

Safety Data Sheet according to Regulation (EC) 1907/2006 (REACH)

Revision date: 2020-11-06 Supercedes date: 2020-07-09

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

1.1. Product identifier:

Product trade name:
Company product number:
REACH registration number:
Other means of identification:
Unique formula identifier (UFI):

Kalama* VITROFLEX* A90 VITROA90 Mixture Not Available Not Applicable

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

Uses:	Plasticizer. See Annex for covered uses.
Uses advised against:	None identified

1.3. Details of the supplier of the safety data sheet:

Manufacturer/Supplier:	Emerald Kalama Chemical SRL
	Via Vigevano 63/A
	I-28069 S. Marino di Trecate
	Novara Italy
	Customer service telephone: +31 88 888 0512/-0509
	kflex.emea@emeraldmaterials.com
For further information about this SDS:	Email: product.compliance@emeraldmaterials.com
A Farmer and the second surface	

1.4. Emergency telephone number:

ChemTel (24 hours): 1-800-255-3924 (USA); +1-813-248-0585 (outside USA).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Product classification according to Regulation (EC) 1272/2008 (CLP) as amended:

Not classified as hazardous under any GHS hazard class according to Regulation (EC) 1272/2008 (CLP).

2.2. Label elements:

Product labeling according to Regulation (EC) 1272/2008 (CLP) as amended:

Hazard pictogram(s):	Not Applicable
Signal word:	Not Applicable
Hazard statements:	Not Applicable
Precautionary statements:	Not Applicable
Supplemental information:	Safety data sheet available on request.

2.3. Other hazards:

PBT/vPvB criteria:	This product does not meet the PBT and vPvB classification criteria.
Endocrine disrupting properties:	No specific information available.
Other hazards:	No Additional Information

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

CAS-No.	Chemical Name	Weight%	<u>Classification</u>	H Statements
0027138-31-4	Dipropylene glycol dibenzoate	5-<10	Aquatic Chronic 3	H412
CAS-No.	Chemical Name	Weight%	REACH Registration No.	EC/List Number
0027138-31-4	Dipropylene glycol dibenzoate	5-<10	01-2119529241-49-XXXX	248-258-5
<u>CAS-No.</u>	Chemical Name	M-factor	<u>SCLs</u>	<u>ATE</u>
0027138-31-4	Dipropylene glycol dibenzoate	N/A	N/E	Not Available

See Section 16 for full text of H (Hazard) statements (EC 1272/2008).

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First aid measures

4.1. Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

Skin contact: Wash the affected area thoroughly with plenty of soap and water. Get medical attention if symptoms occur.

Inhalation: If affected, remove to fresh air. Get medical attention if symptoms occur.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

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

Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. See section 11 for additional information.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable: Use water spray, ABC dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unsuitable: None known.

5.2. Special hazards arising from the substance or mixture:

Unusual fire/explosion hazards: Product is not considered a fire hazard, but will burn if ignited. Closed container may rupture (due to build up in pressure) when exposed to extreme heat.

Hazardous combustion products: Irritating or toxic substances will be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

5.3. Advice for firefighters:

Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources.

6.2. Environmental precautions:

Do not flush liquid into public sewer, water systems or surface waters.

6.3. Methods and material for containment and cleaning up:

Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

6.4. References to other sections:

See Section 8 for recommendations on the use of personal protection and Section 13 for waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye contact. Avoid repeated or prolonged skin contact. Avoid inhalation of aerosol, mist, spray, fume or vapor. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area.

7.2. Conditions for safe storage, including any incompatibilities:

Store cool and dry, under well-ventilated conditions. Keep away from heat, sparks and open flames. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning. Empty container contains residual product which may exhibit hazards of product. Plasticizer products will soften plastic materials and as a result they should not be transported in piping systems constructed from these materials.

7.3. Specific end use(s):

Further information concerning special risk management measures: see annex of this safety data sheet (exposure scenarios).

SECTION 8: Exposure controls / personal protection

8.1. Control parameters:

Occupational exposure limits (OEL):					
Chemical Name Dipropylene glycol dibenzoate	<u>EU OELV</u> N/E	<u>EU IOELV</u> N/E	ACGIH - TWA/Ceiling N/E	ACGIH - STEL N/E	
Chemical Name Dipropylene glycol dibenzoate	<u>UK WEL</u> N/E	<u>Ireland OEL</u> N/E			
N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization)					

Derived No Effect Levels (DNELs):

Dipropylene glycol dibenzoate					
Population	Route	Acute (local)	Acute (systemic)	Long Term (local)	Long Term (systemic)
Workers	Inhalation	N/E	35,08 mg/m3	N/E	8,8 mg/m3
Workers	Dermal	N/E	170 mg/kg bw/day	N/E	10 mg/kg bw/day
General population	Inhalation	N/E	8,7 mg/m3	N/E	8,69 mg/m3
General population	Dermal	N/E	80 mg/kg bw/day	N/E	0,22 mg/kg bw/day
General population	Oral	N/E	80 mg/kg bw/day	N/E	5 mg/kg bw/day

Predicted No Effect Concentration (PNECs):

Dipropylene glycol dibenzoate	
Compartment	PNEC

<u>Compartment</u>	PNEC
Freshwater	3,7 ug/L
Freshwater sediment	1,49 mg/kg dw; 0,323 mg/kg ww
Marine water	0,37 ug/L
Marine water sediment	0,149 mg/kg dw; 0,0323 mg/kg ww
Intermittent releases	37 ug/L
Soil	1 mg/kg dw
STP	10 mg/L
Oral	333 mg/kg food
NVE Net established NVA Net exclassion	

N/E=Not established; N/A=Not applicable (not required); bw=body weight; dw=dry weight; ww=wet weight.

8.2. Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear eye protection.

Hand protection: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 240 minutes (protection class 5 or greater) are recommended. For brief contact or splash applications, gloves with breakthrough times of 10 minutes or greater are recommended (protection class 1 or greater). The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374. Suitability and durability of a glove is dependent on usage (e.g. frequency and duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to the most suitable glove material.

Skin and body protection: Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: Respiratory protection is not needed with proper ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Further information: Eyewash fountains and safety showers are recommended in the work area.

Environmental exposure controls: See Sections 6 and 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Physical state:	Liquid	pH:	Not Available
Colour:	Colorless to light yellow	Density and/or relative density:	1.167-1.175
Odour:	Slight aromatic	Partition coefficient n- octanol/water (log value):	3.2
Odour threshold:	Not Available	% Volatile by weight:	0.7%
Solubility in water:	Negligible	VOC:	0.7% ASTM D2369
Evaporation rate:	Slower than n-butyl acetate	Boiling point °C:	386 °C @ 760 mm Hg (extrapolated)
Vapour pressure:	0.000431 mm Hg @ 25°C (extrapolated)	Boiling point °F:	727 °F @ 760 mm Hg (extrapolated)
Relative vapour density:	Heavier than air	Flash point:	235 °C (455 °F) ASTM D-92
Kinematic viscosity:	104 mm2/s @ 25°C	Auto-ignition temperature:	Not Available
Melting point/Freezing point:	>14 °C (>57 °F)	Flammability:	Not flammable
Oxidising properties:	Not oxidizing	Lower and upper explosion limit:	LEL: Not Available
Explosive properties:	Not explosive		UEL: Not Available
Decomposition temperature:	Not Available	Surface tension:	32 dynes/cm @ 25°C (ASTM D1331)
Particle characteristics:	Not Applicable		

Amounts specified are typical and do not represent a specification.

9.2. Other information:

Information with regard to physical hazard classes:

No additional information available.

Other safety characteristics:

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity:

None known.

10.2. Chemical stability:

This product is stable.

10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur.

10.4. Conditions to avoid:

Excessive heat and ignition sources.

10.5. Incompatible materials:

Avoid strong acids, bases, and oxidizing agents. Avoid contact with phenols.

10.6. Hazardous decomposition products:

Carbon dioxide, carbon monoxide and hydrocarbons.

SECTION 11: Toxicological information

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

Acute toxicity: Not classified (based on available data, the classification criteria are not met). ATEmix (oral): >4000 - <5000 mg/kg. ATEmix (dermal): >2000 mg/kg. ATEmix (inhal.): >200 mg/l, 4 hours.

Chemical Name Dipropylene glycol dibenzoate	<u>Inhalation LC50</u> >200 mg/L (aerosol, 4 hours)	<u>Species</u> Rat/ adult	<u>Oral LD50</u> 3914 mg/kg	<u>Species</u> Rat/ adult	Dermal LD50 >2000 mg/kg	<u>Species</u> Rat/ adult
Skin corrosion/irritation: Not class	sified (based on ava	ailable data,	the classificatio	n criteria are n	ot met).	
Chemical Name Dipropylene glycol dibenzoate	<u>Skin irritation</u> Slight irritant		<u>Specie</u> Rabbit			
Serious eye damage/irritation: No	ot classified (based	on available	e data, the class	ification criteria	a are not met).	
Chemical NameEye irritationSpeciesDipropylene glycol dibenzoateSlight irritantRabbit/ adult						
Respiratory or skin sensitization:	Not classified (bas	ed on availa	ble data the cla	essification crite	eria are not met)	

Respiratory or skin sensitization: Not classified (based on available data, the classification criteria are not met).

Chemical Name	Skin sensitisation	Species
Dipropylene glycol dibenzoate	Non-sensitizer	Guinea Pig/ adult

Carcinogenicity: Not classified (based on available data, the classification criteria are not met).

