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 5: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day.
Risk characterisation ratio: 0.171429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.445925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 0.241996 mg/m³.
Risk characterisation ratio: 0.013725.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150868.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 12: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.171534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 13: Lubrication at high energy conditions in metal working operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers

List of use descriptors : **Identified use name: ES019:** Covers the use as a component of lubricant in an open system including exposures during use due to application by dipping, brushing or spraying. - Professional: ERC08a, ERC08d
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a
Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) - ERC08d

Health Contributing scenarios :

Number of the ES : 019

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 3:

Not applicable.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3:

Exposure assessment (human): : Not applicable.

Exposure estimation : Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES020:** Covers the use in compounders plants, including exposures during use (including materials transfer from bulk and semi-bulk and other manual application tasks) and equipment cleaning (Croda 2) - Formulation or re-packing/Industrial: PROC14; ERC03
Process Category: PROC14
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 020

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day. Risk characterisation ratio: 0.342857. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.480106.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES021:** Covers the use in lubricants including exposures during use (including material transfer or preparation, application by dipping, brushing or spraying) and draining, maintenance, cleaning of equipment. (C9 acid) - Industrial/ Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11, PROC13; ERC08a
Process Category: PROC08a, PROC10, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 021

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Professional use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 5: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686031.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.205767.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.09541.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES022:** Covers the use in lubricants including exposures during use (including material transfer, mixing/blending, application by dipping, brushing or spraying,) and draining, maintenance, cleaning of equipment. (C9 acid) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC07, PROC08b, PROC09, PROC10, PROC13; ERC02, ERC04
Process Category: PROC05, PROC07, PROC08b, PROC09, PROC10, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC04

Environmental contributing scenarios : **Formulation into mixture -** ERC02
Use of non-reactive processing aid at industrial site (no inclusion into or onto article) - ERC04

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 022

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Industrial spraying

Product characteristics : Covers percentage substance in the product up to 20%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 100%
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 3: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Industrial spraying

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day. Risk characterisation ratio: 0.171429. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.445925.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 0.241996 mg/m³.
Risk characterisation ratio: 0.013725.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150868.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES023:** Covers the use in masterbatch producers plants, including exposures during use (including materials transfer from bulk and semi-bulk and other manual application tasks) and equipment cleaning (Croda 3a, Croda 3b) - Formulation or re-packing/Industrial: PROC21, PROC24; ERC03
Process Category: PROC21, PROC24
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21
High (mechanical) energy work-up of substances bound in/on materials and/or articles - PROC24

Number of the ES : 023

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: High (mechanical) energy work-up of substances bound in/on materials and/or articles

Product characteristics : Solid, low dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day.
Risk characterisation ratio: 0.282857.

Worker - inhalative, long-term - systemic: 3 mg/m³.
Risk characterisation ratio: 0.170145.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.453002.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: High (mechanical) energy work-up of substances bound in/on materials and/or articles

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day.
Risk characterisation ratio: 0.282857.

Worker - inhalative, long-term - systemic: 1 mg/m³.
Risk characterisation ratio: 0.056715.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.339572.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES024:** Covers the use in polymers production plants, including exposures during use (including materials transfer from bulk and semi-bulk and other manual application tasks) and equipment cleaning (Croda 1) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09; ERC03
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 024

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES025:** Covers the use of a plastic, compound or masterbatch in calendering applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during moulding and cleaning activities (automated and by hand) and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 13, Croda 14) - Formulation or re-packing/Industrial: PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC12, PROC14; ERC03
Process Category: PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC12, PROC14
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Calendering operations - PROC06
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Use of blowing agents in manufacture of foam - PROC12
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 025

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Calendering operations

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Use of blowing agents in manufacture of foam

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 8: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Calendering operations

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day. Risk characterisation ratio: 0.548571. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.68582.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.548783.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES026:** Covers the use of a plastic, compound or masterbatch in extrusion applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during moulding and cleaning activities (automated and by hand) and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 7, Croda 8) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PROC12, PROC14; ERC03
Process Category: PROC05, PROC08a, PROC08b, PROC09, PROC12, PROC14
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Use of blowing agents in manufacture of foam - PROC12
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 026

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Use of blowing agents in manufacture of foam

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 7: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES027:** Covers the use of a plastic, compound or masterbatch in injection moulding, blow moulding, rotational moulding applications including transfer from storage; pouring/unloading from drums, bags or containers; exposures during moulding and cleaning activities (automated and by hand) and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 10, Croda 11) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PROC12, PROC14; ERC02, ERC03
Process Category: PROC05, PROC08a, PROC08b, PROC09, PROC12, PROC14
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC03

Environmental contributing scenarios : **Formulation into mixture -** ERC02
Formulation into solid matrix - ERC03

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Use of blowing agents in manufacture of foam - PROC12
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 027

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Use of blowing agents in manufacture of foam

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 8: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES028:** Covers the use of a plastic, compound or masterbatch in spread coating or dip coating applications including transfer from storage; pouring/ unloading from drums, bags or containers; exposures during enduction or dip coating and cleaning activities (automated and by hand); and related maintenance; Covers the use as a component in order to further transform them into articles (Croda 16, Croda 17) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC12, PROC13; ERC03, ERC05
Process Category: PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC12, PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03, ERC05

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03
Use at industrial site leading to inclusion into/onto article - ERC05

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Use of blowing agents in manufacture of foam - PROC12
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 028

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Roller application or brushing

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Use of blowing agents in manufacture of foam

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 9: Treatment of articles by dipping and pouring

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day.
Risk characterisation ratio: 0.548571.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.823068.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Treatment of articles by dipping and pouring

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.548783.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES029:** Cutting, trimming, regrooving, abrading (ETRMA 29) - Formulation or re-packing/Industrial: PROC21; ERC03
Process Category: PROC21
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21

Number of the ES : 029

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm^2.

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day. Risk characterisation ratio: 0.282857. **Worker - inhalative, long-term - systemic:** 3 mg/m³. Risk characterisation ratio: 0.170145. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.453002.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES030:** Direct extrusion on the prepared casings of cushion gum layer (ETRMA 26) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 030

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES031:** Drying and/or solvents evaporation (ETRMA 30) - Formulation or re-packing/Industrial: PROC10; ERC03
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 031

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.164677.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES032:** Equipment treatment with manual application of releasing agents on surfaces. Applied on mould (warm) (ETRMA 14) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07; ERC06d
Process Category: PROC07
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Industrial spraying -** PROC07

Number of the ES : 032

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES033:** Evacuation of the warm compound, treatment of the rubber sheet using antitack bath (water-based) and drying with cooling fans (ETRMA 6) - Formulation or re-packing/Industrial: PROC09; ERC03
Process Category: PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Transfer of substance or mixture into small containers (dedicated filling line, including weighing) -** PROC09

Number of the ES : 033

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC32, PC34)

List of use descriptors : **Identified use name: ES034:** Extrusion (EM 7) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14, PC32, PC34; ERC06c
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06c
Market sector by type of chemical product: PC32, PC34

Environmental contributing scenarios : **Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06c

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 034

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

PC32, PC34

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES035:** Feeding from stock, milling, and feeding the calender (ETRMA 11) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 035

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	:	Mono-constituent substance
Product name	:	hexanoic acid

Section 1 - Title

Short title of the exposure scenario	:	Industrial use
List of use descriptors	:	**Identified use name: ES036:** Food industry (TNO) - Industrial: ERC02 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC02
Environmental contributing scenarios	:	**Formulation into mixture -** ERC02
Health Contributing scenarios	:	
Number of the ES	:	036

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2:

Not applicable.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	Not applicable.
Exposure estimation	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES037:** Formulation & (re)packing of substances and mixtures in batch or continuous operations, including storage, materials transfers, mixing, large and small scale packing, maintenance and associated laboratory activities. (C9 acid) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15; ERC02
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Tabletting, compression, extrusion, pelletisation, granulation - PROC14
Use as laboratory reagent - PROC15

Number of the ES : 037

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 5: Chemical production where opportunity for exposure arises

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Mixing or blending in batch processes

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Tabletting, compression, extrusion, pelletisation, granulation

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 11: Use as laboratory reagent

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.02904 mg/m³.
Risk characterisation ratio: 0.001647.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.005076.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301841.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 8.712 mg/m³.
Risk characterisation ratio: 0.494094.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.562666.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.768063.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.768063.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.425206.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.116635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES038:** Formulation of Construction Chemicals, closed systems (CC-2) - Formulation or re-packing/ Professional: PROC03, PROC08b, PROC09; ERC02
Process Category: PROC03, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition -** PROC03
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 038

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 8.712 mg/m³.
Risk characterisation ratio: 0.494094.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.562666.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 2.904 mg/m³. Risk characterisation ratio: 0.164698. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.301841.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES039:** Formulation of Construction Chemicals, open systems (CC-1-1) - Formulation or re-packing/ Professional: PROC05, PROC08b, PROC09; ERC02
Process Category: PROC05, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 039

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Dermal - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 2.904 mg/m³. Risk characterisation ratio: 0.164698. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.301841.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES040:** Formulation of Construction Chemicals, open systems without local exhaust ventilation (CC-1-2) - Formulation or re-packing/ Professional: PROC05, PROC08b, PROC09; ERC02
Process Category: PROC05, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 040

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 2.904 mg/m³. Risk characterisation ratio: 0.164698. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.301841.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES041:** Formulation of Construction Chemicals, closed systems (CC-2) - Formulation or re-packing/ Professional: PROC03, PROC08b; ERC02
Process Category: PROC03, PROC08b
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition -** PROC03
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b

Number of the ES : 041

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 8.712 mg/m³.
Risk characterisation ratio: 0.494094.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.562666.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES042:** Formulation of Pharmaceutical products (OL8) - Formulation or re-packing/Industrial: PROC05; ERC02
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 042

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES043:** Formulation of washing and cleaning products (OL7) - Formulation or re-packing/Industrial: PROC05; ERC02
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 043

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC24, PC34)

List of use descriptors : **Identified use name: ES044:** Handling (TEGEWA 2, TEGEWA 6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b, PC24, PC34; ERC04, ERC05
Process Category: PROC08b
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05
Market sector by type of chemical product: PC24, PC34

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at dedicated facilities -** PROC08b

Number of the ES : 044

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES045:** Solvent use (Processing aid) (”FEICA-UseR 3-”40, “FEICA-UseR 3-”41, “FEICA-UseR 3-”35, “FEICA-UseR 3-”36, “FEICA-UseR 3-”37, “FEICA-UseR 3-”38, “FEICA-UseR 3-”39) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC03, PROC07, PROC08a, PROC08b, PROC10, PROC13; ERC04
Process Category: PROC02, PROC03, PROC07, PROC08a, PROC08b, PROC10, PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 045

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 4: Industrial spraying

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 7: Roller application or brushing

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Contributing scenario controlling worker exposure for 8: Treatment of articles by dipping and pouring

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.013714 mg/kg bw/day.
Risk characterisation ratio: 0.001371.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.028821.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.006857 mg/kg bw/day.
Risk characterisation ratio: 0.000686.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.083035.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.180106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.288211.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.082339.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.288211.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES046:** Industrial use of façade/surface cleaning products (AISE-P907, AISE-P906) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08a, PROC11, PC35; ERC04
Process Category: PROC07, PROC08a, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Industrial spraying -** PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Non industrial spraying - PROC11

Number of the ES : 046

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Outdoor use.
Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 10 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Outdoor use. Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Non industrial spraying

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Outdoor use. Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day. Risk characterisation ratio: 0.171429. **Worker - inhalative, long-term - systemic:** 3.388 mg/m³. Risk characterisation ratio: 0.192148. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.363576.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.057143 mg/kg bw/day.
Risk characterisation ratio: 0.005714.

Worker - inhalative, long-term - systemic: 0.705823 mg/m³.
Risk characterisation ratio: 0.040031.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.045745.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.12286.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES047:** Industrial use of vehicle cleaning products (AISE-P713, AISE-P710, AISE-P711, AISE-P714, AISE-P709, AISE-P712) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PROC10, PROC11, PC35; ERC04
Process Category: PROC04, PROC08a, PROC10, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Chemical production where opportunity for exposure arises -** PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Roller application or brushing - PROC10
Non industrial spraying - PROC11

Number of the ES : 047

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Chemical production where opportunity for exposure arises

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use/Outdoor use.
Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 30 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use. Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Roller application or brushing

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Outdoor use. Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Non industrial spraying

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use. Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.274391.

Outdoor use:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.233217.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 0.171429 mg/kg bw/day.
Risk characterisation ratio: 0.017143.