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). DIETHYLENE GLYCOL DIBENZOATE: In vitro testing showed no mutagenic activity. DIPROPYLENE GLYCOL DIBENZOATE: In vitro testing showed no mutagenic activity.

Reproductive toxicity: Not classified (based on available data, the classification criteria are not met). DIETHYLENE GLYCOL DIBENZOATE: Animal studies indicated a NOAEL (no-observed-adverse-effect-level) for maternal toxicity of 1000 mg/kg/day and for fetal toxicity of 500 mg/kg/day (rats). DIPROPYLENE GLYCOL DIBENZOATE: Reproductive toxicity, 2-generation oral study in rats: NOAEL (no-observed adverse-effect-level) 500 mg/kg bw/day. Developmental toxicity, oral, rats: NOAEL of

500 mg/kg bw/day; Prenatal Developmental toxicity, oral, rabbit (OECD 414): NOAEL of 250 mg/kg bw/day (maternal toxicity, embryo/fetal developmental toxicity).

Specific target organ toxicity (STOT) - single exposure: Not classified (based on available data, the classification criteria are not met).

Specific target organ toxicity (STOT) - repeated exposure: Not classified (based on available data, the classification criteria are not met). DIETHYLENE GLYCOL DIBENZOATE: A 13-week dietary study in rats at a dose of 2500 mg/kg bw/day observed decreased body weights, blood, spleen and caecum effects which showed completed recovery within 4 weeks after exposure. NOAEL (No-Observed-Adverse-Effect-Level), oral, rat - 1000 mg/kg bw/day. DIPROPYLENE GLYCOL DIBENZOATE: A 13-week dietary study in rats observed decreased body weights, and liver, spleen and caecum effects at a dose of 2500 mg/kg bw/day which showed completed recovery within 4 weeks after exposure. NOAEL (No-Observed-Adverse-Effect-Level), oral, rat - 1000 mg/kg after exposure. NOAEL (No-Observed-Adverse-Effect-Level), oral, rat - 1000 mg/kg bw/day. DIPROPYLENE GLYCOL DIBENZOATE: A 13-week dietary study in rats observed decreased body weights, and liver, spleen and caecum effects at a dose of 2500 mg/kg bw/day which showed completed recovery within 4 weeks after exposure. NOAEL (No-Observed-Adverse-Effect-Level), oral, rat - 1000 mg/kg bw/day.

Aspiration hazard: Not classified (based on available data, the classification criteria are not met).

Other toxicity information: No additional information available.

Information on likely routes of exposure:

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure.

Eyes: May cause eye irritation.

Skin: May cause skin irritation.

Inhalation: High airborne concentrations of vapors resulting from heating, misting or spraying may cause irritation of the respiratory tract and mucous membranes.

Ingestion: May be harmful if swallowed. Ingestion may cause irritation.

11.2. Information on other hazards

Endocrine disrupting properties: No specific information available.

Other information: No additional information available.

SECTION 12: Ecological information

12.1. Toxicity:

	Chemical Name Dipropylene glycol dibenzoate Dipropylene glycol dibenzoate Dipropylene glycol dibenzoate	<u>Species</u> Fish Invertebrates Algae	Acute LC50 3.7 mg/L (96 hours) EL50 19.3 mg/L (48 hours) EL50 4.9 mg/L (72 hours)	Acute LC50 >3 mg/L(96 hours) N/E EL50 3.6 mg/L(96 hours)	<u>Chronic</u> N/E N/E NOELR 1 mg/L/0.46 mg/L(72 hours/96 hours)
12.2	Persistence and degradabili	ty:			
	Expected to readily biodegra	de, based on sir	milar material(s).		
	Chemical Name Dipropylene glycol dibenzoate		egradation ily biodegradable (OECD 301B)		
12.3	Bioaccumulative potential:				
	Not expected to bioaccumula	ate.			
	<u>Chemical Name</u> Dipropylene glycol dibenzoate	<u>Biocc</u> <200	oncentration Factor (BCF) L/kg		<u>Log Kow</u> 3.9 (20°C)
12.4	Mobility in soil:				
	No specific information availa	able.			
	<u>Chemical Name</u> Dipropylene glycol dibenzoate		lity in soil (Koc/Kow) @ 20°C		
12.5	. Results of PBT and vPvB as	sessment:			

This product does not meet the PBT and vPvB classification criteria.

12.6. Endocrine disrupting properties:

No specific information available.

12.7. Other adverse effects:

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

14.1. UN number or ID number: N/A

14.2. UN proper shipping name:

Not regulated - See Bill of Lading for Details

14.3. Transport hazard class(es):

U.S. DOT hazard class: N/A Canada TDG hazard class: N/A Europe ADR/RID/ADN hazard class: N/A IMDG Code (ocean) hazard class: N/A ICAO/IATA (air) hazard class: N/A

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

14.4. Packing group: N/A

14.5. Environmental hazards:

Marine pollutant: Not Applicable

Hazardous substance (USA): Not Applicable

14.6. Special precautions for user:

Not Applicable

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

Europe REACh (EC) 1907/2006: Applicable components are registered, exempt or otherwise compliant. REACh is only relevant to substances either manufactured or imported into the EU. Emerald Performance Materials has met its obligations under the REACh regulation. REACh information regarding this product is provided for informational purposes only. Each Legal Entity may have differing REACh obligations, depending on their place in the supply chain. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

EU Authorizations and/or restrictions on use: Not Applicable

Other EU information: No Additional Information

National regulations: No Additional Information

Chemical inventories:

Regulation	<u>Status</u>
Australian Inventory of Industrial Chemicals (AIIC):	Y
Canadian Domestic Substances List (DSL):	Y
Canadian Non-Domestic Substances List (NDSL):	Ν
China Inventory of Existing Chemical Substances (IECSC):	Y
European EC Inventory (EINECS, ELINCS, NLP):	Y
Japan Existing and New Chemical Substances (ENCS):	Ν
Japan Industrial Safety and Health Law (ISHL):	Y
Korean Existing and Evaluated Chemical Substances (KECL):	Y
New Zealand Inventory of Chemicals (NZIoC):	Y
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	Y
Taiwan Inventory of Existing Chemicals:	Y
U.S. Toxic Substances Control Act (TSCA) (Active):	Y
A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" li	sting indicates that

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory (or is not on the ACTIVE inventory for U.S. TSCA); 2) no information is available; or 3) the component has not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

15.2. Chemical safety assessment:

A chemical safety assessment has been carried out for the substance or mixture.

SECTION 16: Other information

Hazard (H) Statements in the Composition section (Section 3):

Harmful to aquatic life with long lasting effects.

Reason for revision: Changes in Section(s): Safety data sheet format (Regulation (EU) 2020/878)

Evaulation method for classification of mixtures: Calculation method, Read-across

Legend:

H412

* : Trademark owned by Emerald Performance Materials, LLC.
ACGIH: American Conference of Governmental Industrial Hygienists
ATE: Acute toxicity estimate
EU OELV: European Union Occupational Exposure Limit Value
EU IOELV: European Union Indicative Occupational Exposure Limit Value
N/A: Not Applicable
N/E: None Established
SCL: Specific concentration limit
STEL: Short Term Exposure Limit
TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

The information set forth herein is based on our current knowledge, and is intended to describe the product solely with respect to health, safety and the environment. As such, it must not be interpreted as a guarantee of any specific property of the product. As a result, the customer shall be solely responsible for deciding whether said information is suitable and beneficial.

Safety Data Sheet Preparer: Product Compliance Department Emerald Performance Materials, LLC 1499 SE Tech Center Place, Suite 300 Vancouver, WA 98683 United States

Annex

Exposure Scenarios

Substance information:

Name of substance: Dipropylene glycol dibenzoate. EC# 248-258-5 / CAS# 27138-31-4 REACH Registration number: 01-2119529241-49-XXXX

List of exposure scenarios:

ES1: Manufacture and use as process/solvent carrier.

- ES2: Formulation.
- ES3: Industrial use of adhesives and sealants.
- ES4: Professional and consumer use of adhesives and sealants.
- ES5: Industrial use of coatings and inks.
- ES6: Professional use of coatings and inks.
- ES7: Consumer use of coatings and inks.
- ES8: Industrial use of lubricant additives.
- ES9: Professional use of lubricant additives.
- ES10: Industrial use as a plasticizer.
- ES11: Professional and consumer use as a plasticizer.
- ES12: Professional and consumer use as a carrier for agrochemicals.
- ES13: Professional laboratory use.
- ES14: Consumer use of cosmetics and personal care products.
- ES15: Distribution and storage.

General remarks:

Dipropylene glycol dibenzoate (DPGDB) is mainly used as a chemical intermediate for industrial use. The most likely route of human exposure (workers) to DPGDB is through inhalation or dermal contact. Worker exposure can occur in industrial facilities where the substance is used as chemical intermediate. Since this type of activities is mainly undertaken in closed systems, exposure in general is fairly low. Dipropylene glycol dibenzoate is a readily biodegrable, non-hydrophobic liquid.

Exposure scenario (1): Manufacture and use as process/solvent carrier

1. Exposure scenario (1)

Short title of the exposure scenario:

Manufacture and use as process/solvent carrier

List of use descriptors:

Sector of use category (SU): SU3, SU8, SU9, SU10

Process category (PROC): PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC14, PROC15 Environmental release category (ERC): ERC1 (ESVOC SpERC 1.1.v1)

List of names of contributing worker scenarios and corresponding PROCs:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

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. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC6 Calendering operations. Processing of large surfaces at elevated temperature e.g. calendering of textile, rubber or paper.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC14 Tabletting, compression, extrusion, pelletisation, granulation. This covers processing of mixtures and/or substances into a defined shape for further use.

PROC15 Use as laboratory reagent. Use of substances at small scale laboratory (< 1 l or 1 kg present at workplace).

Name of contributing environmental scenario and corresponding ERCs:

ERC1 Manufacture of the substance.

Further explanations:

Manufacture of the substance or use as an intermediate or process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure

General:

This substance is not classified for human health end-points therefore a human health risk assessment was not conducted.

2.2 Control of environmental exposure

Product characteristics:		Concentration of substance: Up to 100%.			
		Physical state: liquid.			
A		Vapour pressure: 0.00016 Pa at 25 °C			
Amounts used:		Maximum daily use at a site: 23167 kg/day.			
		Maximum annual use at a site: 6950 tons/year.			
		Fraction of EU tonnage used in region: 1. Fraction of regional tonnage used locally: 1.			
Frequency and duration of use					
Frequency and duration of use		Emission days: 300 days/year. Continuous use/release.			
Environmental factors not influ		Flow rate of receiving surface water: >=18,000 m3/day (default).			
management:	•	Local freshwater dilution factor: 10 (default).			
management		Local marine water dilution factor: 100 (default).			
Other given operational conditional		Industry category: 15/0: Others.			
environmental exposure:	-	Use category: 55: Others.			
·		Release fraction to air from process: 0.00005 (ESVOC SpERC 1.1.v1).			
		Release fraction to wastewater from process: 0.00003 (ESVOC SpERC 1.1.v1).			
		Release fraction to soil from process: 0.0001 (ESVOC SpERC 1.1.v1).			
Conditions and measures rela	ted to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).			
sewage treatment plant:		Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).			
		Estimated substance removal from wastewater via domestic sewage treatment: 88.4%			
		(EUSES).			
Conditions and measures rela	ted to external	External treatment and disposal of waste should comply with applicable local and/or national			
treatment of waste for disposal:		regulations.			
Conditions and measures related to external		External recovery and recycling of waste should comply with applicable local and/or national			
recovery of waste:		regulations.			
Additional good practice advic	-	Spills are cleaned immediately.			
according to Article 37(4) of R	EACH do not	All risk management measures utilised must also comply with all relevant local regulations.			
apply:					
Exposure estimation and ref	ference to its source				
Environment					
Information for contributing sce	nario (2): ERC1 (ES)	/OC SpERC 1.1.v1)			
Assessment method: EUSES.					
Exposure estimation:					
<u>Compartment</u>	PEC	RCR Notes			
Freshwater	0.00364 mg/L	0.983			
Freshwater sediment	0.318 mg/kg w	w 0.983			
Marine water	0.000369 mg/l	0.996			
Marine water sediment	0.0322 mg/kg	ww 0.996			
Soil	0.237 mg/kg w	w 0.237			
STP	0.0346 mg/L	0.00346			
		oosure estimate/DNEL); PEC=Predicted environmental concentration.			

4. Guidance to the Downstream User to evaluate whether he works inside the boundaries set by the ES

Environment:

Continuous use/release. Maximum daily use at a site: 23167 kg/day. Discharge to either on-site or municipal sewage treatment plant (STP). Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES). The downstream user can check the compliance of his site by comparing site specific data with defaults used in the exposure assessment. The site specific quotient should be inferior or equal to the SpERC quotient. Further details on scaling and control technologies are provided in the SpERC factsheet (http://www.cefic.org/Industry-support/Implementing-reach/Libraries/).

(MSpERC * (1 - Eer-SpERC * Frelease-SpERC)/DFSpERC)/DFSpERC >= (Msite * (1 - Eer-site) * Frelease-site)/ DFsite

- MSpERC = substance use rate in SpERC
- Eer-SpERC = efficacy of risk management measure in SpERC
- Frelease-SpERC = initial release fraction in SpERC
- DF-SpERC = dilution factor of STP (sewage treatment plant) effluent in river
- Msite = substance use rate at site
- Eer-site = efficacy of risk management measure at site
- DFsite = dilution factor of site STP (sewage treatment plant) effluent in river

Exposure scenario (2): Formulation

1. Exposure scenario (2)

Short title of the exposure scenario:

Formulation

List of use descriptors:

Sector of use category (SU): SU10

Process category (PROC): PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC14, PROC15 Environmental release category (ERC): ERC2, ERC3 (ESVOC SpERC 2.2.v1)

List of names of contributing worker scenarios and corresponding PROCs:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

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. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC6 Calendering operations. Processing of large surfaces at elevated temperature e.g. calendering of textile, rubber or paper.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC14 Tabletting, compression, extrusion, pelletisation, granulation. This covers processing of mixtures and/or substances into a defined shape for further use.

PROC15 Use as laboratory reagent. Use of substances at small scale laboratory (< 1 l or 1 kg present at workplace).

Name of contributing environmental scenario and corresponding ERCs:

ERC2 Formulation into mixture.

ERC3 Formulation into solid matrix.

- f - ff - - Ale

Further explanations:

....

Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, large and small scale packing and maintenance.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposur	
2.1 Control of workers exposure	
General:	This substance is not classified for human health end-points therefore a human health risk assessment was not conducted.
2.2 Control of environmental exposure	9
Product characteristics:	Concentration of substance: Up to 100%.
	Physical state: liquid.
	Vapour pressure: 0.00016 Pa at 25 °C

Amounts used:		Maximum daily use at a site: 34 Maximum annual use at a site: Fraction of EU tonnage used in	10430 tonnes/year. region: 1.
	_	Fraction of regional tonnage use	ed locally: 1.
Frequency and duration	of use:	Emission days: 300 days/year. Continuous use/release.	
Environmental factors no	ot influenced by risk		ater: >=18,000 m3/day (default).
management:	•	Local freshwater dilution factor:	
		Local marine water dilution factor	
Other given operational of	-	Industry category: 15/0: Others.	
environmental exposure:		Use category: 55: Others. Release fraction to air from proc	xess: 0.0025 (ESVOC SpERC 2.2.v1).
			from process: 0.00002 (ESVOC SpERC 2.2.v1).
			cess: 0.0001 (ESVOC SpERC 2.2.v1).
Conditions and measure	s related to municipal	Municipal Sewage Treatment Pl	
sewage treatment plant:			m/treatment plant: >=2000 m3/day (standard town).
		(EUSES).	om wastewater via domestic sewage treatment: 88.4%
Conditions and measure	s related to external		of waste should comply with applicable local and/or national
treatment of waste for dis	•	regulations.	
Conditions and measure	s related to external	, , , ,	of waste should comply with applicable local and/or national
recovery of waste: Additional good practice	advice Obligations	regulations. Spills are cleaned immediately.	
according to Article 37(4	-		utilised must also comply with all relevant local regulations.
apply:	,	,	
3. Exposure estimation a	nd reference to its source	 20	
Environment			
Information for contributin	ng scenario (2): ERC2, E	RC3 (ESVOC SpERC 2.2.v1)	
Assessment method: EU	SES.		
Exposure estimation:			
<u>Compartment</u>	PEC	RCR	<u>Notes</u>
Freshwater	0.00364 mg/	L 0.983	
Freshwater sediment	0.318 mg/kg	ww 0.983	
Marine water	0.000369 mg	g/L 0.996	
Marine water sediment	0.0322 mg/k	g ww 0.996	
Soil	0.294 mg/kg	ww 0.294	
STP	0.0346 mg/L		
			redicted environmental concentration.
		whether he works inside the bou	
Environment:	treatment plant (STP). (EUSES). The downstr used in the exposure as	Estimated substance removal from ream user can check the complian ssessment. The site specific quotic control technologies are provided in	767 kg/day. Discharge to either on-site or municipal sewage n wastewater via domestic sewage treatment: 88.4% ace of his site by comparing site specific data with defaults ent should be inferior or equal to the SpERC quotient. Further n the SpERC factsheet (http://www.cefic.org/Industry-support/
	(MSpERC * (1 - Eer-Sp DFsite	ERC * Frelease-SpERC)/DFSpEF	RC)/DFSpERC >= (Msite * (1 - Eer-site) * Frelease-site)/
	 Frelease-SpERC = ini DF-SpERC = dilution Msite = substance use Eer-site = efficacy of r 	v of risk management measure in S itial release fraction in SpERC factor of STP (sewage treatment p	
	 DEsite = dilution facto 	_	lant) effluent in river
Exposure scenario (3):		r of site STP (sewage treatment p	lant) effluent in river

1. Exposure scenario (3)

Short title of the exposure scenario:

Industrial use of adhesives and sealants

List of use descriptors:

Sector of use category (SU): SU3

Process category (PROC): PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8b, PROC9, PROC10, PROC13, PROC14 Environmental release category (ERC): ERC5 (FEICA SpERC 5.2a.v1)

List of names of contributing worker scenarios and corresponding PROCs:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

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. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC7 Industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes.

PROC13 Treatment of articles by dipping and pouring.

PROC14 Tabletting, compression, extrusion, pelletisation, granulation. This covers processing of mixtures and/or substances into a defined shape for further use.

Name of contributing environmental scenario and corresponding ERCs:

ERC5 Use at industrial site leading to inclusion into/onto article.