Worker - inhalative, long-term - systemic: 3.025 mg/m³.
Risk characterisation ratio: 0.171561.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.188703.

Outdoor use:
Worker - dermal, long-term - systemic: 0.171429 mg/kg bw/day.
Risk characterisation ratio: 0.017143.

Worker - inhalative, long-term - systemic: 2.117 mg/m³.
Risk characterisation ratio: 0.120092.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.137235.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.123502.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Outdoor use:
Worker - dermal, long-term - systemic: 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.12286.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC09a, PC09b, PC09c, PC18)

List of use descriptors : **Identified use name: ES048:** Industrial application of coatings and inks (PC 9a, 9b, 9c, 18) (CEPE AI0101, CEPE AI0102, CEPE AI0201, CEPE AI0202, CEPE AI0301, CEPE AI0302, CEPE AI0303, CEPE AI0309, CEPE AI0310, CEPE AI0311, CEPE AI0103, CEPE AI0104, CEPE AI0203, CEPE AI0204, CEPE AI0502, CEPE AI0503 CEPE AI0504, CEPE AI0505 CEPE AI0506, CEPE AI0002, CEPE AI0003, CEPE AI0004, CEPE AI0601 CEPE AI0607 CEPE AI0613, CEPE AI0602 CEPE AI0608 CEPE AI0614, CEPE AI1001, CEPE AI0501, CEPE AI0105, CEPE AI0106, CEPE AI0107, CEPE AI0603 CEPE AI0609 CEPE AI0615, CEPE AI0604 CEPE AI0610, CEPE AI0605 CEPE AI0611 CEPE AI0616, CEPE AI0606 CEPE AI0612 CEPE AI0617, CEPE AI0901, CEPE AI0304, CEPE AI0305, CEPE AI0306, CEPE AI0307, CEPE AI0308, CEPE AI0312, CEPE AI0207, CEPE AI0001, CEPE AI0108, CEPE AI0110, CEPE AI0205, CEPE AI0206, CEPE AI0208, CEPE AI0209, CEPE AI1002) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PC09a, PC09b, PC09c, PC18; ERC04, ERC05
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05
Market sector by type of chemical product: PC09a, PC09b, PC09c, PC18

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 048

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use/Outdoor use.

Technical conditions and measures to control dispersion from source towards the worker : Indoor use:
Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Chemical production where opportunity for exposure arises

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Mixing or blending in batch processes

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Indoor use: Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Outdoor use: Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 20%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use/Outdoor use.

Technical conditions and measures to control dispersion from source towards the worker : Indoor use:
Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Outdoor use:
Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 11: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 12: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.048399 mg/m³.
Risk characterisation ratio: 0.002745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.054878.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Outdoor use:
Worker - dermal, long-term - systemic: 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 10.164 mg/m³.
Risk characterisation ratio: 0.576443.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.645015.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Outdoor use:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37036.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 3.388 mg/m³.
Risk characterisation ratio: 0.192148.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.466434.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Outdoor use:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37036.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 0.241996 mg/m³.
Risk characterisation ratio: 0.013725.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.041153.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 12: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES049:** Industrial finishing processes for textiles, films, fabrics (OL1) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC06; ERC05, ERC06a, ERC06c
Process Category: PROC06
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05, ERC06a, ERC06c

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05
Use of intermediate - ERC06a
Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) - ERC06c

Health Contributing scenarios : **Calendering operations -** PROC06

Number of the ES : 049

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use of intermediate

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 4: Calendering operations

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use of intermediate

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 4: Calendering operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day.
Risk characterisation ratio: 0.548571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.68582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various products (PC09a, PC09b, PC09c, PC18)

List of use descriptors : **Identified use name: ES050:** Industrial manufacture of coatings and inks (PC9a, 9b, 9c, 18) (CEPE MS0021 MW0021, CEPE MS0022 MW0022, CEPE MS0023 MW0023, CEPE MS0024 MW0024, CEPE MS0032 MW0032, CEPE MS0051 MW0051, CEPE MS0052 MW0052, CEPE MS0013 MW0013, CEPE MS0013 MW0013, CEPE MS0014 MW0014, CEPE MS0014 MW0014, CEPE MS0015 MW0015, CEPE MS0033 MW0033, CEPE MS0071 MW0071, CEPE MS0072 MW0072, CEPE MS0034 MW0034, CEPE MS0035 MW0035, CEPE MS0053 MW0053, CEPE MS0054 MW0054, CEPE MS0111 MW0111, CEPE MS0112 MW0112, CEPE MS0043 MW0043, CEPE MS0044 MW0044, CEPE MS0011 MW0011, CEPE MS0011 MW0011, CEPE MS0012 MW0012, CEPE MS0012 MW0012, CEPE MS0025 MW0025, CEPE MS0026 MW0026, CEPE MS0027 MW0027, CEPE MS0028 MW0028, CEPE MS0070 MW0070, CEPE MS0073 MW0073, CEPE MS0091 MW0091, CEPE MS0092 MW0092, CEPE MS0041 MW0041, CEPE MS0042 MW0042) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PC09a, PC09b, PC09c, PC18; ERC02
Process Category: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC09a, PC09b, PC09c, PC18

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 050

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use.

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Indoor use: Local exhaust ventilation: Inhalation - minimum efficiency of 90%. *or* Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Mixing or blending in batch processes

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Indoor use: Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Outdoor use: Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.048399 mg/m³.
Risk characterisation ratio: 0.002745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Outdoor use:
Worker - dermal, long-term - systemic: 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.03388 mg/m³.
Risk characterisation ratio: 0.001921.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.00535.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.054878.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.096063.

Outdoor use:
Worker - dermal, long-term - systemic: 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 10.164 mg/m³.
Risk characterisation ratio: 0.576443.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.590158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Outdoor use:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37036.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.274391.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES051:** Industrial use of Construction Chemicals, Service life: indoor (CC-3-1) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC11a
Process Category: PROC07, PROC08b, PROC10, PROC13, PROC14
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05, ERC11a

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05
Widespread use of articles with low release (indoor) - ERC11a

Health Contributing scenarios : **Industrial spraying -** PROC07
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 051

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Widespread use of articles with low release (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Industrial spraying

Product characteristics : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Widespread use of articles with low release (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 4: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day.
Risk characterisation ratio: 0.171429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.445925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.20582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES052:** Industrial use of Construction Chemicals, Service life: outdoor (CC-4-1) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC10a
Process Category: PROC07, PROC08b, PROC10, PROC13, PROC14
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05, ERC10a

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05
Widespread use of articles with low release (outdoor) - ERC10a

Health Contributing scenarios : **Industrial spraying -** PROC07
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 052

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Widespread use of articles with low release (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 20%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Widespread use of articles with low release (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 4: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.20582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES053:** Industrial use of Construction Chemicals, without spraying, Service life: outdoor (CC-4-2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC10a
Process Category: PROC08b, PROC10, PROC13, PROC14
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05, ERC10a

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05
Widespread use of articles with low release (outdoor) - ERC10a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at dedicated facilities -** PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 053

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Widespread use of articles with low release (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Widespread use of articles with low release (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.20582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES054:** Industrial use of Construction Chemicals, without spraying, Service life: indoor (CC-3-2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b, PROC10, PROC13, PROC14; ERC04, ERC05, ERC11a
Process Category: PROC08b, PROC10, PROC13, PROC14
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05, ERC11a

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05
Widespread use of articles with low release (indoor) - ERC11a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at dedicated facilities -** PROC08b
Roller application or brushing - PROC10
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 054

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Widespread use of articles with low release (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Widespread use of articles with low release (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.20582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES055:** Industrial use of Food beverage and pharmacos products (AISE-P809, AISE-P806, AISE-P804, AISE-P807, AISE-P803, AISE-P810, AISE-P801, AISE-P802, AISE-P805, AISE-P811) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PC35; ERC04
Process Category: PROC01, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production where opportunity for exposure arises - PROC04
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 055

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Industrial use.

Contributing scenario controlling worker exposure for 3: Chemical production where opportunity for exposure arises

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 20%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 5 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 5 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Contributing scenario controlling worker exposure for 9: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 240 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 10: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 60 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Professional use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 11: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 30 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 12: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.00968 mg/m³.
Risk characterisation ratio: 0.000549.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.003978.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.028571 mg/kg bw/day.
Risk characterisation ratio: 0.002857.

Worker - inhalative, long-term - systemic: 0.050416 mg/m³.
Risk characterisation ratio: 0.002859.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.005716.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.028571 mg/kg bw/day.
Risk characterisation ratio: 0.002857.

Worker - inhalative, long-term - systemic: 0.25208 mg/m³.
Risk characterisation ratio: 0.014297.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.017154.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:

Risk characterisation ratio: 0.082339.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.133929 mg/kg bw/day.
Risk characterisation ratio: 0.013393.

Worker - inhalative, long-term - systemic: 0.604991 mg/m³.
Risk characterisation ratio: 0.034312.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.047705.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.016741 mg/kg bw/day.
Risk characterisation ratio: 0.001674.

Worker - inhalative, long-term - systemic: 1.512 mg/m³.
Risk characterisation ratio: 0.08578.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.087454.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 12: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES056:** Industrial use of laundry products (AISE-P108, AISE-P109, AISE-P101, AISE-P104, AISE-P107, AISE-P110) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC08a, PROC08b, PROC09, PC35; ERC04, ERC6b, ERC08a
Process Category: PROC01, PROC02, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC06b, ERC08a
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use of reactive processing aid at industrial site (no inclusion into or onto article) - ERC06b
Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - ERC08a

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 056

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use of reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Professional use.

Contributing scenario controlling worker exposure for 5: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 5 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use of reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 3: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 4: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day. Risk characterisation ratio: 0.003429. **Worker - inhalative, long-term - systemic:** 0.00484 mg/m³. Risk characterisation ratio: 0.000274. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.003703.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.014286 mg/kg bw/day.
Risk characterisation ratio: 0.001429.

Worker - inhalative, long-term - systemic: 0.050416 mg/m³.
Risk characterisation ratio: 0.002859.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.004288.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.085714 mg/kg bw/day.
Risk characterisation ratio: 0.008571.

Worker - inhalative, long-term - systemic: 0.756239 mg/m³.
Risk characterisation ratio: 0.04289.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.051462.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC14, PC25, PC35)

List of use descriptors : **Identified use name: ES057:** Industrial use of metal treatment products (AISE-P1001b, AISE-P1004, AISE-P1009, AISE-P1002, AISE-P1001a, AISE-P1006, AISE-P1007, AISE-P1008, AISE-P1003, AISE-P1005, AISE-P1010, AISE-P1011, AISE-P1001) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC17, PROC18, PROC23, PC14, PC25, PC35; ERC04, ERC05
Process Category: PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC17, PROC18, PROC23
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05
Market sector by type of chemical product: PC14, PC25, PC35

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Lubrication at high energy conditions in metal working operations - PROC17
General greasing/lubrication at high kinetic energy conditions - PROC18
Open processing and transfer operations at substantially elevated temperature - PROC23

Number of the ES : 057

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Indoor use/Outdoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Chemical production where opportunity for exposure arises

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 10 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 60 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 10: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 60 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 11: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 12: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 13: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 14: Roller application or brushing

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 15: Lubrication at high energy conditions in metal working operations

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 480 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 16: General greasing/lubrication at high kinetic energy conditions

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Dermal - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 17: Open processing and transfer operations at substantially elevated temperature

Product characteristics	:	Solid, medium dustiness.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1980 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 0.483993 mg/m³. Risk characterisation ratio: 0.02745. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.054878.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human):	:	EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.274391.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.057143 mg/kg bw/day.
Risk characterisation ratio: 0.005714.

Worker - inhalative, long-term - systemic: 0.100832 mg/m³.
Risk characterisation ratio: 0.005719.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.011433.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.085714 mg/kg bw/day.
Risk characterisation ratio: 0.008571.

Worker - inhalative, long-term - systemic: 0.151248 mg/m³.
Risk characterisation ratio: 0.008578.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.017149.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 0.604991 mg/m³.
Risk characterisation ratio: 0.034312.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.068598.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.085714 mg/kg bw/day.
Risk characterisation ratio: 0.008571.

Worker - inhalative, long-term - systemic: 0.037812 mg/m³.
Risk characterisation ratio: 0.002145.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.010716.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 0.151248 mg/m³.
Risk characterisation ratio: 0.008578.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.042864.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.713164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 12: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.768063.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 13: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 14: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day.
Risk characterisation ratio: 0.548571.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.823068.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 15: Lubrication at high energy conditions in metal working operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 16: General greasing/lubrication at high kinetic energy conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 17: Open processing and transfer operations at substantially elevated temperature

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.414 mg/kg bw/day.
Risk characterisation ratio: 0.141429.