Further explanations:

Covers the industrial use in adhesives (sealants, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip) and equipment cleaning and maintenance.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure

General:	This substance is not classified for human health end-points therefore a human health risk
	assessment was not conducted.
2.2 Control of environmental exposure	
Product characteristics:	Concentration of substance: Up to 100%.
	Physical state: liquid.
	Vapour pressure: 0.00016 Pa at 25 °C
Amounts used:	Maximum daily use at a site: 51295 kg/day.
	Maximum annual use at a site: 11285 tons/year.
	Fraction of EU tonnage used in region: 1.
	Fraction of regional tonnage used locally: 1.
Frequency and duration of use:	Emission days: 220 days/year.
	Continuous use/release.
Environmental factors not influenced by risk	Flow rate of receiving surface water: >=18,000 m3/day (default).
management:	Local freshwater dilution factor: 10 (default).
	Local marine water dilution factor: 100 (default).
Other given operational conditions affecting	Industry category: 15/0: Others.
environmental exposure:	Use category: 55: Others.
	Release fraction to air from process: 0.2 (FEICA SpERC 5.2a.v1).
	Release fraction to wastewater from process: 0 (FEICA SpERC 5.2a.v1).
	Release fraction to soil from process: 0 (FEICA SpERC 5.2a.v1).
Technical onsite conditions and measures to	Treat air emission to provide a typical removal efficiency of 80%.
reduce or limit discharges, air emissions and	
releases to soil:	

Conditions and measures related to municipal sewage treatment plant:		Municipal Sewage Treatment Plant (STP): Yes (freshwater). Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town). Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES).		
Conditions and measure	s related to external		eatment and dispose	al of waste should comply with applicable local and/or national
treatment of waste for di		regulations	•	
Conditions and measure	· · · · · · · · · · · · · · · · · · ·			g of waste should comply with applicable local and/or national
recovery of waste:		regulations	6.	
Additional good practice	advice. Obligations	Spills are	cleaned immediately	
according to Article 37(4) of REACH do not	All risk ma	nagement measures	utilised must also comply with all relevant local regulations.
apply:				
3. Exposure estimation a	and reference to its sour	ce		
Environment				
Information for contributin	•	EICA SpER	C 5.2a.v1)	
Assessment method: EU	SES.			
Exposure estimation:				
<u>Compartment</u>	PEC		RCR	<u>Notes</u>
Freshwater	0.000202 mg	g/L	0.0546	
Freshwater sediment	0.0176 mg/k	g ww	0.0546	
Marine water	0.000025 mg	g/L	0.0676	
Marine water sediment	0.00218 mg/	′kg ww	0.0676	
Soil	0.998 mg/kg	ww	0.998	
STP	0 mg/L		0	
RCR=Risk characterizati	on ratio (PEC/PNEC or E	Exposure est	imate/DNEL): PEC=I	Predicted environmental concentration.
4. Guidance to the Down				
Environment:	treatment plant (STP). (EUSES). Treat air em compliance of his site b quotient should be infer provided in the SpERC	Estimated su hission to pro by comparing rior or equal f factsheet (h bERC * Frele e use rate in y of risk mana itial release f factor of STF e rate at site risk manager	ubstance removal fro vide a typical remova site specific data wi to the SpERC quotie ttp://www.cefic.org/Ir ase-SpERC)/DFSpE SpERC agement measure in raction in SpERC (sewage treatment ment measure at site	plant) effluent in river
Exposure scenario (4):		sumer use	of adhesives and s	sealants
1. Exposure scenario (4) Short title of the exposur				
	e scenario: mer use of adhesives and	d sealants		
List of use descriptors:	THE USE OF AUTIESIVES ATT	u scaidi ils		
Sector of use category (SU): SU21, SU22			
Product estegony (PC): PC1				

Sector of use category (SU): SU21, SU22 Product category (PC): PC1 Process category (PROC): PROC2, PROC3, PROC5, PROC8a, PROC9, PROC10, PROC11, PROC13 Environmental release category (ERC): ERC8c, ERC8f, ERC10a, ERC11a (FEICA SpERC 8c.1b.v1) Article category (AC): AC8

List of names of contributing worker scenarios and corresponding PROCs:

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes.

PROC11 Non industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC13 Treatment of articles by dipping and pouring.

Name of contributing environmental scenario and corresponding ERCs:

ERC8c Widespread use leading to inclusion into/onto article (indoor).

ERC8f Widespread use leading to inclusion into/onto article (outdoor).

ERC10a Widespread use of articles with low release (outdoor).

ERC11a Widespread use of articles with low release (indoor).

Further explanations:

Covers the professional and private use in adhesives (sealants, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip) and equipment cleaning and maintenance.

2

Chapter R.12: Use descriptor system (http://guidance.echa.e	he European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, uropa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.
2. Conditions of use affecting exposure	
2.1 Control of workers exposure	
General:	This substance is not classified for human health end-points therefore a human health risk
	assessment was not conducted.
2.2 Control of environmental exposure	
Product characteristics:	Concentration of substance: Up to 100%.
	Physical state: liquid.
	Vapour pressure: 0.00016 Pa at 25 °C
Amounts used:	Amounts used in the EU: 3050 tonnes/year.
	Fraction of EU tonnage used in region: 0.1.
	Fraction of regional tonnage used locally: 0.002.
Frequency and duration of use:	Emission days: <=365 days/year.
	Wide dispersive use.
Environmental factors not influenced by risk	Flow rate of receiving surface water: >=18,000 m3/day (default).
management:	Local freshwater dilution factor: 10 (default).
	Local marine water dilution factor: 100 (default).
Other given operational conditions affecting	Industry category: 15/0: Others.
environmental exposure:	Use category: 55: Others.
	Release fraction to air from process: 0 (FEICA SpERC 8c.1b.v1).
	Release fraction to wastewater from process: 0.009 (FEICA SpERC 8c.1b.v1).
	Release fraction to soil from process: 0 (FEICA SpERC 8c.1b.v1).
Conditions and measures related to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).
sewage treatment plant:	Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).
	Estimated substance removal from wastewater via domestic sewage treatment: 88.4%
	(EUSES).
Conditions and measures related to external	External treatment and disposal of waste should comply with applicable local and/or national
treatment of waste for disposal:	regulations.
Conditions and measures related to external	External recovery and recycling of waste should comply with applicable local and/or national
recovery of waste:	regulations.
Additional good practice advice. Obligations	Spills are cleaned immediately.
according to Article 37(4) of REACH do not	All risk management measures utilised must also comply with all relevant local regulations.
apply:	
3. Exposure estimation and reference to its source	

Environment

Information for contributing scenario (2): ERC8c, ERC8f, ERC10a, ERC11a (FEICA SpERC 8c.1b.v1)

Assessment method: EUSES.

Exposure estimation:

<u>Compartment</u>	PEC	RCR	<u>Notes</u>
Freshwater	0.000276 mg/L	0.0747	
Freshwater sediment	0.0241 mg/kg ww	0.0747	
Marine water	0.0000324 mg/L	0.0877	
Marine water sediment	0.00283 mg/kg ww	0.0877	
Soil	0.0117 mg/kg ww	0.0117	
STP	0.000748 mg/L	0	
RCR=Risk characterization ra		nate/DNEL); PEC=F	redicted environmental concentration.
	m User to evaluate whether he		
Environment: Wic		ither on-site or muni	cipal sewage treatment plant (STP). Estimated substance
xposure scenario (5): Indu	strial use of coatings and inks	5	
1. Exposure scenario (5)	<u>_</u>		
Short title of the exposure sce	enario:		
Industrial use of coatings and	inks		
List of use descriptors:			
Sector of use category (SU):	SU3		
Process category (PROC): P	ROC1, PROC2, PROC3, PROC4	, PROC5, PROC7,	PROC8a, PROC8b, PROC10, PROC13
Environmental release catego	ory (ERC): ERC5 (ESVOC SpER	C 4.3a.v1)	
List of names of contributing v	vorker scenarios and correspond		
-	vorker scenarios and correspond or refinery in closed process with	ding PROCs:	osure or processes with equivalent containment conditions.
PROC1 Chemical production	or refinery in closed process with	ding PROCs: nout likelihood of exp	osure or processes with equivalent containment conditions. nal controlled exposure or processes with equivalent
PROC1 Chemical production PROC2 Chemical production	or refinery in closed process with	ding PROCs: nout likelihood of exp	osure or processes with equivalent containment conditions. nal controlled exposure or processes with equivalent
PROC1 Chemical production PROC2 Chemical production containment conditions.	or refinery in closed process with or refinery in closed continuous p	ding PROCs: nout likelihood of exp process with occasic	nal controlled exposure or processes with equivalent
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in	ding PROCs: nout likelihood of exp process with occasic	
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condition	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion.	ding PROCs: nout likelihood of exp process with occasic closed batch proces	nal controlled exposure or processes with equivalent
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises.	nal controlled exposure or processes with equivalent ses with occasional controlled exposure or processes with
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises.	nal controlled exposure or processes with equivalent
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use.	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying.	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. disper	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid	nal controlled exposure or processes with equivalent ses with occasional controlled exposure or processes with
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders.	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for PROC8a Transfer of substan	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders.	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for PROC8a Transfer of substan bagging and weighing.	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders. ce or mixture (charging and disch	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator harging) at non-dedic	nal controlled exposure or processes with equivalent asses with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or eated facilities. Transfer includes loading, filling, dumping,
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condit PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for PROC8a Transfer of substan bagging and weighing. PROC8b Transfer of substan	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders. ce or mixture (charging and disch ce or mixture (charging and disch	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator narging) at non-dedic	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or rated facilities. Transfer includes loading, filling, dumping, facilities. Transfer includes loading, filling, dumping, bagging
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condit PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for PROC8a Transfer of substant bagging and weighing. PROC8b Transfer of substant PROC10 Roller application o	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders. ce or mixture (charging and disch ce or mixture (charging and disch brushing. This includes applicati	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator narging) at non-dedic	nal controlled exposure or processes with equivalent asses with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or eated facilities. Transfer includes loading, filling, dumping,
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for PROC8a Transfer of substan bagging and weighing. PROC8b Transfer of substan PROC10 Roller application o potential exposure arising for	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders. ce or mixture (charging and disch ce or mixture (charging and disch r brushing. This includes applicati m splashes.	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator narging) at non-dedic	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or rated facilities. Transfer includes loading, filling, dumping, facilities. Transfer includes loading, filling, dumping, bagging
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. A centrifugation, applicable for PROC8a Transfer of substan bagging and weighing. PROC8b Transfer of substan PROC10 Roller application o potential exposure arising fro PROC13 Treatment of article	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders. ce or mixture (charging and disch r brushing. This includes applicati m splashes. s by dipping and pouring.	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator harging) at non-dedic harging) at dedicated on of paints, coating	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or rated facilities. Transfer includes loading, filling, dumping, facilities. Transfer includes loading, filling, dumping, bagging
PROC1 Chemical production PROC2 Chemical production containment conditions. PROC3 Manufacture or form equivalent containment condi PROC4 Chemical production PROC5 Mixing or blending in formulating sectors, as well a PROC7 Industrial spraying. <i>A</i> centrifugation, applicable for PROC8a Transfer of substan bagging and weighing. PROC8b Transfer of substan PROC10 Roller application o potential exposure arising fro PROC13 Treatment of article Name of contributing environt	or refinery in closed process with or refinery in closed continuous p ulation in the chemical industry in tion. where opportunity for exposure a batch processes. Covers mixing s upon end use. ir dispersive techniques i.e. dispe- iquids and powders. ce or mixture (charging and disch ce or mixture (charging and disch r brushing. This includes applicati m splashes.	ding PROCs: nout likelihood of exp process with occasic closed batch proces arises. or blending of solid ersion into air (= ator harging) at non-dedic harging) at dedicated on of paints, coating ng ERCs:	nal controlled exposure or processes with equivalent sees with occasional controlled exposure or processes with or liquid materials in the context of manufacturing or nization) by e.g. pressurized air, hydraulic pressure or rated facilities. Transfer includes loading, filling, dumping, facilities. Transfer includes loading, filling, dumping, bagging

equipment cleaning and maintenance.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure	
General:	This substance is not classified for human health end-points therefore a human health risk
	assessment was not conducted.
2.2 Control of environmental exposure	9
Product characteristics:	Concentration of substance: Up to 100%.
	Physical state: liquid.
	Vapour pressure: 0.00016 Pa at 25 °C
Amounts used:	Maximum daily use at a site: 9883 kg/day.
	Maximum annual use at a site: 2965 tonnes/year.
	Fraction of EU tonnage used in region: 1.
	Fraction of regional tonnage used locally: 1.

Frequency and duration	of use:	Emission days: 300 days/year. Continuous use/release.
Environmental factors no	ot influenced by risk	Flow rate of receiving surface water: >=18,000 m3/day (default).
management:		Local freshwater dilution factor: 10 (default).
gomenna		Local marine water dilution factor: 100 (default).
Other given operational	conditions affecting	Industry category: 15/0: Others.
environmental exposure	:	Use category: 55: Others.
		Release fraction to air from process: 0.98 (ESVOC SpERC 4.3a.v1).
		Release fraction to wastewater from process: 0.00007 (ESVOC SpERC 4.3a.v1).
	<u> </u>	Release fraction to soil from process: 0 (ESVOC SpERC 4.3a.v1).
Technical onsite condition reduce or limit discharge releases to soil:		Treat air emission to provide a typical removal efficiency of 90%.
Conditions and measure	es related to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).
sewage treatment plant:	•	Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).
•		Estimated substance removal from wastewater via domestic sewage treatment: 88.4%
		(EUSES).
Conditions and measure		External treatment and disposal of waste should comply with applicable local and/or national
treatment of waste for di		regulations.
Conditions and measure	es related to external	External recovery and recycling of waste should comply with applicable local and/or national
recovery of waste:		regulations.
Additional good practice according to Article 37(4 apply:	-	Spills are cleaned immediately. All risk management measures utilised must also comply with all relevant local regulations.
3. Exposure estimation a	and reference to its sour	Ce
Environment		
Information for contributir	ng scenario (2): ERC5 (E	SVOC SpERC 4.3a.v1)
Assessment method: EU	ISES.	
Exposure estimation:		
Compartment	PEC	RCR Notes
Freshwater	0.00362 mg/	
Freshwater sediment	0.316 mg/kg	
Marine water	0.000367 m	
Marine water sediment	0.0321 mg/k	-
Soil	0.874 mg/kg	
STP	0.0344 mg/L	
	,	Exposure estimate/DNEL); PEC=Predicted environmental concentration.
		e whether he works inside the boundaries set by the ES
Environment:	treatment plant (STP). (EUSES). Treat air em compliance of his site t quotient should be infe	e. Maximum daily use at a site: 9883 kg/day. Discharge to either on-site or municipal sewage Estimated substance removal from wastewater via domestic sewage treatment: 88.4% hission to provide a typical removal efficiency of 90%. The downstream user can check the by comparing site specific data with defaults used in the exposure assessment. The site specific rior or equal to the SpERC quotient. Further details on scaling and control technologies are factsheet (http://www.cefic.org/Industry-support/Implementing-reach/Libraries/).
	(MSpERC * (1 - Eer-Sp DFsite	DERC * Frelease-SpERC)/DFSpERC)/DFSpERC >= (Msite * (1 - Eer-site) * Frelease-site)/
	- MSpERC = substance	e use rate in SpERC
		y of risk management measure in SpERC
		itial release fraction in SpERC
	- DF-SpERC = dilution - Msite = substance us	factor of STP (sewage treatment plant) effluent in river e rate at site
		risk management measure at site
	- DFsite = dilution facto	or of site STP (sewage treatment plant) effluent in river
Exposure scenario (6):	Professional use of c	oatings and inks
1. Exposure scenario (6)		

Short title of the exposure scenario:

Professional use of coatings and inks

List of use descriptors:

Sector of use category (SU): SU22

Process category (PROC): PROC2, PROC3, PROC4, PROC5, PROC8a, PROC10, PROC11, PROC13, PROC19 Environmental release category (ERC): ERC8c, ERC8f (ESVOC SpERC 8.3b.v1)

List of names of contributing worker scenarios and corresponding PROCs:

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

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. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes.

PROC11 Non industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC13 Treatment of articles by dipping and pouring.

PROC19 Manual activities involving hand contact. Addresses tasks, where exposure of hands and forearms can be expected; no dedicated tools or specific exposure controls other than PPE can be put in place.

Name of contributing environmental scenario and corresponding ERCs:

ERC8c Widespread use leading to inclusion into/onto article (indoor).

ERC8f Widespread use leading to inclusion into/onto article (outdoor).

Further explanations:

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and equipment cleaning and maintenance.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure

General:	This substance is not classified for human health end-points therefore a human health risk			
	assessment was not conducted.			
2.2 Control of environmental exposure				
Product characteristics:	Concentration of substance: Up to 100%.			
	Physical state: liquid.			
	Vapour pressure: 0.00016 Pa at 25 °C			
Amounts used:	Amounts used in the EU: 425 tonnes/year.			
	Fraction of EU tonnage used in region: 0.1.			
	Fraction of regional tonnage used locally: 0.0005.			
Frequency and duration of use:	Emission days: <=365 days/year.			
	Wide dispersive use.			
Environmental factors not influenced by risk	Flow rate of receiving surface water: >=18,000 m3/day (default).			
management:	Local freshwater dilution factor: 10 (default).			
	Local marine water dilution factor: 100 (default).			
Other given operational conditions affecting	Industry category: 15/0: Others.			
environmental exposure:	Use category: 55: Others.			
	Release fraction to air from process: 0.98 (ESVOC SpERC 8.3b.v1).			
	Release fraction to wastewater from process: 0.01 (ESVOC SpERC 8.3b.v1).			
	Release fraction to soil from process: 0.01 (ESVOC SpERC 8.3b.v1).			
Conditions and measures related to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).			
sewage treatment plant:	Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).			
	Estimated substance removal from wastewater via domestic sewage treatment: 88.4%			
	(EUSES).			
Conditions and measures related to external	External treatment and disposal of waste should comply with applicable local and/or nationa			
treatment of waste for disposal:	regulations.			

management:

Conditions and measures related to external recovery of waste: Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply:		External recovery and recycling of waste should comply with applicable local and/or national regulations.				
		Spills are cleaned immediately. All risk management measures utilised must also comply with all relevant local regulations.				
3. Exposure estimation and ref	erence to its sou	ce				
Environment						
Information for contributing sce	nario (2): ERC8c.	ERC8f (ESVOC	SpERC 8.3b.v1)			
Assessment method: EUSES.						
Exposure estimation:						
Compartment	PEC		RCR	Notes		
Freshwater	0.000205 m	ia/L	0.0554			
Freshwater sediment	0.0179 mg/	0	0.0554			
Marine water	0.0000253	-	0.0684			
Marine water sediment	0.00221 mg	-	0.0684			
Soil	0.00688 mg		0.00688			
STP	0.00088110		0.00088			
-		9	-	redicted environmental concentration.		
4. Guidance to the Downstrear		•	,			
				cipal sewage treatment plant (STP). Estimated substance		
	•	-	sewage treatment			
xposure scenario (7): Cons						
1. Exposure scenario (7). Cons		iungs and inks	1			
Short title of the exposure scer	nario:					
Consumer use of coatings and						
List of use descriptors:						
Sector of use category (SU): S	SU21					
Product category (PC): PC9a,						
Environmental release categor	ry (ERC): ERC8c,	ERC8f, ERC10a	a, ERC11a (ESVO	C SpERC 8.3c.v1)		
Article category (AC): AC8			500			
Name of contributing environm ERC8c Widespread use leadir						
ERC8f Widespread use leadin						
ERC10a Widespread use of a	-	•				
ERC11a Widespread use of a						
Further explanations:						
				g use (including product transfer and preparation, application		
by brush, spray by hand or sin	,					
				uidance on information requirements and chemical safety assessment, ation_requirements_r12_en.pdf). For further information on CEFIC (The		
				//www.cefic.org/Industry-support/Implementing-reach/Libraries/.		
2. Conditions of use affecting e						
2.1 Control of workers exposur	e					
General: This substance is not classified for human health end-points therefore a human health end-poi				for human health end-points therefore a human health risk		
2.2 Control of environmental ex	kposure					
Product characteristics:		Concentration	n of substance: Up	to 100%.		
		Physical state				
		-	ure: 0.00016 Pa at	25 °C		
Amounts used:			d in the EU: 425 to	-		
			J tonnage used in			
			gional tonnage use	-		
Frequency and duration of use):	Emission days Wide dispersi	s: <=365 days/yea ve use.	r.		
Environmental factors not influ	enced by risk			ater: >=18,000 m3/day (default).		
management:			ater dilution factor:			

Local freshwater dilution factor: 10 (default).

Local marine water dilution factor: 100 (default).

Other given operational conditions affecting environmental exposure:		Industry category: 15/0: Others. Use category: 55: Others. Release fraction to air from process: 0.985 (ESVOC SpERC 8.3c.v1).			
		elease fraction to w	astewater fro	m process: 0.01 (ESVOC SpERC 8.3c.v1).	
			-	ss: 0.005 (ESVOC SpERC 8.3c.v1).	
Conditions and measures rela				t (STP): Yes (freshwater).	
sewage treatment plant:				treatment plant: >=2000 m3/day (standard town).	
	(E	USES).		n wastewater via domestic sewage treatment: 88.4%	
Conditions and measures rela			nd disposal of	waste should comply with applicable local and/or national	
treatment of waste for dispose		gulations.			
Conditions and measures relared recovery of waste:		ternal recovery and gulations.	d recycling of	waste should comply with applicable local and/or national	
Additional good practice advid		pills are cleaned im	modiately		
according to Article 37(4) of F	•		•	ised must also comply with all relevant local regulations.	
apply:					
3. Exposure estimation and re	ference to its source				
Environment					
Information for contributing sce	enario (2): ERC8c, ERC	8f, ERC10a, ERC1	1a (ESVOC	SpERC 8.3c.v1)	
Assessment method: EUSES.					
Exposure estimation:					
<u>Compartment</u>	PEC	<u>R(</u>	<u> 2R</u>	<u>Notes</u>	
Freshwater	0.000205 mg/L	0.0	0554		
Freshwater sediment	0.0179 mg/kg w	v 0.0	0554		
Marine water	0.0000253 mg/L	0.0	0684		
Marine water sediment	0.00221 mg/kg v	/w 0.0	0684		
Soil	0.00688 mg/kg v	/w 0.0	00688		
STP	0.0000289 mg/L	0			
RCR=Risk characterization rat	io (PEC/PNEC or Expo	sure estimate/DNE	L); PEC=Pre	dicted environmental concentration.	
4. Guidance to the Downstrea	m User to evaluate wh	ether he works ins	ide the bound	daries set by the ES	
	e dispersive use. Disch oval from wastewater v	-	•	al sewage treatment plant (STP). Estimated substance 8.4% (EUSES).	
Exposure scenario (8): Indu	strial use of lubricant	additives			
1. Exposure scenario (8)					
Short title of the exposure sce	nario:				
Industrial use of lubricant add	itives				
List of use descriptors:					
Sector of use category (SU):	,				
Process category (PROC): PI				PROC17, PROC20	
Environmental release catego					
List of names of contributing w				iquid materials in the context of manufacturing or	
formulating sectors, as well as					
-	-	i.e. dispersion into	air (= atomiz	ation) by e.g. pressurized air, hydraulic pressure or	
centrifugation, applicable for l					
	ce or mixture (charging	and discharging) at	t non-dedicate	ed facilities. Transfer includes loading, filling, dumping,	
bagging and weighing. PROC8b Transfer of substand	ce or mixture (charging	and discharging) at	t dedicated fa	cilities. Transfer includes loading, filling, dumping, bagging	
				ncluding weighing). Filling lines specifically designed to	
both capture vapour and aero					
PROC13 Treatment of articles	s by dipping and pouring	g.			
-				netal working processes where the lubricants are exposed	
to high temperature and friction				ing, etc.	

PROC20 Use of functional fluids in small devices. Motor and engine oils, brake fluids. Includes the filling and emptying of systems containing functional fluids (including transfers via the closed system) e.g. heat and pressure transfer fluids; takes place on routine basis.

Name of contributing environmental scenario and corresponding ERCs:

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Further explanations:

Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting	•					
2.1 Control of workers exposu	lre					
General:		This substance is not classified for human health end-points therefore a human health risk assessment was not conducted.				
2.2 Control of environmental e	exposure					
Product characteristics:		Concentration of substance: Up to 100%.				
		Physical state: liquid.				
		Vapour pressure: 0.00016 Pa at 25 °C				
Amounts used:		Maximum daily use at a site: 231500 kg/day.				
		Maximum annual use at a site: 4630 tonnes/year.				
		Fraction of EU tonnage used in region: 1.				
		Fraction of regional tonnage used locally: 1.				
Frequency and duration of us		Emission days: 20 days/year. Continuous use/release.				
Environmental factors not infl		Flow rate of receiving surface water: >=18000 m3/day (default).				
management:	•	Local freshwater dilution factor: 10 (default).				
		Local marine water dilution factor: 100 (default).				
Other given operational cond	itions affecting	Industry category: 15/0: Others.				
environmental exposure:		Use category: 55: Others.				
		Release fraction to air from process: 0.00003 (ESVOC SpERC 4.6a.v1).				
		Release fraction to wastewater from process: 0.000003 (ESVOC SpERC 4.6a.v1).				
		Release fraction to soil from process: 0.001 (ESVOC SpERC 4.6a.v1).				
Conditions and measures relation	•	Municipal Sewage Treatment Plant (STP): Yes (freshwater).				
sewage treatment plant:		Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).				
		Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES).				
Conditions and measures related to external		External treatment and disposal of waste should comply with applicable local and/or national				
treatment of waste for dispos		regulations.				
Conditions and measures relation		External recovery and recycling of waste should comply with applicable local and/or national				
recovery of waste:		regulations. Spills are cleaned immediately.				
Additional good practice advi according to Article 37(4) of F		All risk management measures utilised must also comply with all relevant local regulations.				
apply:		All tisk management measures utilised must also comply with all relevant local regulations.				
3. Exposure estimation and re	eference to its source	N				
Environment						
Information for contributing sc	enario (2): FRC4 (FS	VOC SpERC 4 6a v1)				
Assessment method: EUSES.						
Exposure estimation:						
Compartment	PEC	RCR Notes				
Freshwater	0.00364 mg/L	0.983				
Freshwater sediment	0.318 mg/kg w					
Marine water	0.000368 mg/l					
Marine water sediment	0.0322 mg/kg					
Soil	0.238 mg/kg v					
SUI	0.238 mg/kg w 0.0346 mg/L	0.00346				
511	0.0340 Hig/L	0.000+0				

RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration.

4. Guidance to the Downstream User to evaluate whether he works inside the boundaries set by the ES

Environment:

Continuous use/release. Maximum daily use at a site: 231500 kg/day. Discharge to either on-site or municipal sewage treatment plant (STP). Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES). The downstream user can check the compliance of his site by comparing site specific data with defaults used in the exposure assessment. The site specific quotient should be inferior or equal to the SpERC quotient. Further details on scaling and control technologies are provided in the SpERC factsheet (http://www.cefic.org/Industry-support/Implementing-reach/Libraries/).

(MSpERC * (1 - Eer-SpERC * Frelease-SpERC)/DFSpERC)/DFSpERC >= (Msite * (1 - Eer-site) * Frelease-site)/ DFsite

- MSpERC = substance use rate in SpERC
- Eer-SpERC = efficacy of risk management measure in SpERC
- Frelease-SpERC = initial release fraction in SpERC
- DF-SpERC = dilution factor of STP (sewage treatment plant) effluent in river
- Msite = substance use rate at site
- Eer-site = efficacy of risk management measure at site
- DFsite = dilution factor of site STP (sewage treatment plant) effluent in river

Exposure scenario (9): Professional use of lubricant additives

1. Exposure scenario (9)

Short title of the exposure scenario:

Professional use of lubricant additives

List of use descriptors:

Sector of use category (SU): SU22

Product category (PC): PC24

Process category (PROC): PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC20 Environmental release category (ERC): ERC8a, ERC8d, ERC9b (ESVOC SpERC 9.6b.v1)

List of names of contributing worker scenarios and corresponding PROCs:

PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes.