Worker - inhalative, long-term - systemic: 0.300 mg/m³.
Risk characterisation ratio: 0.017015.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.158443.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Laboratory chemicals (PC21)

List of use descriptors : **Identified use name: ES058:** Industrial use of quality control (AISE-P1250) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC15, PC21; ERC04
Process Category: PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC21

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Use as laboratory reagent -** PROC15

Number of the ES : 058

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Use as laboratory reagent

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm^2.

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 0.241996 mg/m³.
Risk characterisation ratio: 0.013725.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.048011.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES059:** Industrial use of vehicle cleaning products (AISE-P707, AISE-P708) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PC35; ERC04
Process Category: PROC04, PROC08a
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Chemical production where opportunity for exposure arises -** PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a

Number of the ES : 059

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Contributing scenario controlling worker exposure for 2: Chemical production where opportunity for exposure arises

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use/Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 30 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use/Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.274391.

Outdoor use:
Worker - dermal, long-term - systemic: 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.233217.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Indoor use:
Worker - dermal, long-term - systemic: 0.171429 mg/kg bw/day.
Risk characterisation ratio: 0.017143.

Worker - inhalative, long-term - systemic: 3.025 mg/m³.
Risk characterisation ratio: 0.171561.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.188703.

hexanoic acid	Exposure Scenario: 059	***Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)***

Outdoor use:
Worker - dermal, long-term - systemic: 0.171429 mg/kg bw/day.
Risk characterisation ratio: 0.017143.

Worker - inhalative, long-term - systemic: 2.117 mg/m³.
Risk characterisation ratio: 0.120092.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.137235.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC35, PC37)

List of use descriptors : **Identified use name: ES060:** Industrial use of water treatment products (AISE-P903, AISE-P904, AISE-P905) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC04, PROC08a, PROC08b, PROC09, PC35, PC37; ERC04
Process Category: PROC02, PROC04, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC35, PC37

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Chemical production where opportunity for exposure arises - PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 060

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Outdoor use.

Contributing scenario controlling worker exposure for 3: Chemical production where opportunity for exposure arises

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 10 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 10 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Outdoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 3.388 mg/m³.
Risk characterisation ratio: 0.192148.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.329291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.781788.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.057143 mg/kg bw/day.
Risk characterisation ratio: 0.005714.

Worker - inhalative, long-term - systemic: 0.705823 mg/m³.
Risk characterisation ratio: 0.040031.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.045745.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.057143 mg/kg bw/day.
Risk characterisation ratio: 0.005714.

Worker - inhalative, long-term - systemic: 0.352912 mg/m³.
Risk characterisation ratio: 0.020015.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.02573.

hexanoic acid	Exposure Scenario: 060	***Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC35, PC37)***

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.781788.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES061:** Blowing agents (OL2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC12; ERC07, ERC08c
Process Category: PROC12
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC07, ERC08c

Environmental contributing scenarios : **Use of functional fluid at industrial site -** ERC07
Widespread use leading to inclusion into/onto article (indoor) - ERC08c

Health Contributing scenarios : **Use of blowing agents in manufacture of foam -** PROC12

Number of the ES : 061

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of functional fluid at industrial site

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 3: Use of blowing agents in manufacture of foam

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of functional fluid at industrial site

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 3: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES062:** Industrial use of greasing agents (OL3) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC18; ERC04, ERC08f, ERC09b, ERC11a
Process Category: PROC18
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC08f, ERC09b, ERC11a

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Widespread use leading to inclusion into/onto article (outdoor) - ERC08f
Widespread use of functional fluid (outdoor) - ERC09b
Widespread use of articles with low release (indoor) - ERC11a

Health Contributing scenarios : **General greasing/lubrication at high kinetic energy conditions -** PROC18

Number of the ES : 062

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Widespread use leading to inclusion into/onto article (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Widespread use of functional fluid (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 4: Widespread use of articles with low release (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 5: General greasing/lubrication at high kinetic energy conditions

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Dermal - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Widespread use leading to inclusion into/ onto article (outdoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 3: Widespread use of functional fluid (outdoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 4: Widespread use of articles with low release (indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 5: General greasing/lubrication at high kinetic energy conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 9.68 mg/m³. Risk characterisation ratio: 0.548994. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.686137.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Intermediate (PC19)

List of use descriptors : **Identified use name: ES063:** Industrial uses (OL6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC03, PC19; ERC06a
Process Category: PROC01, PROC03
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06a
Market sector by type of chemical product: PC19

Environmental contributing scenarios : **Use of intermediate -** ERC06a

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03

Number of the ES : 063

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of intermediate

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

hexanoic acid	Exposure Scenario: 063	***Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Intermediate (PC19)***

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of intermediate

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.048399 mg/m³.
Risk characterisation ratio: 0.002745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES064:** Industrial use resulting in manufacture of another substance (use of intermediates) (ECO 3) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15; ERC06a
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06a

Environmental contributing scenarios : **Use of intermediate -** ERC06a

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Use as laboratory reagent - PROC15

Number of the ES : 064

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of intermediate

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Chemical production where opportunity for exposure arises

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Use as laboratory reagent

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of intermediate

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.048399 mg/m³.
Risk characterisation ratio: 0.002745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.171534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use

List of use descriptors : **Identified use name: ES065:** Intermediate (P&G/Croda) - Industrial: ERC06a
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06a

Environmental contributing scenarios : **Use of intermediate -** ERC06a

Health Contributing scenarios :

Number of the ES : 065

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of intermediate

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2:

Not applicable.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of intermediate

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human): : Not applicable.

Exposure estimation : Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Laboratory chemicals (PC21)

List of use descriptors : **Identified use name: ES066:** Laboratory use (AISE-P1200) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC15, PC21; ERC08a
Process Category: PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC21

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Use as laboratory reagent -** PROC15

Number of the ES : 066

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Use as laboratory reagent

PC20

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.061735.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES067:** Manual application of precured tread (ETRMA 25) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC21; ERC06d
Process Category: PROC21
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21

Number of the ES : 067

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day. Risk characterisation ratio: 0.282857. **Worker - inhalative, long-term - systemic:** 3 mg/m³. Risk characterisation ratio: 0.170145. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.453002.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES068:** Manual metering, weighting possible, mainly synthetic rubbers and mixtures (ETRMA 1) - Formulation or re-packing/Industrial: PROC09; ERC03
Process Category: PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Transfer of substance or mixture into small containers (dedicated filling line, including weighing) -** PROC09

Number of the ES : 068

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES069:** Manufacture of detergents and maintenance products (AISE-M1, AISE-M8, AISE-M9, AISE-M2, AISE-M3, AISE-M4, AISE-M5, AISE-M6, AISE-M7) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC09, PROC14, PROC15; ERC02
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC09, PROC14, PROC15
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Tabletting, compression, extrusion, pelletisation, granulation - PROC14
Use as laboratory reagent - PROC15

Number of the ES : 069

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Chemical production where opportunity for exposure arises

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Use as laboratory reagent

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.048399.

Worker - inhalative, long-term - systemic: 0.002745 mg/m³.
Risk characterisation ratio: 0.001647.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.171534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES070:** Adhesives, sealants; Manufacture (EM 16, EM 24, EM 25, EM 26, EM 27, EM 17, EM 28, EM 18, EM 9, EM 10, EM 11, EM 19, EM 12, EM 20, EM 13, EM 21, EM 14, EM 22, EM 15, EM 23) - Formulation or re-packing/Industrial/ Professional: PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC12, PROC13, PROC14; ERC02
Process Category: PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC12, PROC13, PROC14
Substance supplied to that use in form of: As such, In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Use of blowing agents in manufacture of foam - PROC12
Treatment of articles by dipping and pouring - PROC13
Tabletting, compression, extrusion, pelletisation, granulation - PROC14

Number of the ES : 070

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.

Contributing scenario controlling worker exposure for 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Chemical production where opportunity for exposure arises

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Mixing or blending in batch processes

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 20%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 11: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 12: Use of blowing agents in manufacture of foam

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Industrial use.

Contributing scenario controlling worker exposure for 13: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 14: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics	:	Covers percentage substance in the product up to 100%.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Industrial use.
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.41164.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 12: Use of blowing agents in manufacture of foam

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.58328.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 13: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 14: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Artists Supply and Hobby preparations (PC05)

List of use descriptors : **Identified use name: ES071:** Artists Supply and Hobby preparations; Manufacture (EM 42, EM 43, EM 44, EM 45) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC05; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC05

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 071

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Automotive care products (PC06)

List of use descriptors : **Identified use name: ES072:** Automotive care products; Manufacture (EM 34, EM 35, EM 36, EM 37) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC06; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC06

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 072

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Manufacture

List of use descriptors : **Identified use name: ES073:** Manufacture of substance - Industrial: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15; ERC01
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01

Environmental contributing scenarios : **Manufacture of the substance -** ERC01

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Use as laboratory reagent - PROC15

Number of the ES : 073

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Manufacture of the substance

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Chemical production where opportunity for exposure arises

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Use as laboratory reagent

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Manufacture of the substance

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.048399 mg/m³.
Risk characterisation ratio: 0.002745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.171534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Air care products (PC03)

List of use descriptors : **Identified use name: ES074:** Air care products; Manufacture (EM 97, EM 98, EM 99, EM 100) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC03; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC03

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 074

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Biocidal products (PC08)

List of use descriptors : **Identified use name: ES075:** Biocidal products; Manufacture (EM 101, EM 102, EM 103, EM 104, EM 105, EM 106, EM 107) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PC08; ERC02
Process Category: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC08

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 075

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.048399 mg/m³.
Risk characterisation ratio: 0.002745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.006174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Cosmetics, personal care products (PC39)

List of use descriptors : **Identified use name: ES076:** Manufacture of cosmetic products (COLIPA M6, COLIPA M8, COLIPA M3, COLIPA M1, COLIPA M5.2, COLIPA M5.1, COLIPA M2, COLIPA M4, COLIPA M7) - Formulation or re-packing/Industrial: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15, PC15, PC39; ERC02
Process Category: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC39

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Tabletting, compression, extrusion, pelletisation, granulation - PROC14
Use as laboratory reagent - PROC15

Number of the ES : 076

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Tabletting, compression, extrusion, pelletisation, granulation

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Use as laboratory reagent

Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day. Risk characterisation ratio: 0.003429. **Worker - inhalative, long-term - systemic:** 0.048399 mg/m³. Risk characterisation ratio: 0.002745. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.006174.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.41164.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.171534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Lawn and garden preparations, Fertilizers (PC22)

List of use descriptors : **Identified use name: ES077:** Lawn and garden preparations, including fertilizers; Manufacture (EM 50, EM 51, EM 52, EM 53) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC22; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC22

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 077

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Metal surface treatment products (PC14)

List of use descriptors : **Identified use name: ES078:** Metal surface treatment products, including galvanic and electroplating products; Manufacture (EM 1, EM 2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC07, PC14; ERC05
Process Category: PROC05, PROC07
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05
Market sector by type of chemical product: PC14

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Industrial spraying - PROC07

Number of the ES : 078

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

PC14

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Industrial spraying

PC14

Product characteristics : Covers percentage substance in the product up to 20%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Non-metal surface treatment products (PC15)

List of use descriptors : **Identified use name: ES079:** Non-metal surface treatment products; Manufacture (EM 3, EM 4, EM 5, EM 6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC07, PROC08a, PROC09, PC15; ERC05
Process Category: PROC05, PROC07, PROC08a, PROC09
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05
Market sector by type of chemical product: PC15

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Industrial spraying - PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 079

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Industrial spraying

Product characteristics : Covers percentage substance in the product up to 20%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Covers percentage substance in the product up to 100%

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Perfumes, fragrances (PC28)

List of use descriptors : **Identified use name: ES080:** Perfumes, fragrances; Manufacture (EM 74, EM 75, EM 76, EM 77) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC28; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC28

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 080

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Plant protection products (PC27)

List of use descriptors : **Identified use name: ES081:** Plant protection products; Manufacture (EM 66, EM 67, EM 68, EM 69) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC27; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC27

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 081

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Polishes and wax blends (PC31)

List of use descriptors : **Identified use name: ES082:** Polishes and wax blends; Manufacture (EM 82, EM 83, EM 84, EM 85) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC31; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC31

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 082

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (PC20)

List of use descriptors : **Identified use name: ES083:** Products such as pH-regulators, flocculants, precipitants etc; Manufacture (EM 58, EM 59, EM 60, EM 61) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC20; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC20

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 083

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.822963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Water softeners (PC36)

List of use descriptors : **Identified use name: ES084:** Water softeners; Manufacture (EM 89, EM 90, EM 91, EM 92) - Formulation or re-packing/Industrial: PROC05, PROC08a, PROC08b, PROC09, PC36; ERC02
Process Category: PROC05, PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC36

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 084

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES085:** Mixing in closed mixing unit (i.e. Banbury mixer) (ETRMA 4) - Formulation or re-packing/Industrial: PROC05; ERC03
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 085

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES086:** Open mill mixing (tipical for laboratory scale) (ETRMA 5) - Formulation or re-packing/Industrial: PROC05; ERC03
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 086

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.411534.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES087:** Painting, cement application and tyre treatment with lubricants (ETRMA 28) - Formulation or re-packing/Industrial: PROC10; ERC03
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 087

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.164677.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES088:** Part of rubber and rusted cords are removed from casing. Casing cleaning. (ETRMA 22) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC21; ERC06d
Process Category: PROC21
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Low energy manipulation and handling of substances bound in/on materials or articles -** PROC21

Number of the ES : 088

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Low energy manipulation and handling of substances bound in/on materials or articles

Product characteristics : Solid, medium dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Low energy manipulation and handling of substances bound in/on materials or articles

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.829 mg/kg bw/day. Risk characterisation ratio: 0.282857. **Worker - inhalative, long-term - systemic:** 3 mg/m³. Risk characterisation ratio: 0.170145. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.453002.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Intermediate (PC19)

List of use descriptors : **Identified use name: ES089:** Production of agrochemicals - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC03, PC19
Process Category: PROC03
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Market sector by type of chemical product: PC19

Environmental contributing scenarios :

Health Contributing scenarios : **Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition -** PROC03

Number of the ES : 089

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PC19

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.
or
Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES090:** Production of food chemicals - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC03, PC19
Process Category: PROC03
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.