PROC11 Non industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC13 Treatment of articles by dipping and pouring.

PROC17 Lubrication at high energy conditions in metal working operations. Covers metal working processes where the lubricants are exposed to high temperature and friction e.g. metal rolling/forming processes, drilling and grinding, etc.

PROC20 Use of functional fluids in small devices. Motor and engine oils, brake fluids. Includes the filling and emptying of systems containing functional fluids (including transfers via the closed system) e.g. heat and pressure transfer fluids; takes place on routine basis.

Name of contributing environmental scenario and corresponding ERCs:

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).

ERC9b Widespread use of functional fluid (outdoor).

Further explanations:

Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R. 12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure

 General:
 This substance is not classified for human health end-points therefore a human health risk assessment was not conducted.

2.2 Control of environmental exposure

Product characteristics:		Concentration of substance: Up to 100%.
		Physical state: liquid.
		Vapour pressure: 0.00016 Pa at 25 °C
Amounts used:		Amounts used in the EU: 430 tonnes/year.
		Fraction of EU tonnage used in region: 0.1.
		Fraction of regional tonnage used locally: 0.0005.
Frequency and duration of use):	Emission days: <=365 days/year.
		Wide dispersive use.
Environmental factors not influ	enced by risk	Flow rate of receiving surface water: >=18000 m3/day (default).
management:		Local freshwater dilution factor: 10 (default).
		Local marine water dilution factor: 100 (default).
Other given operational condit	ions affecting	Industry category: 15/0: Others.
environmental exposure:		Use category: 55: Others.
		Release fraction to air from process: 0.01 (ESVOC SpERC 9.6b.v1).
		Release fraction to wastewater from process: 0.01 (ESVOC SpERC 9.6b.v1).
		Release fraction to soil from process: 0.01 (ESVOC SpERC 9.6b.v1).
Conditions and measures related	ted to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).
sewage treatment plant:		Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).
		Estimated substance removal from wastewater via domestic sewage treatment: 88.4%
<u> </u>		(EUSES).
Conditions and measures relation		External treatment and disposal of waste should comply with applicable local and/or national
treatment of waste for disposa		regulations.
Conditions and measures relation	ted to external	External recovery and recycling of waste should comply with applicable local and/or national
recovery of waste:	o Obligations	regulations.
Additional good practice advic according to Article 37(4) of R	-	Spills are cleaned immediately.
		All risk management measures utilised must also comply with all relevant local regulations.
apply:		
apply: 3. Exposure estimation and ref		e
apply: 3. Exposure estimation and ref Environment	erence to its sourc	
apply: 3. Exposure estimation and ref Environment	erence to its sourc	ERC8d, ERC9b (ESVOC SpERC 9.6b.v1)
apply: 3. Exposure estimation and ref Environment Information for contributing sce	erence to its sourc	
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES.	erence to its sourc	
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES.	erence to its sourc	
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment	ierence to its source nario (2): ERC8a, B <u>PEC</u>	ERC8d, ERC9b (ESVOC SpERC 9.6b.v1) RCR Notes
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater	ierence to its source nario (2): ERC8a, E <u>PEC</u> 0.000205 mg	ERC8d, ERC9b (ESVOC SpERC 9.6b.v1) RCR Notes //L 0.0554
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment	erence to its source nario (2): ERC8a, f <u>PEC</u> 0.000205 mg 0.0179 mg/kg	ERC8d, ERC9b (ESVOC SpERC 9.6b.v1) RCR Notes //L 0.0554 g ww 0.0554
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water	erence to its source nario (2): ERC8a, E <u>PEC</u> 0.000205 mg 0.0179 mg/kg 0.0000253 m	ERC8d, ERC9b (ESVOC SpERC 9.6b.v1) /L 0.0554 g ww 0.0554 rg/L 0.0684
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment	erence to its source nario (2): ERC8a, f <u>PEC</u> 0.000205 mg 0.0179 mg/kg	ERC8d, ERC9b (ESVOC SpERC 9.6b.v1) /L 0.0554 g ww 0.0554 rg/L 0.0684
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water	erence to its source nario (2): ERC8a, E <u>PEC</u> 0.000205 mg 0.0179 mg/kg 0.0000253 m	RC8 Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater Freshwater sediment Marine water sediment	erence to its source nario (2): ERC8a, F <u>PEC</u> 0.000205 mg 0.0179 mg/kg 0.000253 mg 0.00221 mg/	RCR Notes //L 0.0554 g ww 0.0554 rg/L 0.0684 kg ww 0.0684 kg ww 0.00688
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water Marine water sediment Soil STP	erence to its source nario (2): ERC8a, B <u>PEC</u> 0.000205 mg 0.000253 m 0.000221 mg/ 0.00688 mg/ 0.0000295 m	RCR Notes //L 0.0554 g ww 0.0554 g/L 0.0684 kg ww 0.0684 kg ww 0.00688 ug/L 0
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater Freshwater sediment Marine water sediment Soil STP RCR=Risk characterization ration	erence to its source nario (2): ERC8a, F 0.000205 mg 0.0179 mg/kg 0.000223 m 0.00221 mg/ 0.00688 mg/ 0.0000295 m o (PEC/PNEC or E	RCR Notes J/L 0.0554 g ww 0.0554 Ig/L 0.0684 kg ww 0.0684 kg ww 0.00688 Ig/L 0 xsp sure estimate/DNEL); PEC=Predicted environmental concentration.
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater Freshwater sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear	PEC 0.000205 mg 0.000223 mg 0.000223 mg 0.000221 mg/ 0.000221 mg/ 0.000225 mg 0.000253 mg 0.000253 mg 0.000225 mg 0.000255 mg 0.000255 mg 0.000225 mg 0.000255 mg 0.000255 mg 0.000225 mg 0.0000295 mg 0.0000000 mg 0.000000 mg 0.000000 mg 0.00000 mg 0.0000 mg	RC8 Notes y/L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater Freshwater sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide	PEC 0.000205 mg 0.000205 mg 0.000225 mg 0.000225 mg 0.000225 mg 0.000253 mg 0.000221 mg/ 0.000225 mg 0.000253 mg 0.000253 mg 0.000255 mg 0.000255 mg 0.000255 mg 0.000255 mg 0.000225 mg 0.0000295 mg 0 (PEC/PNEC or E n User to evaluate a dispersive use. D	RC8 Notes //L 0.0554 g ww 0.0554 g/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES ischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization ration A. Guidance to the Downstrear Environment: Wide remo	PEC 0.000205 mg 0.000205 mg 0.000223 mg 0.000223 mg 0.000223 mg 0.000223 mg 0.000223 mg 0.000225 mg 0.000225 mg 0.000253 mg 0.000295 mg 0.000295 mg 0.0000295 mg 0.00000000000000000000000000000000000	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide remo	PEC 0.000205 mg 0.000205 mg 0.000223 mg 0.000223 mg 0.000223 mg 0.000223 mg 0.000223 mg 0.000225 mg 0.000225 mg 0.000253 mg 0.000295 mg 0.000295 mg 0.0000295 mg 0.00000000000000000000000000000000000	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide remo Environment: Wide remo	PEC 0.000205 mg 0.0179 mg/kg 0.000253 m 0.000253 m 0.000253 m 0.000221 mg/l 0.00688 mg/ 0.0000295 m 0 (PEC/PNEC or E n User to evaluate e dispersive use. D oval from wastewat	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide remo Environment: Wide remo	PEC 0.000205 mg 0.0179 mg/kg 0.000253 m 0.000253 m 0.000253 m 0.000221 mg/l 0.00688 mg/ 0.0000295 m 0 (PEC/PNEC or E n User to evaluate e dispersive use. D oval from wastewat	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization ratii 4. Guidance to the Downstrear Environment: Wide remo Environment: Wide remo Environment: Wide remo	PEC 0.000205 mg 0.0179 mg/kg 0.000253 m 0.000253 m 0.000253 m 0.000221 mg/l 0.00688 mg/ 0.0000295 m 0 (PEC/PNEC or E n User to evaluate e dispersive use. D oval from wastewat	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater estiment Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide remo Environment: Wide remo Exposure scenario (10): Indu 1. Exposure scenario (10) Short title of the exposure scer Industrial use as a plasticizer List of use descriptors:	PEC 0.000205 mg 0.0179 mg/kg 0.000253 m 0.000253 m 0.000253 m 0.000253 m 0.000253 m 0.000255 m 0.0000295 m 0 (PEC/PNEC or E n User to evaluate e dispersive use. D oval from wastewat ustrial use as a pl nario:	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater sediment Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide remo Environment: Wide remo Environment: Wide remo Environment: Other and the second the second the Environment: Soil Short title of the exposure scerer Industrial use as a plasticizer List of use descriptors: Sector of use category (SU): S	PEC 0.000205 mg 0.0179 mg/kg 0.000253 m 0.000253 m 0.000253 m 0.000253 m 0.000253 m 0.000255 m 0.0000295 m 0.0000295 m 0 (PEC/PNEC or E n User to evaluate e dispersive use. D oval from wastewat Istrial use as a pl nario:	RCR Notes //L 0.0554 g ww 0.0554 g/L 0.0684 kg ww 0.0688 tg/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES tischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES).
apply: 3. Exposure estimation and ref Environment Information for contributing sce Assessment method: EUSES. Exposure estimation: Compartment Freshwater estiment Freshwater sediment Marine water sediment Marine water sediment Soil STP RCR=Risk characterization rati 4. Guidance to the Downstrear Environment: Wide remo Environment: Wide remo Environment: Wide remo Environment: Other and the second the secon	PEC 0.000205 mg 0.0179 mg/kg 0.000253 m 0.000253 m 0.000253 m 0.000253 m 0.000253 m 0.000255 m 0.0000295 m 0.0000295 m 0.0000295 m 0.0000295 m 0.0000295 m 0.0000295 m 0.0000295 m 0.0000295 m 0.0000295 m 0.000295 m 0.0000295 m 0.000295 m 0.0000295 m 0.00000295 m 0.00000000000000000000000000000000000	RCR Notes //L 0.0554 g ww 0.0554 ig/L 0.0684 kg ww 0.0684 kg ww 0.0688 ig/L 0 xposure estimate/DNEL); PEC=Predicted environmental concentration. whether he works inside the boundaries set by the ES ischarge to either on-site or municipal sewage treatment plant (STP). Estimated substance er via domestic sewage treatment: 88.4% (EUSES). asticizer OC5, PROC6, PROC8a, PROC8b, PROC9, PROC12, PROC13, PROC14