Environmental contributing scenarios :

Health Contributing scenarios : **Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition -** PROC03

Number of the ES : 090

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.
or
Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day. Risk characterisation ratio: 0.068571. **Worker - inhalative, long-term - systemic:** 1.452 mg/m³. Risk characterisation ratio: 0.082349. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.150921.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES091:** Production of intermediate in Industrial uses/Lubricants - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC03
Process Category: PROC03
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.

Environmental contributing scenarios :

Health Contributing scenarios : **Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition -** PROC03

Number of the ES : 091

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.
or
Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day. Risk characterisation ratio: 0.068571. **Worker - inhalative, long-term - systemic:** 1.452 mg/m³. Risk characterisation ratio: 0.082349. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.150921.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES092:** Professional use. Use as a solvent; Indoor (Processing aid) (”FEICA-UseR 22-”19, “FEICA-UseR 22-”20, “FEICA-UseR 22-”21, “FEICA-UseR 22-”17, “FEICA-UseR 22-”18) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC08b, PROC10, PROC11, PROC13; ERC08a
Process Category: PROC08a, PROC08b, PROC10, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 092

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day:1-4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 4: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 5: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Contributing scenario controlling worker exposure for 6: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.42546.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:

Risk characterisation ratio: 0.178412.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.439174.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.214286 mg/kg bw/day.
Risk characterisation ratio: 0.021429.

Worker - inhalative, long-term - systemic: 5.808 mg/m³.
Risk characterisation ratio: 0.329396.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.350825.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.178412.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES093:** Professional use. Use as a solvent; Outdoor (Processing aid) (”FEICA-UseR 22-”24, “FEICA-UseR 22-”25, “FEICA-UseR 22-”26, “FEICA-UseR 22-”22, “FEICA-UseR 22-”23) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC08b, PROC10, PROC11, PROC13; ERC08d
Process Category: PROC08a, PROC08b, PROC10, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) -** ERC08d

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 093

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day:1-4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Dermal - minimum efficiency of 99%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 4: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Contributing scenario controlling worker exposure for 5: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Contributing scenario controlling worker exposure for 6: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 5.082 mg/m³.
Risk characterisation ratio: 0.288222.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301936.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.033 mg/m³.
Risk characterisation ratio: 0.115289.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.129003.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 5.082 mg/m³.
Risk characterisation ratio: 0.288222.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.31565.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.214286 mg/kg bw/day.
Risk characterisation ratio: 0.021429.

Worker - inhalative, long-term - systemic: 4.066 mg/m³.
Risk characterisation ratio: 0.230577.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.252006.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.033 mg/m³.
Risk characterisation ratio: 0.115289.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.129003.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Building and construction preparations not covered elsewhere (PC10)

List of use descriptors : **Identified use name: ES094:** Professional use of construction chemicals; Indoor (CC-5-1) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC11, PROC13, PROC19, PC10; ERC08c
Process Category: PROC10, PROC11, PROC13, PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC10

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Roller application or brushing -** PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13
Manual activities involving hand contact - PROC19

Number of the ES : 094

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Non industrial spraying

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Treatment of articles by dipping and pouring

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Manual activities involving hand contact

PC10

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Building and construction preparations not covered elsewhere (PC10)

List of use descriptors : **Identified use name: ES093:** Professional use of construction chemicals; Indoor, without spraying (CC-5-2) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC13, PROC19, PC10; ERC08c
Process Category: PROC10, PROC13, PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC10

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Roller application or brushing -** PROC10
Treatment of articles by dipping and pouring - PROC13
Manual activities involving hand contact - PROC19

Number of the ES : 095

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Treatment of articles by dipping and pouring

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Manual activities involving hand contact

PC10

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Building and construction preparations not covered elsewhere (PC10)

List of use descriptors : **Identified use name: ES096:** Professional use of construction chemicals; Outdoor (CC-6-1) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC11, PROC13, PROC19, PC10; ERC08f
Process Category: PROC10, PROC11, PROC13, PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08f
Market sector by type of chemical product: PC10

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (outdoor) -** ERC08f

Health Contributing scenarios : **Roller application or brushing -** PROC10
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13
Manual activities involving hand contact - PROC19

Number of the ES : 096

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Outdoor use.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Non industrial spraying

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 4: Treatment of articles by dipping and pouring

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Manual activities involving hand contact

PC10

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 4.235 mg/m³.
Risk characterisation ratio: 0.240185.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.267613.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 0.846988 mg/m³.
Risk characterisation ratio: 0.048037.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.074823.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.109788.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 2.541 mg/m³.
Risk characterisation ratio: 0.144111.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.568397.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Building and construction preparations not covered elsewhere (PC10)

List of use descriptors : **Identified use name: ES097:** Professional use of construction chemicals; Outdoor, without spraying (CC-6-2) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC13, PROC19, PC10; ERC08f
Process Category: PROC10, PROC13, PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08f
Market sector by type of chemical product: PC10

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (outdoor) -** ERC08f

Health Contributing scenarios : **Roller application or brushing -** PROC10
Treatment of articles by dipping and pouring - PROC13
Manual activities involving hand contact - PROC19

Number of the ES : 097

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Outdoor use.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Treatment of articles by dipping and pouring

PC10

Product characteristics : Covers percentage substance in the product up to 5%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Manual activities involving hand contact

PC10

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.123502.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.109788.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 1.016 mg/m³.
Risk characterisation ratio: 0.057644.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.48193.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES098:** Cosmetic products (ECO 7) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC19; ERC08a
Process Category: PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Manual activities involving hand contact -** PROC19

Number of the ES : 098

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Manual activities involving hand contact

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm^2.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.414 mg/kg bw/day.
Risk characterisation ratio: 0.141429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.415925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES099:** Professional use of façade/surface cleaning products (AISE-P901, AISE-P902) - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC08a, PROC11; ERC08d
Process Category: PROC07, PROC08a, PROC08b, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) -** ERC08d

Health Contributing scenarios : **Industrial spraying -** PROC07
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Non industrial spraying - PROC11

Number of the ES : 099

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Outdoor use.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: <15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: <15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day. Risk characterisation ratio: 0.171429. **Worker - inhalative, long-term - systemic:** 3.388 mg/m³. Risk characterisation ratio: 0.192148. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.363576.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 3.388 mg/m³.
Risk characterisation ratio: 0.192148.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.466434.

Professional:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 8.47 mg/m³.
Risk characterisation ratio: 0.48037.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.754655.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : Industrial:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37036.

Professional:
Worker - dermal, long-term - systemic: 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 3.388 mg/m³.
Risk characterisation ratio: 0.192148.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.466434.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

hexanoic acid	Exposure Scenario: 099	***Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.12286.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES100:** Professional Use of Food beverage and pharmacos products (AISE-P808) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PC35; ERC08a
Process Category: PROC08a, PROC10
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Roller application or brushing - PROC10

Number of the ES : 100

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 16 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

hexanoic acid	Exposure Scenario: 100	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)***

Contributing scenario controlling worker exposure for 3: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.091429 mg/kg bw/day.
Risk characterisation ratio: 0.009143.

Worker - inhalative, long-term - systemic: 4.033 mg/m³.
Risk characterisation ratio: 0.228747.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.23789.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Cosmetics, personal care products (PC39)

List of use descriptors : **Identified use name: ES101:** Professional use of hand cleaners (AISE-P1300) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC19, PC39; ERC08a
Process Category: PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC39

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Manual activities involving hand contact -** PROC19

Number of the ES : 101

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Manual activities involving hand contact

PC39

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 25%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

hexanoic acid	Exposure Scenario: 101	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Cosmetics, personal care products (PC39)***

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.836031

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Polishes and wax blends (PC31)

List of use descriptors : **Identified use name: ES102:** Professional use of maintenance products (AISE-P605) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC08a, PC31; ERC08a
Process Category: PROC02, PROC08a
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC31

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a

Number of the ES : 102

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Frequency and duration of use/exposure : Exposure duration per day: 5 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 1 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.014286 mg/kg bw/day.
Risk characterisation ratio: 0.001429.

Worker - inhalative, long-term - systemic: 0.25208 mg/m³.
Risk characterisation ratio: 0.014297.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.015725.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.005714 mg/kg bw/day.
Risk characterisation ratio: 0.000571.

Worker - inhalative, long-term - systemic: 0.025208 mg/m³.
Risk characterisation ratio: 0.00143.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.002001.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES103:** Professional use of medical devices (AISE-P1104, AISE-P1102, AISE-P1103, AISE-P1101) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PROC11, PROC13, PC35; ERC08a
Process Category: PROC04, PROC08a, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production where opportunity for exposure arises -** PROC04
Chemical production where opportunity for exposure arises - PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 103

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production where opportunity for exposure arises

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker	: Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Chemical production where opportunity for exposure arises

Product characteristics	: Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	: Exposure duration per day: 240 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	: Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	: Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	: Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	: Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	: Exposure duration per day: 5 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	: Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	: Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	: Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	: Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	: Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	: Exposure duration per day: 20 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	: Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	: Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	: Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	: Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: <15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 8: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 105 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Technical conditions and measures to control dispersion from source towards the worker	:	Local exhaust ventilation: Inhalation - minimum efficiency of 80%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Treatment of articles by dipping and pouring

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 1.936 mg/m³.
Risk characterisation ratio: 0.109799.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.795513.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.343068.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.028571 mg/kg bw/day.
Risk characterisation ratio: 0.002857.

Worker - inhalative, long-term - systemic: 0.025208 mg/m³.
Risk characterisation ratio: 0.00143.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.004287.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.114286 mg/kg bw/day.
Risk characterisation ratio: 0.011429.

Worker - inhalative, long-term - systemic: 0.100832 mg/m³.
Risk characterisation ratio: 0.005719.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.017147.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.600 mg/kg bw/day.
Risk characterisation ratio: 0.060.

Worker - inhalative, long-term - systemic: 2.117 mg/m³.
Risk characterisation ratio: 0.120092.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.180092.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

hexanoic acid	Exposure Scenario: 103	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)***

Exposure estimation and reference to its source - Workers: 9: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Washing and cleaning products (PC35)

List of use descriptors : **Identified use name: ES104:** Professional use of vehicle cleaning products - Industrial/Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC04, PROC08a, PROC10, PROC11, PC35; ERC8a
Process Category: PROC04, PROC08a, PROC10, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC35

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production where opportunity for exposure arises -** PROC04
Chemical production where opportunity for exposure arises - PROC04
Chemical production where opportunity for exposure arises - PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Roller application or brushing - PROC10
Roller application or brushing - PROC10
Non industrial spraying - PROC11

Number of the ES : 104

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Contributing scenario controlling worker exposure for 2: Chemical production where opportunity for exposure arises

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Outdoor use.
Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Chemical production where opportunity for exposure arises

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.
Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Chemical production where opportunity for exposure arises

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 480 min/day.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Outdoor use.
Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Outdoor use.
Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 30 min/day. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use. Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Outdoor use. Professional use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Roller application or brushing

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Outdoor use. Industrial use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Roller application or brushing

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Outdoor use. Professional use.
Conditions and measures related to personal protection, hygiene and health evaluation		
Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 10: Non industrial spraying		
Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Outdoor use. Professional use.
Conditions and measures related to personal protection, hygiene and health evaluation		
Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)		
Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production where opportunity for exposure arises		
Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 1.694 mg/m³. Risk characterisation ratio: 0.096074. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.781788.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production where opportunity for exposure arises		
Exposure assessment (human):	:	EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 3.388 mg/m³.
Risk characterisation ratio: 0.192148.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.329291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 0.67759 mg/m³.
Risk characterisation ratio: 0.03843.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.312715.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.171429 mg/kg bw/day.
Risk characterisation ratio: 0.017143.

Worker - inhalative, long-term - systemic: 0.756239 mg/m³.
Risk characterisation ratio: 0.04289.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.060033.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37036.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.123502.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 4.235 mg/m³.
Risk characterisation ratio: 0.240185.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.267613.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.694 mg/m³.
Risk characterisation ratio: 0.096074.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.12286.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES105:** Professional application of coatings and inks (CEPE AP0404, CEPE AP0405, CEPE AP0406, CEPE AP0402, CEPE AP0403, CEPE AP0501, CEPE AP0407, CEPE AP0302, CEPE AP0504 CEPEAP0505, CEPE AP0506 CEPEAP0507, CEPE AP0701, CEPE AP0102, CEPE AP0103, CEPE AP0104, CEPE AP0201, CEPE AP1201, CEPE AP0502, CEPE AP0503, CEPE AP0202, CEPE AP0203, CEPE AP0303, CEPE AP0304, CEPE AP0702, CEPE AP0703, CEPE AP0704, CEPE AP0705, CEPE AP1101, CEPE AP0101, CEPE AP0204, CEPE AP0205, CEPE AP0305, CEPE AP0401, CEPE AP1202, CEPE AP1203) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC02, PROC03, PROC04, PROC05, PROC08a, PROC10, PROC11, PROC19; ERC08a
Process Category: PROC02, PROC03, PROC04, PROC05, PROC08a, PROC10, PROC11, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions -** PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Mixing or blending in batch processes - PROC05
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Manual activities involving hand contact - PROC19

Number of the ES : 105

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².
Other conditions affecting workers exposure	:	Outdoor use.

Contributing scenario controlling worker exposure for 5: Chemical production where opportunity for exposure arises

Product characteristics	:	Covers percentage substance in the product up to 25%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Mixing or blending in batch processes

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Outdoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 9: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 10: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 11: Manual activities involving hand contact

Product characteristics	:	Covers percentage substance in the product up to 25%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1980 cm².
Other conditions affecting workers exposure	:	Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day. Risk characterisation ratio: 0.137143. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.274391.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150921.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 10.164 mg/m³.
Risk characterisation ratio: 0.576443.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.645015.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.114 mg/kg bw/day.
Risk characterisation ratio: 0.411429.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.576127.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686031.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 8.47 mg/m³.
Risk characterisation ratio: 0.48037.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.754655.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

hexanoic acid	Exposure Scenario: 105	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES106:** Adhesives, sealants (EM 31, EM 32, EM 33, EM 29, EM 30) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC08b, PROC10, PROC11, PROC19; ERC08a
Process Category: PROC05, PROC08b, PROC10, PROC11, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Manual activities involving hand contact - PROC19

Number of the ES : 106

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Manual activities involving hand contact

Product characteristics : Covers percentage substance in the product up to 25%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES107:** Air care products (AISE-P501, AISE-P504, AISE-P503, AISE-P502, AISE-P505) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC11, PROC13; ERC08a
Process Category: PROC08a, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 107

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 7.26 mg/m³.
Risk characterisation ratio: 0.411745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686031.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

hexanoic acid	Exposure Scenario: 107	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150963.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Artists Supply and Hobby preparations (PC05)

List of use descriptors : **Identified use name: ES108:** Artists Supply and Hobby preparations (EM 47, EM 46) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC05; ERC08c
Process Category: PROC05, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC05

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Manual activities involving hand contact - PROC19

Number of the ES : 108

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

PC05

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Manual activities involving hand contact

PC05

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Automotive care products (PC06)

List of use descriptors : **Identified use name: ES109:** Automotive care products (EM 38, EM 39) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC11, PC06; ERC08a
Process Category: PROC11
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC06

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Non industrial spraying -** PROC11

Number of the ES : 109

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Non industrial spraying

PC06

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES110:** Professional use of dishwash products (AISE-P203, AISE-P201, AISE-P202, AISE-P204) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC08a, PROC09, PROC10; ERC08a
Process Category: PROC01, PROC02, PROC08a, PROC09, PROC10
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Roller application or brushing - PROC10

Number of the ES : 110

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: <15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: <15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: <15 minutes. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: >4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.00484 mg/m³.
Risk characterisation ratio: 0.000274.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.003703.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.274391.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

hexanoic acid	Exposure Scenario: 110	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES111:** Professional use of floor care products (AISE-P401, AISE-P403, AISE-P404, AISE-P405, AISE-P406, AISE-P407, AISE-P409, AISE-P410, AISE-P402, AISE-P408, AISE-P411) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11; ERC08a
Process Category: PROC08a, PROC10, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Roller application or brushing - PROC10
Non industrial spraying - PROC11

Number of the ES : 111

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

hexanoic acid	Exposure Scenario: 111	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES112:** Professional use of general surface cleaning products (AISE-P301, AISE-P303, AISE-P305, AISE-P310, AISE-P312, AISE-P314, AISE-P316, AISE-P317, AISE-P302, AISE-P304, AISE-P306, AISE-P307, AISE-P308, AISE-P311, AISE-P313, AISE-P315, AISE-P309) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11, PROC13; ERC08a
Process Category: PROC08a, PROC10, PROC11, PROC13
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Roller application or brushing - PROC10
Roller application or brushing - PROC10
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Non industrial spraying - PROC11
Treatment of articles by dipping and pouring - PROC13

Number of the ES : 112

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 5: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 6: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 7: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 8: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Contributing scenario controlling worker exposure for 9: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.411534.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.233301.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.096053.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301283.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.137143 mg/kg bw/day.
Risk characterisation ratio: 0.013714.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.041164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES113:** Professional use of laundry products (AISE-P102, AISE-P103, AISE-P105, AISE-P106, AISE-P111, AISE-P112, AISE-P113) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC08a, PROC11; ERC08a
Process Category: PROC01, PROC08a, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Non industrial spraying - PROC11

Number of the ES : 113

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

hexanoic acid	Exposure Scenario: 113	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 4: Non industrial spraying

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.00484 mg/m³.
Risk characterisation ratio: 0.000274.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.003703.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.21 mg/m³.
Risk characterisation ratio: 0.068624.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.34291.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301283.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Biocidal products (PC08)

List of use descriptors : **Identified use name: ES114:** Professional use of biocidal products (EM 108, EM 109) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC11, PC08; ERC08f
Process Category: PROC11
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08f
Market sector by type of chemical product: PC08

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (outdoor) -** ERC08f

Health Contributing scenarios : **Non industrial spraying -** PROC11

Number of the ES : 114

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Non industrial spraying

PC08

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Lawn and garden preparations, including fertilizers (PC22)

List of use descriptors : **Identified use name: ES115:** Lawn and garden preparations, including fertilizers (EM 55, EM 54) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC22; ERC08d
Process Category: PROC05, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d
Market sector by type of chemical product: PC22

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) -** ERC08d

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Manual activities involving hand contact - PROC19

Number of the ES : 115

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Manual activities involving hand contact

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

hexanoic acid	Exposure Scenario: 115	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Lawn and garden preparations, including fertilizers (PC22)***

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES116:** Professional use of maintenance products (AISE-P601, AISE-P603, AISE-P608, AISE-P602, AISE-P604, AISE-P609, AISE-P606, AISE-P607) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC10, PROC11; ERC08a
Process Category: PROC08a, PROC10, PROC11
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Roller application or brushing - PROC10
Non industrial spraying - PROC11
Non industrial spraying - PROC11

Number of the ES : 116

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Product characteristics : Covers percentage substance in the product up to 100%

Frequency and duration of use/exposure : Exposure duration per day: <15 minutes.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Roller application or brushing

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Non industrial spraying

Product characteristics	:	Covers percentage substance in the product up to 5%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 1.21 mg/m³. Risk characterisation ratio: 0.068624. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.34291.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.233301.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.109135.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301283.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Perfumes, fragrances (PC28)

List of use descriptors : **Identified use name: ES117:** Perfumes, fragrances (EM 79, EM 78) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC28; ERC08c
Process Category: PROC05, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC28

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Manual activities involving hand contact - PROC19

Number of the ES : 117

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Manual activities involving hand contact

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Plant protection products (PC27)

List of use descriptors : **Identified use name: ES118:** Plant protection products (EM 71, EM 70) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC27; ERC08c
Process Category: PROC05, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC27

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Manual activities involving hand contact - PROC19

Number of the ES : 118

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

PC27

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Manual activities involving hand contact

PC27

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Polishes and wax blends (PC31)

List of use descriptors : **Identified use name: ES119:** Polishes and wax blends (EM 87, EM 86, EM 88) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC11, PC31; ERC08c
Process Category: PROC10, PROC11
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC31

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Roller application or brushing -** PROC10
Non industrial spraying - PROC11

Number of the ES : 119

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Non industrial spraying

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 6.05 mg/m³.
Risk characterisation ratio: 0.343121.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.37055.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Non industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.267857 mg/kg bw/day.
Risk characterisation ratio: 0.026786.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164034.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (PC20)

List of use descriptors : **Identified use name: ES120:** Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (EM 63) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC19, PC20; ERC08a
Process Category: PROC19
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC20

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Manual activities involving hand contact -** PROC19

Number of the ES : 120

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Manual activities involving hand contact

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 25%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

hexanoic acid	Exposure Scenario: 120	***Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents (PC20)***

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Polishes and wax blends (PC31)

List of use descriptors : **Identified use name: ES121:** Water softeners (EM 94, EM 93) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC05, PROC19, PC31; ERC08a
Process Category: PROC05, PROC19
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC31

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05
Manual activities involving hand contact - PROC19

Number of the ES : 121

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Manual activities involving hand contact

Product characteristics : Covers percentage substance in the product up to 25%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1980 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Manual activities involving hand contact

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 4.243 mg/kg bw/day.
Risk characterisation ratio: 0.424286.

Worker - inhalative, long-term - systemic: 3.63 mg/m³.
Risk characterisation ratio: 0.205873.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.630158.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES122:** Rubber latex and water dispersed ingredients deposit into a thin layer by coagulation (ETRMA 31) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13; ERC06d
Process Category: PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Treatment of articles by dipping and pouring -** PROC13

Number of the ES : 122

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Treatment of articles by dipping and pouring

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES123:** Skived cavities are filled with extruded rubber (ETRMA 24) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 123

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES124:** Spray application, wiping cement. (ETRMA 23) - Formulation or re-packing/Industrial: PROC07; ERC03
Process Category: PROC07
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Industrial spraying -** PROC07

Number of the ES : 124

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day. Risk characterisation ratio: 0.042857. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.317354.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Textile dyes and impregnating products (PC34)

List of use descriptors : **Identified use name: ES125:** Textile application: calendering (EM 8) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC06, PC34; ERC05
Process Category: PROC06
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Calendering operations -** PROC06

Number of the ES : 125

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Calendering operations

PC34

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Calendering operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 5.486 mg/kg bw/day.
Risk characterisation ratio: 0.548571.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.68582.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES126:** Transferring cement into portable drums (ETRMA 8) - Formulation or re-packing/Industrial: PROC09; ERC03
Process Category: PROC09
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Transfer of substance or mixture into small containers (dedicated filling line, including weighing) -** PROC09

Number of the ES : 126

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day. Risk characterisation ratio: 0.685714. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.822963.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing

List of use descriptors : **Identified use name: ES127:** Treatment with lubricant. Lubrifiant, improve flox during mechanical treatment (ETRMA 17) - Formulation or re-packing/Industrial: PROC10; ERC03
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03

Environmental contributing scenarios : **Formulation into solid matrix -** ERC03

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 127

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm^2.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 2.42 mg/m³. Risk characterisation ratio: 0.137248. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.164677.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES128:** Treatment with releasing agents Applied on tyre (cold) (ETRMA 13) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07; ERC06d
Process Category: PROC07
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Industrial spraying -** PROC07

Number of the ES : 128

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use/ Formulation or re-packing; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES129:** Use as an intermediate or process chemical Includes recycling/recovery, material transfer, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container). (C9 acid) - Formulation or re-packing/Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15; ERC02, ERC03, ERC04
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC03, ERC04

Environmental contributing scenarios : **Formulation into mixture -** ERC02
Formulation into solid matrix - ERC03
Use of non-reactive processing aid at industrial site (no inclusion into or onto article) - ERC04

Health Contributing scenarios : **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions -** PROC01
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - PROC02
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - PROC03
Chemical production where opportunity for exposure arises - PROC04
Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09
Use as laboratory reagent - PROC15

Number of the ES : 129

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Formulation into solid matrix

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 4: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 5: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Contributing scenario controlling worker exposure for 6: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Contributing scenario controlling worker exposure for 7: Chemical production where opportunity for exposure arises

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 9: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 10: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 11: Use as laboratory reagent

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 2: Formulation into solid matrix

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Environment: 3: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 4: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.034286 mg/kg bw/day.
Risk characterisation ratio: 0.003429.

Worker - inhalative, long-term - systemic: 0.00968 mg/m³.
Risk characterisation ratio: 0.000549.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.003978.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 0.967986 mg/m³.
Risk characterisation ratio: 0.054899.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.192042.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.685714 mg/kg bw/day.
Risk characterisation ratio: 0.068571.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.23327.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 7: Chemical production where opportunity for exposure arises

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 6.857 mg/kg bw/day.
Risk characterisation ratio: 0.685714.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.713164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 8: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

hexanoic acid	Exposure Scenario: 129	***Industrial use/ Formulation or re-packing; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)***

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 9: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 0.483993 mg/m³.
Risk characterisation ratio: 0.02745.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.301735.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 10: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.41164.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 11: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.308783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES130:** Use of the substance within laboratory settings, including material transfer and equipment cleaning. (C9 acid) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC15; ERC04
Process Category: PROC10, PROC15
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Roller application or brushing -** PROC10
Use as laboratory reagent - PROC15

Number of the ES : 130

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 3: Use as laboratory reagent

Product characteristics : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 240 cm².

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 0.241996 mg/m³.
Risk characterisation ratio: 0.013725.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.150868.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Use as laboratory reagent

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day.
Risk characterisation ratio: 0.034286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.308783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Professional use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES131:** Use of the substance within laboratory settings, including material transfer and equipment cleaning. (C9 acid) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PROC15; ERC08a, ERC08b
Process Category: PROC10, PROC15
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08b

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a
Widespread use of reactive processing aid (no inclusion into or onto article, indoor) - ERC08b

Health Contributing scenarios : **Roller application or brushing -** PROC10
Use as laboratory reagent - PROC15

Number of the ES : 131

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 3: Roller application or brushing

Product characteristics : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Use as laboratory reagent

Product characteristics	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 15 minutes - 1 hours. Frequency: 5 days per week.
Human factors not influenced by risk management	:	Exposed skin surface assumed: 240 cm².

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 3: Roller application or brushing

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day. Risk characterisation ratio: 0.027429. **Worker - inhalative, long-term - systemic:** 6.05 mg/m³. Risk characterisation ratio: 0.343121. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.37055.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Use as laboratory reagent

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 0.342857 mg/kg bw/day. Risk characterisation ratio: 0.034286. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.308783.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES132:** Vulcanization of green cushion layer or green tyre and evacuation of cured article and fumes (ETRMA 27) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 132

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES133:** Vulcanization, evacuation of cured article and fumes, cooling (for continuous processes) (ETRMA 16) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC14; ERC06d
Process Category: PROC14
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06d

Environmental contributing scenarios : **Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) -** ERC06d

Health Contributing scenarios : **Tabletting, compression, extrusion, pelletisation, granulation -** PROC14

Number of the ES : 133

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Tabletting, compression, extrusion, pelletisation, granulation

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Tabletting, compression, extrusion, pelletisation, granulation

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 3.429 mg/kg bw/day.
Risk characterisation ratio: 0.342857.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.480106.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES134:** Wide dispersive indoor use of substances in closed systems (OL4) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07; ERC09a
Process Category: PROC07
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a

Environmental contributing scenarios : **Widespread use of functional fluid (indoor) -** ERC09a

Health Contributing scenarios : **Industrial spraying -** PROC07

Number of the ES : 134

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of functional fluid (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 20%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of functional fluid (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.428571 mg/kg bw/day.
Risk characterisation ratio: 0.042857.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.317354.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Widespread use by professional workers; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23)

List of use descriptors : **Identified use name: ES135:** Wide dispersive outdoor use of substances in closed systems (OL5) - Professional: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08b; ERC09b
Process Category: PROC08b
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09b

Environmental contributing scenarios : **Widespread use of functional fluid (outdoor) -** ERC09b

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at dedicated facilities -** PROC08b

Number of the ES : 135

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of functional fluid (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Respiratory protection : Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of functional fluid (outdoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC24, PC34)

List of use descriptors : **Identified use name: ES136:** Application of non processing aids (TEGEWA 8, TEGEWA 9, TEGEWA 7) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC13, PROC17, PC24, PC34; ERC05
Process Category: PROC07, PROC13, PROC17
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05
Market sector by type of chemical product: PC24, PC34

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Industrial spraying -** PROC07
Treatment of articles by dipping and pouring - PROC13
Lubrication at high energy conditions in metal working operations - PROC17

Number of the ES : 136

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Industrial spraying

Product characteristics : Covers percentage substance in the product up to 20%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Treatment of articles by dipping and pouring

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Lubrication at high energy conditions in metal working operations

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day.
Risk characterisation ratio: 0.171429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.445925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:

Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Lubrication at high energy conditions in metal working operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC24, PC34)

List of use descriptors : **Identified use name: ES137:** Application of processing aids (TEGEWA 4, TEGEWA 5) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC07, PROC13, PROC17, PC24, PC34; ERC04
Process Category: PROC07, PROC13, PROC17
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC24, PC34

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Industrial spraying -** PROC07
Treatment of articles by dipping and pouring - PROC13
Lubrication at high energy conditions in metal working operations - PROC17

Number of the ES : 137

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics : Low volatile liquid.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Other conditions affecting workers exposure : Indoor use.

Contributing scenario controlling worker exposure for 2: Industrial spraying

PC24, PC34

Product characteristics : Covers percentage substance in the product up to 20%.

Human factors not influenced by risk management : Exposed skin surface assumed: 1500 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 95%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 3: Treatment of articles by dipping and pouring

PC24, PC34

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Contributing scenario controlling worker exposure for 4: Lubrication at high energy conditions in metal working operations

PC24, PC34

Product characteristics : Covers percentage substance in the product up to 100%.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Dermal - minimum efficiency of 95%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Industrial spraying

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.714 mg/kg bw/day.
Risk characterisation ratio: 0.171429.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.445925.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 3: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 4.84 mg/m³.
Risk characterisation ratio: 0.274497.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.548783.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 4: Lubrication at high energy conditions in metal working operations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 9.68 mg/m³.
Risk characterisation ratio: 0.548994.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.686137.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various products (PC20, PC23, PC32)

List of use descriptors : **Identified use name: ES138:** Blending (TEGEWA 1) - Formulation or re-packing/ Industrial: PROC05, PC20, PC23, PC32; ERC02
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC20, PC23, PC32

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 138

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm^2.

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.548783.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Formulation or re-packing; Various products (PC20, PC23, PC32)

List of use descriptors : **Identified use name: ES139:** Blending LEV (TEGEWA Leather 2) - Formulation or re-packing/Industrial: PROC05, PC20, PC23, PC32; ERC02
Process Category: PROC05
Substance supplied to that use in form of: As such
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Market sector by type of chemical product: PC20, PC23, PC32

Environmental contributing scenarios : **Formulation into mixture -** ERC02

Health Contributing scenarios : **Mixing or blending in batch processes -** PROC05

Number of the ES : 139

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Formulation into mixture

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Mixing or blending in batch processes

PC20, PC23, PC32

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%.

Frequency and duration of use/exposure : Exposure duration per day: 15 minutes - 1 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Formulation into mixture

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Mixing or blending in batch processes

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day. Risk characterisation ratio: 0.274286. **Worker - inhalative, long-term - systemic:** 4.84 mg/m³. Risk characterisation ratio: 0.274497. **Worker - combined, long-term - systemic:** Risk characterisation ratio: 0.548783.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC20, PC23, PC32)

List of use descriptors : **Identified use name: ES140:** Handling (TEGEWA Leather 8, TEGEWA Leather 10, TEGEWA Leather 9, TEGEWA Leather 4, TEGEWA Leather 7, TEGEWA Leather 3, TEGEWA Leather 5, TEGEWA Leather 11, TEGEWA Leather 6) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC08a, PROC08b, PROC09, PC20, PC23, PC32; ERC04, ERC05, ERC06b
Process Category: PROC08a, PROC08b, PROC09
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC05, ERC06b
Market sector by type of chemical product: PC20, PC23, PC32

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04
Use at industrial site leading to inclusion into/onto article - ERC05
Use of reactive processing aid at industrial site (no inclusion into or onto article) - ERC06b

Health Contributing scenarios : **Transfer of substance or mixture (charging and discharging) at non-dedicated facilities -** PROC08a
Transfer of substance or mixture (charging and discharging) at dedicated facilities - PROC08b
Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC09

Number of the ES : 140

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Use at industrial site leading to inclusion into/ onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 3: Use of reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for: All Contributing scenarios

Product characteristics	:	Low volatile liquid.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100%.
Frequency and duration of use/exposure	:	Exposure duration per day: 1-4 hours. Frequency: 5 days per week.
Other conditions affecting workers exposure	:	Indoor use.

Contributing scenario controlling worker exposure for 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Human factors not influenced by risk management	:	Exposed skin surface assumed: 960 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Human factors not influenced by risk management	:	Exposed skin surface assumed: 480 cm².

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	:	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.
Respiratory protection	:	Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 3: Use of reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Workers: 4: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 5: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.356635.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers: 6: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 1.371 mg/kg bw/day.
Risk characterisation ratio: 0.137143.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.219492.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC23, P32)

List of use descriptors : **Identified use name: ES141:** Use for leather finishing 1 (TEGEWA Leather 15) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC04
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC23, PC32

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 141

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC23, P32

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC23, P32)

List of use descriptors : **Identified use name: ES142:** Use for leather finishing 2 (TEGEWA Leather 16) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC05
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05
Market sector by type of chemical product: PC23, PC32

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 142

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC23, P32

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: >4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 2.42 mg/m³.
Risk characterisation ratio: 0.137248.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.164677.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC23, P32)

List of use descriptors : **Identified use name: ES143:** Use for leather finishing 3 (TEGEWA Leather 17) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC04
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC23, PC32

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 143

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.109778.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC23, P32)

List of use descriptors : **Identified use name: ES144:** Use for leather finishing 4 (TEGEWA Leather 18) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC10, PC23, P32; ERC05
Process Category: PROC10
Substance supplied to that use in form of: In a mixture
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05
Market sector by type of chemical product: PC23, PC32

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Roller application or brushing -** PROC10

Number of the ES : 144

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Roller application or brushing

PC23, P32

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 5%.

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 960 cm².

Other conditions affecting workers exposure : Indoor use.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Roller application or brushing

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 0.274286 mg/kg bw/day.
Risk characterisation ratio: 0.027429.

Worker - inhalative, long-term - systemic: 1.452 mg/m³.
Risk characterisation ratio: 0.082349.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.109778.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC20, P23)

List of use descriptors : **Identified use name: ES145:** Use in wet end 2 (TEGEWA Leather 13) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13, PC20, PC23; ERC05
Process Category: PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC05
Market sector by type of chemical product: PC20, PC23

Environmental contributing scenarios : **Use at industrial site leading to inclusion into/onto article -** ERC05

Health Contributing scenarios : **Treatment of articles by dipping and pouring -** PROC13

Number of the ES : 145

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use at industrial site leading to inclusion into/onto article

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Treatment of articles by dipping and pouring

PC20, PC23

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use at industrial site leading to inclusion into/ onto article

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC20, P23)

List of use descriptors : **Identified use name: ES146:** Use in wet end 3 (TEGEWA Leather 14) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13, PC20, PC23; ERC06b
Process Category: PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06b
Market sector by type of chemical product: PC20, PC23

Environmental contributing scenarios : **Use of reactive processing aid at industrial site (no inclusion into or onto article) -** ERC06b

Health Contributing scenarios : **Treatment of articles by dipping and pouring -** PROC13

Number of the ES : 146

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Treatment of articles by dipping and pouring

PC20, PC23

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Industrial use; Various sectors (SU01, SU04, SU05, SU08, SU09, SU17, SU23); Various products (PC20, P23)

List of use descriptors : **Identified use name: ES147:** Use in wet end 1 (TEGEWA Leather 12) - Industrial: SU01, SU04, SU05, SU08, SU09, SU17, SU23; PROC13, PC20, PC23; ERC04
Process Category: PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU04, SU05, SU08, SU09, SU17, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04
Market sector by type of chemical product: PC20, PC23

Environmental contributing scenarios : **Use of non-reactive processing aid at industrial site (no inclusion into or onto article) -** ERC04

Health Contributing scenarios : **Treatment of articles by dipping and pouring -** PROC13

Number of the ES : 147

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling worker exposure for 2: Treatment of articles by dipping and pouring

PC20, PC23

Product characteristics : Low volatile liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Frequency and duration of use/exposure : Exposure duration per day: 1-4 hours.
Frequency: 5 days per week.

Human factors not influenced by risk management : Exposed skin surface assumed: 480 cm².

Other conditions affecting workers exposure : Indoor use.

Technical conditions and measures to control dispersion from source towards the worker : Local exhaust ventilation: Inhalation - minimum efficiency of 90%.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Workers: 2: Treatment of articles by dipping and pouring

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Worker - dermal, long-term - systemic:** 2.743 mg/kg bw/day.
Risk characterisation ratio: 0.274286.

Worker - inhalative, long-term - systemic: 2.904 mg/m³.
Risk characterisation ratio: 0.164698.

Worker - combined, long-term - systemic:
Risk characterisation ratio: 0.438984.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use. If other OC/RMM are adopted, the user has to ensure that risks are managed to at least equivalent levels. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Adhesives, sealants (PC01)

List of use descriptors : **Identified use name: ES148:** Use in adhesives (”FEICA-UseR 21-”1, “FEICA-UseR 21-”2, “FEICA-UseR 21-”3) - Consumer: PC01; ERC08c, ERC08f
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c, ERC08f
Market sector by type of chemical product: PC01

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c
Widespread use leading to inclusion into/onto article (outdoor) - ERC08f

Health Contributing scenarios : **Sealants -** PC01
Glues, hobby use - PC01
Carpet glue - PC01

Number of the ES : 148

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling environmental exposure for 2: Widespread use leading to inclusion into/onto article (outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 3: Sealants

Product characteristics : Covers concentrations up to 10%.

Amounts used : 390 g.

Frequency and duration of use/exposure : Covers use up to 20 times per year.
Covers exposure up to 4 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to fingertips.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m³.
10.0% fraction released to air.

Contributing scenario controlling consumer exposure for 4: Glues, hobby use

Product characteristics : Covers concentrations up to 10%.

Amounts used : 9 g.

Frequency and duration of use/exposure : Covers use up to 1 times per day. Covers exposure up to 4 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to fingertips.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10.0% fraction released to air.

Contributing scenario controlling consumer exposure for 5: Carpet glue

Product characteristics	:	Covers concentrations up to 10%.
Amounts used	:	Inhalation: 9000 g.
Frequency and duration of use/exposure	:	Inhalation: Exposure duration: 75 min. Application duration: 75 min. Use frequency: 10 times per year. Dermal: Exposure calculation result type: Internal dose chronic. Use frequency: 10 times per year. Release duration: 4500 sec.
Human factors not influenced by risk management	:	Exposed skin surface assumed 110 cm². contact rate: 30 mg/min.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 58 m³. Ventilation rate: 0.500 L/h. Release temperature: 20 °C. Release area: 40000 cm². Uptake fraction (dermal) 100%. Mol. Weight Matrix: 3000 g/mole.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/ onto article (indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Environment: 2: Widespread use leading to inclusion into/ onto article (outdoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 3: Sealants

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.032629 mg/kg bw/day. Risk characterisation ratio: 0.006526. **Consumer - inhalative, long-term - systemic:** 3.143 mg/m³. Risk characterisation ratio: 0.722775. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.729301.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 4: Glues, hobby use

Exposure assessment (human):	:	EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.595486 mg/kg bw/day.
Risk characterisation ratio: 0.119097.

Consumer - inhalative, long-term - systemic: 1.324 mg/m³.
Risk characterisation ratio: 0.3044.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.423497.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 5: Carpet glue

Exposure assessment (human): : ConsExpo

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.094837 mg/kg bw/day.
Risk characterisation ratio: 0.018967.

Consumer - inhalative, long-term - systemic: 4.194 mg/m³.
Risk characterisation ratio: 0.964478.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.983446.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Adhesives, sealants (PC01)

List of use descriptors : **Identified use name: ES149:** Consumer solvent use, indoor ("FEICA-UseR 21-"14, "FEICA-UseR 21-"15) - Consumer: PC01; ERC08a
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC01

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Glues, hobby use -** PC01
Tile glue - Application - PC01

Number of the ES : 149

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Glues, hobby use

Product characteristics : Covers concentrations up to 10%.

Amounts used : 9 g.

Frequency and duration of use/exposure : Covers use up to 1 times per day.
Covers exposure up to 4 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to fingertips.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m^3.
10.0% fraction released to air.

Contributing scenario controlling consumer exposure for 3: Tile glue - Application

Product characteristics : Concentration of the substance in the mixture: 8%.
Mol. Weight Matrix: 3000 g/mole.

Amounts used : Inhalation: 15000 g

Frequency and duration of use/exposure : Inhalation:
Exposure calculation result type: Mean concentration yearly.
Frequency: 5 times per year.
Exposure duration: 360 min.
Application duration: 360 min.

Dermal:
Exposure calculation result type: Internal dose chronic.
Frequency: 5 times per year.
Release duration: 21600 sec.

Human factors not influenced by risk management	:	Exposed skin surface assumed: 430 cm². contact rate: 30 mg/min.
Other given operational conditions affecting consumers exposure	:	Inhalation: Room volume: 10 m³. Ventilation rate: 2 1/hour(s). Release area: 10000 cm². Release temperature: 20 °C Dermal: Uptake fraction: 100%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Glues, hobby use

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.595486 mg/kg bw/day. Risk characterisation ratio: 0.119097. **Consumer - inhalative, long-term - systemic:** 1.324 mg/m³. Risk characterisation ratio: 0.3044. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.423497.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 3: Tile glue - Application

Exposure assessment (human):	:	ConsExpo
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.182086 mg/kg bw/day. Risk characterisation ratio: 0.036417. **Consumer - inhalative, long-term - systemic:** 0.278742 mg/m³. Risk characterisation ratio: 0.064108. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.100525.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Adhesives, sealants (PC01)

List of use descriptors : **Identified use name: ES150:** Consumer solvent use, outdoor ("FEICA-UseR 21-"17, "FEICA-UseR 21-"18) - Consumer: PC01; ERC08d
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d
Market sector by type of chemical product: PC01

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) -** ERC08d

Health Contributing scenarios : **Glues, hobby use -** PC01
Wood parquet glue - glued to surface - Application - PC01

Number of the ES : 150

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Glues, hobby use

Product characteristics : Covers concentrations up to 10%.

Amounts used : 9 g.

Frequency and duration of use/exposure : Covers use up to 1 times per day.
Covers exposure up to 4 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to fingertips.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m^3.
10.0% fraction released to air.

Contributing scenario controlling consumer exposure for 3: Wood parquet glue - glued to surface - Application

Product characteristics : Concentration of the substance in the mixture: 10%.
Mol. Weight Matrix: 3000 g/mole.

Amounts used : Inhalation: 22000 g

Frequency and duration of use/exposure : Inhalation:
Exposure calculation result type: Mean concentration yearly.
Frequency: 5 times per year.
Exposure duration: 480 min.
Application duration: 480 min.

Dermal:
Exposure calculation result type: Internal dose chronic.
Frequency: 5 times per year.
Release duration: 28800 sec.

Human factors not influenced by risk management	:	Exposed skin surface assumed: 430 cm². contact rate: 30 mg/min.
Other given operational conditions affecting consumers exposure	:	Inhalation: Room volume: 58 m³. Ventilation rate: 0.5 1/hour(s). Release area: 10000 cm². Release temperature: 20 °C Dermal: Uptake fraction: 100%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Glues, hobby use

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.595486 mg/kg bw/day. Risk characterisation ratio: 0.119097. **Consumer - inhalative, long-term - systemic:** 1.324 mg/m³. Risk characterisation ratio: 0.3044. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.423497.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 3: Wood parquet glue - glued to surface - Application

Exposure assessment (human):	:	ConsExpo
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.303477 mg/kg bw/day. Risk characterisation ratio: 0.060695. **Consumer - inhalative, long-term - systemic:** 0.280682 mg/m³. Risk characterisation ratio: 0.064554. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.12525.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Various products (PC03, PC31, PC35)

List of use descriptors : **Identified use name: ES151:** Consumer use in cleaning agents and maintenance products (incl. Air care products) (ECO 6) - Consumer: PC03, PC31, PC35; ERC08a
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a
Market sector by type of chemical product: PC03, PC31, PC35

Environmental contributing scenarios : **Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a

Health Contributing scenarios : **Air care products -** PC03
Polishes and wax blends - PC31
Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) - PC35
Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) - PC35

Number of the ES : 151

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Air care products

Product characteristics : Inhalation:
Covers concentrations up to 50%.

Dermal:
Covers concentrations up to 10%.

Amounts used : 10 g.

Frequency and duration of use/exposure : Covers use up to 1 times per day.
Covers exposure up to 0.250 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to fingertips.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m³.
100% fraction released to air.

Contributing scenario controlling consumer exposure for 3: Polishes and wax blends

Product characteristics : Covers concentrations up to 50%.

Amounts used : 135 g.

Frequency and duration of use/exposure : Covers use up to 12 times per year.
Covers exposure up to 4 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to hands.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure	: Covers use in room size of 20 m³. 100% fraction released to air.

Contributing scenario controlling consumer exposure for 4: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

Product characteristics	: Covers concentrations up to 5%.
Amounts used	: 5 g.
Frequency and duration of use/exposure	: Covers use up to 1 times per day. Covers exposure up to 0.330 hours per event.
Human factors not influenced by risk management	: Assumes that potential dermal contact is limited to hands. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	: Covers use in room size of 20 m³. 10% fraction released to air.

Contributing scenario controlling consumer exposure for 5: Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Product characteristics	: Covers concentrations up to 5%.
Amounts used	: 5 g.
Frequency and duration of use/exposure	: Covers use up to 52 times per year. Covers exposure up to 4 hours per event.
Human factors not influenced by risk management	: Assumes that potential dermal contact is limited to hands. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	: Covers use in room size of 20 m³. 100% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	: As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	: Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Air care products

Exposure assessment (human):	: EASY TRA v3.5
Exposure estimation	: **Consumer - dermal, long-term - systemic:** 0.005955 mg/kg bw/day. Risk characterisation ratio: 0.001191. **Consumer - inhalative, long-term - systemic:** 3.478 mg/m³. Risk characterisation ratio: 0.799968. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.801159.
Remark	: Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 3: Polishes and wax blends

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.939726 mg/kg bw/day.
Risk characterisation ratio: 0.187945.

Consumer - inhalative, long-term - systemic: 0.966962 mg/m³.
Risk characterisation ratio: 0.222392.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.410338.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 4: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.002 mg/kg bw/day.
Risk characterisation ratio: 0.0004.

Consumer - inhalative, long-term - systemic: 1.043 mg/m³.
Risk characterisation ratio: 0.239974.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.240374.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 5: Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 1.018 mg/kg bw/day.
Risk characterisation ratio: 0.203607.

Consumer - inhalative, long-term - systemic: 0.523771 mg/m³.
Risk characterisation ratio: 0.120463.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.32407.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition	:	Mono-constituent substance
Product name	:	hexanoic acid

Section 1 - Title

Short title of the exposure scenario	:	Consumer use; Various products (PC28, PC29, PC39)
List of use descriptors	:	**Identified use name: ES152:** Cosmetic Products and Pharmaceuticals (ECO 8) - Consumer: PC28, PC29, PC39; ERC08a **Substance supplied to that use in form of:** In a mixture **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a **Market sector by type of chemical product:** PC28, PC29, PC39
Environmental contributing scenarios	:	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a
Health Contributing scenarios	:	**Perfumes, fragrances -** PC28 **Pharmaceuticals -** PC29 **Cosmetics, personal care products -** PC39
Number of the ES	:	152

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Perfumes, fragrances

Product characteristics	:	Covers concentrations up to 2%.
Amounts used	:	2 g.
Frequency and duration of use/exposure	:	Covers use up to 1 times per day. Covers exposure up to 1 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact excludes feet, hands and head. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Contributing scenario controlling consumer exposure for 3: Pharmaceuticals

Product characteristics	:	Covers concentrations up to 2%.
Amounts used	:	2 g.
Frequency and duration of use/exposure	:	Covers use up to 1 times per day. Covers exposure up to 0.100 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact excludes feet, hands and head. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Contributing scenario controlling consumer exposure for 4: Cosmetics, personal care products

Product characteristics	:	Covers concentrations up to 2%.
Amounts used	:	2 g.
Frequency and duration of use/exposure	:	Covers use up to 1 times per day. Covers exposure up to 1 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact excludes feet, hands and head. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Perfumes, fragrances

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 4.772 mg/kg bw/day. Risk characterisation ratio: 0.954333. **Consumer - inhalative, long-term - systemic:** 0.125 mg/m³. Risk characterisation ratio: 0.028749. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.983082.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 3: Pharmaceuticals

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 4.772 mg/kg bw/day. Risk characterisation ratio: 0.954333. **Consumer - inhalative, long-term - systemic:** 0.188679 mg/m³. Risk characterisation ratio: 0.043394. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.997728.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 4: Cosmetics, personal care products

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 4.772 mg/kg bw/day. Risk characterisation ratio: 0.954333. **Consumer - inhalative, long-term - systemic:** 0.125 mg/m³. Risk characterisation ratio: 0.028749. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.983082.

hexanoic acid	Exposure Scenario: 152	***Consumer use; Various products (PC28, PC29, PC39)***
Remark	: Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).	

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	: Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Artists Supply and Hobby preparations (PC05)

List of use descriptors : **Identified use name: ES153:** Consumer application of coatings or inks (CEPE AC0101, CEPE AC0102, CEPE AC0103, CEPE AC0104, CEPE AC0201, CEPE AC0202, CEPE AC0203, CEPE AC0204, CEPE AC0301 AC0401, CEPE AC0302 AC0402, CEPE AC0303 AC0403, CEPE AC0304 AC0404, CEPE AC0305 AC0405, CEPE AC0501, CEPE AC0601, CEPE AC0602, CEPE AC0603, CEPE AC0801, CEPE AC0802, CEPE AC0803) - Consumer: PC05; ERC08c
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC05

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **PC05 Artists Supply and Hobby preparations -** PC05

Number of the ES : 153

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: PC05 Artists Supply and Hobby preparations

Product characteristics : Covers concentrations up to 5%.

Amounts used : 15 g.

Frequency and duration of use/exposure : Covers use up to 0.041096 times per day.
Covers exposure up to 1 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to hands.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m³.
10% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Consumers: 2: PC05 Artists Supply and Hobby preparations

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.029366 mg/kg bw/day.
Risk characterisation ratio: 0.005873.

Consumer - inhalative, long-term - systemic: 0.096318 mg/m³.
Risk characterisation ratio: 0.022152.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.028026.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General : Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Perfumes, fragrances (PC28)

List of use descriptors : **Identified use name: ES154:** Perfumes, fragrances (EM 80) - Consumer: PC28; ERC08c
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC28

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Perfumes, fragrances -** PC28

Number of the ES : 154

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Perfumes, fragrances

Product characteristics : Covers concentrations up to 5%.

Amounts used : 15 g.

Frequency and duration of use/exposure : Covers use up to 1 times per day. Covers exposure up to 1 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to inside hands / one hand / palm of hands.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m^3.
10% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Perfumes, fragrances

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.357292 mg/kg bw/day. Risk characterisation ratio: 0.071458. **Consumer - inhalative, long-term - systemic:** 3.538 mg/m³. Risk characterisation ratio: 0.813647. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.885105.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition	:	Mono-constituent substance
Product name	:	hexanoic acid

Section 1 - Title

Short title of the exposure scenario	:	Consumer use; Biocidal products (PC08)
List of use descriptors	:	**Identified use name: ES155:** Consumer use of pest control products (AISE-C19) - Consumer: PC08; ERC08a **Substance supplied to that use in form of:** In a mixture **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a **Market sector by type of chemical product:** PC08
Environmental contributing scenarios	:	**Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) -** ERC08a
Health Contributing scenarios	:	**Biocidal products -** PC08
Number of the ES	:	155

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Biocidal products

Product characteristics	:	Covers concentrations up to 5%.
Amounts used	:	15 g.
Frequency and duration of use/exposure	:	Covers use up to 0.005479 times per day. Covers exposure up to 1 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact is limited to hands. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m^3. 10% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Biocidal products

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.003916 mg/kg bw/day. Risk characterisation ratio: 0.000783. **Consumer - inhalative, long-term - systemic:** 0.012842 mg/m³. Risk characterisation ratio: 0.002954. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.003737.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Plant protection products (PC27)

List of use descriptors : **Identified use name: ES156:** Plant protection products (EM 72) - Consumer: PC27; ERC08c
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC27

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Plant protection products -** PC27

Number of the ES : 156

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Plant protection products

Product characteristics : Covers concentrations up to 5%.

Amounts used : 15 g.

Frequency and duration of use/exposure : Covers use up to 0.153425 times per day.
Covers exposure up to 1 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to hands.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m^3.
10% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Plant protection products

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.109635 mg/kg bw/day. Risk characterisation ratio: 0.021927. **Consumer - inhalative, long-term - systemic:** 0.359589 mg/m³. Risk characterisation ratio: 0.082702. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.104629.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Consumer use; Cosmetics, personal care products (PC39)

List of use descriptors : **Identified use name: ES157:** End use of cosmetic products (COLIPA U1) - Consumer: PC39; ERC08c
Substance supplied to that use in form of: In a mixture
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c
Market sector by type of chemical product: PC39

Environmental contributing scenarios : **Widespread use leading to inclusion into/onto article (indoor) -** ERC08c

Health Contributing scenarios : **Cosmetics, personal care products -** PC39

Number of the ES : 157

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Cosmetics, personal care products

Product characteristics : Covers concentrations up to 1.5%.

Frequency and duration of use/exposure : Covers use up to 1 times per day.

Human factors not influenced by risk management : Exposed skin surface assumed: Whole body.
Dermal transfer factor: 100%.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/onto article (indoor)

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation : Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Cosmetics, personal care products

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 4.375 mg/kg bw/day.
Risk characterisation ratio: 0.875.

Consumer - inhalative, long-term - systemic: - mg/m³.
Risk characterisation ratio: -.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.875.

hexanoic acid	Exposure Scenario: 157	***Consumer use; Cosmetics, personal care products (PC39)***
Remark	: Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).	

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	: Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition	:	Mono-constituent substance
Product name	:	hexanoic acid

Section 1 - Title

Short title of the exposure scenario	:	Consumer use; Adhesives, sealants (PC01)
List of use descriptors	:	**Identified use name: ES158:** Sealants (”FEICA-UseR 21-”13) - Consumer: PC01; ERC08c **Substance supplied to that use in form of:** In a mixture **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08c **Market sector by type of chemical product:** PC01
Environmental contributing scenarios	:	**Widespread use leading to inclusion into/onto article (indoor) -** ERC08c
Health Contributing scenarios	:	**Sealants -** PC01
Number of the ES	:	158

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use leading to inclusion into/onto article (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Sealants

Product characteristics	:	Covers concentrations up to 10%.
Amounts used	:	390 g.
Frequency and duration of use/exposure	:	Covers use up to 20 times per year. Covers exposure up to 4 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact is limited to fingertips. Dermal transfer factor : 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m^3. 10.0% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use leading to inclusion into/onto article (indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Sealants

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.032629 mg/kg bw/day. Risk characterisation ratio: 0.006526. **Consumer - inhalative, long-term - systemic:** 3.143 mg/m³. Risk characterisation ratio: 0.722775. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.729301.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : hexanoic acid

Section 1 - Title

Short title of the exposure scenario : Service life - Consumer; Various articles (AC30, AC31, AC32, AC34, AC36)

List of use descriptors : **Identified use name: ES159:** Service Life of Scented Articles (ECO 9) - Service life - Consumers: AC30, AC31, AC32, AC34, AC36; ERC11b
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC11b
Article category related to subsequent service life: AC31, AC32, AC34, AC36, AC30

Environmental contributing scenarios : **Widespread use of articles with high or intended release (indoor) -** ERC11b

Health Contributing scenarios : **Other articles with intend release of substances**
Scented clothes
Scented eraser
Scented toys
Scented CD

Number of the ES : 159

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Widespread use of articles with high or intended release (indoor)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Contributing scenario controlling consumer exposure for 2: Other articles with intend release of substances

AC30

Product characteristics : Covers concentrations up to 0.5%.

Amounts used : 2 g.

Frequency and duration of use/exposure : Covers use up to 0.273973 times per day.
Covers exposure up to 2 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to inside hands / one hand / palm of hands.
Dermal transfer factor: 100%.

Other given operational conditions affecting consumers exposure : Covers use in room size of 20 m³.
10% fraction released to air.

Contributing scenario controlling consumer exposure for 3: Scented clothes

AC31

Product characteristics : Covers concentrations up to 0.5%.

Amounts used : 2 g.

Frequency and duration of use/exposure : Covers use up to 1 times per day.
Covers exposure up to 12 hours per event.

Human factors not influenced by risk management : Assumes that potential dermal contact is limited to upper part of the body.
Dermal transfer factor : 100%.

Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Contributing scenario controlling consumer exposure for 4: Scented eraser

AC32

Product characteristics	:	Covers concentrations up to 0.5%.
Amounts used	:	2 g.
Frequency and duration of use/exposure	:	Covers use up to 1 times per day. Covers exposure up to 0.5 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact is limited to fingertips. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Contributing scenario controlling consumer exposure for 5: Scented toys

AC34

Product characteristics	:	Covers concentrations up to 0.5%.
Amounts used	:	2 g.
Frequency and duration of use/exposure	:	Covers use up to 1 times per day. Covers exposure up to 4 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact is limited to hands and forearms. Assumes that potential oral skin area contact is limited to some fingertips. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Contributing scenario controlling consumer exposure for 6: Scented CD

AC36

Product characteristics	:	Covers concentrations up to 0.5%.
Amounts used	:	2 g.
Frequency and duration of use/exposure	:	Covers use up to 0.013699 times per day. Covers exposure up to 0.1 hours per event.
Human factors not influenced by risk management	:	Assumes that potential dermal contact is limited to inside hands / one hand / palm of hands. Dermal transfer factor: 100%.
Other given operational conditions affecting consumers exposure	:	Covers use in room size of 20 m³. 10% fraction released to air.

Section 3 - Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1: Widespread use of articles with high or intended release (indoor)

Exposure assessment (environment):	:	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation	:	Not applicable.

Exposure estimation and reference to its source - Consumers: 2: Other articles with intend release of substances

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.009789 mg/kg bw/day.
Risk characterisation ratio: 0.001958.

Consumer - inhalative, long-term - systemic: 0.006227 mg/m³.
Risk characterisation ratio: 0.001432.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.00339.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 3: Scented clothes

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.729167 mg/kg bw/day.
Risk characterisation ratio: 0.145833.

Consumer - inhalative, long-term - systemic: 0.006098 mg/m³.
Risk characterisation ratio: 0.001402.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.147236.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 4: Scented eraser

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.002977 mg/kg bw/day.
Risk characterisation ratio: 0.000595.

Consumer - inhalative, long-term - systemic: 0.038462 mg/m³.
Risk characterisation ratio: 0.008846.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.009441.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 5: Scented toys

Exposure assessment (human): : EASY TRA v3.5

Exposure estimation : **Consumer - dermal, long-term - systemic:** 0.2784 mg/kg bw/day.
Risk characterisation ratio: 0.05568.

Consumer - inhalative, long-term - systemic: 0.014706 mg/m³.
Risk characterisation ratio: 0.003382.

Consumer - oral, long-term - systemic: 0.0053 mg/kg bw/day.
Risk characterisation ratio: 0.00212.

Consumer - combined, long-term - systemic:
Risk characterisation ratio: 0.061182.

Remark : Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Consumers: 6: Scented CD

Exposure assessment (human):	:	EASY TRA v3.5
Exposure estimation	:	**Consumer - dermal, long-term - systemic:** 0.000489 mg/kg bw/day. Risk characterisation ratio: 0.000098. **Consumer - inhalative, long-term - systemic:** 0.000646 mg/m³. Risk characterisation ratio: 0.000149. **Consumer - combined, long-term - systemic:** Risk characterisation ratio: 0.000246.
Remark	:	Based on the applied RMMs the risk towards humans is sufficiently controlled (RCR < 1).

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

General	:	Not applicable.