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. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC6 Calendering operations. Processing of large surfaces at elevated temperature e.g. calendering of textile, rubber or paper. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC12 Use of blowing agents in manufacture of foam.

PROC13 Treatment of articles by dipping and pouring.

PROC14 Tabletting, compression, extrusion, pelletisation, granulation. This covers processing of mixtures and/or substances into a defined shape for further use.

Name of contributing environmental scenario and corresponding ERCs:

ERC5 Use at industrial site leading to inclusion into/onto article.

Further explanations:

Freshwater sediment

Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing, and forming activities, material re-works, storage and associated maintenance.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure					
General:	This substance is not classified for human health end-points therefore a human health risk assessment was not conducted.				
2.2 Control of environmental exposure					
Product characteristics:	Concentration of substance: Up to 100%.				
	Physical state: liquid.				
	Vapour pressure: 0.00016 Pa at 25 °C				
Amounts used:	Maximum daily use at a site: 14917 kg/day.				
	Maximum annual use at a site: 4475 tonnes/year.				
	Fraction of EU tonnage used in region: 1.				
	Fraction of regional tonnage used locally: 1.				
Frequency and duration of use:	Emission days: 300 days/year.				
	Continuous use/release.				
Environmental factors not influenced by risk	Flow rate of receiving surface water: >=18000 m3/day (default).				
management:	Local freshwater dilution factor: 10 (default).				
	Local marine water dilution factor: 100 (default).				
Other given operational conditions affecting	Industry category: 15/0: Others.				
environmental exposure:	Use category: 55: Others.				
	Release fraction to air from process: 0.002 (ESVOC SRC 4.21.v1).				
	Release fraction to wastewater from process: 0.00003 (ESVOC SpERC 4.21.v1).				
	Release fraction to soil from process: 0.0001 (ESVOC SpERC 4.21.v1).				
Conditions and measures related to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).				
sewage treatment plant:	Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).				
	Estimated substance removal from wastewater via domestic sewage treatment: 88.4%				
	(EUSES).				
Conditions and measures related to external	External treatment and disposal of waste should comply with applicable local and/or nationa				
treatment of waste for disposal:	regulations.				
Conditions and measures related to external	External recovery and recycling of waste should comply with applicable local and/or nationa				
recovery of waste:	regulations.				
Additional good practice advice. Obligations	Spills are cleaned immediately.				
according to Article 37(4) of REACH do not	All risk management measures utilised must also comply with all relevant local regulations.				
apply:					
3. Exposure estimation and reference to its sour	Ce				
Environment					
Information for contributing scenario (2): ERC5 (E	SVOC SpERC 4.21.v1)				
Assessment method: EUSES.					
Exposure estimation:					
<u>Compartment</u> <u>PEC</u>	RCR Notes				
Freshwater 0.000202 m					
0.00020211	אר ט.טטדט				

0.0546

0.0176 mg/kg ww

Compartment	PEC	<u>RCR</u>	<u>Notes</u>
Marine water	0.000025 mg/L	0.0676	
Marine water sediment	0.00218 mg/kg ww	0.0676	
Soil	0.988 mg/kg ww	0.988	
STP	0 mg/L	0	

RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration.

4. Guidance to the Downstream User to evaluate whether he works inside the boundaries set by the ES

Continuous use/release. Maximum daily use at a site: 14917 kg/day. Discharge to either on-site or municipal sewage treatment plant (STP). Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES). The downstream user can check the compliance of his site by comparing site specific data with defaults used in the exposure assessment. The site specific quotient should be inferior or equal to the SpERC quotient. Further details on scaling and control technologies are provided in the SpERC factsheet (http://www.cefic.org/Industry-support/Implementing-reach/Libraries/).

(MSpERC * (1 - Eer-SpERC * Frelease-SpERC)/DFSpERC)/DFSpERC >= (Msite * (1 - Eer-site) * Frelease-site)/ DFsite

- MSpERC = substance use rate in SpERC
- Eer-SpERC = efficacy of risk management measure in SpERC
- Frelease-SpERC = initial release fraction in SpERC
- DF-SpERC = dilution factor of STP (sewage treatment plant) effluent in river
- Msite = substance use rate at site
- Eer-site = efficacy of risk management measure at site
- DFsite = dilution factor of site STP (sewage treatment plant) effluent in river

Exposure scenario (11): Professional and consumer use as a plasticizer

1. Exposure scenario (11)

Short title of the exposure scenario:

Professional and consumer use as a plasticizer

List of use descriptors:

Environment:

Sector of use category (SU): SU21, SU22

Product category (PC): PC32

Process category (PROC): PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC20

Environmental release category (ERC): ERC8c, ERC8f, ERC10a, ERC11a (ESVOC SpERC 8.21b.v1)

Article category (AC): AC5, AC10, AC13

List of names of contributing worker scenarios and corresponding PROCs:

PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes.

PROC11 Non industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC13 Treatment of articles by dipping and pouring.

PROC17 Lubrication at high energy conditions in metal working operations. Covers metal working processes where the lubricants are exposed to high temperature and friction e.g. metal rolling/forming processes, drilling and grinding, etc.

PROC20 Use of functional fluids in small devices. Motor and engine oils, brake fluids. Includes the filling and emptying of systems containing functional fluids (including transfers via the closed system) e.g. heat and pressure transfer fluids; takes place on routine basis.

Name of contributing environmental scenario and corresponding ERCs:

ERC8c Widespread use leading to inclusion into/onto article (indoor).

ERC8f Widespread use leading to inclusion into/onto article (outdoor).

ERC10a Widespread use of articles with low release (outdoor).

ERC11a Widespread use of articles with low release (indoor).

Further explanations:

Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The

European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exp	osure				
2.1 Control of workers exposure					
General:		This substance is not classified for human health end-points therefore a human health risk			
		assessment was not conducte	d.		
2.2 Control of environmental expo		-			
Product characteristics:		Concentration of substance: U	p to 100%.		
		Physical state: liquid.	1.05.00		
<u> </u>		/apour pressure: 0.00016 Pa			
Amounts used:		Amounts used in the EU: 1210			
		Fraction of EU tonnage used in Fraction of regional tonnage us			
Encruancy and duration of user			-		
Frequency and duration of use:		Emission days: <=365 days/ye Wide dispersive use.			
Environmental factors not influen			water: >=18000 m3/day (default).		
management:	-	Local freshwater dilution factor			
management.		Local marine water dilution fac			
Other given operational condition		ndustry category: 15/0: Others			
environmental exposure:	-	Jse category: 55: Others.			
			ocess: 0.98 (ESVOC SpERC 8.21b.v1).		
		•	r from process: 0.01 (ESVOC SpERC 8.21b.v1).		
	F	Release fraction to soil from pr	rocess: 0.01 (ESVOC SpERC 8.21b.v1).		
Conditions and measures related	d to municipal N	Municipal Sewage Treatment F	Plant (STP): Yes (freshwater).		
sewage treatment plant:			em/treatment plant: >=2000 m3/day (standard town).		
			from wastewater via domestic sewage treatment: 88.4%		
		EUSES).			
Conditions and measures related			al of waste should comply with applicable local and/or national		
treatment of waste for disposal:		egulations.			
Conditions and measures related			g of waste should comply with applicable local and/or national		
recovery of waste:		egulations.			
Additional good practive advice.	-	Spills are cleaned immediately			
according to Article 37(4) of REA	ACH do not A	All risk management measures	s utilised must also comply with all relevant local regulations.		
apply:					
3. Exposure estimation and refere	ence to its source				
Environment					
Information for contributing scena	rio (2): ERC8c, ER	C8f, ERC10a, ERC11a (ESV	OC SpERC 8.21b.v1)		
Assessment method: EUSES.					
Exposure estimation:					
Compartment	<u>PEC</u>	<u>RCR</u>	<u>Notes</u>		
Freshwater	0.00021 mg/L	0.0568			
Freshwater sediment	0.0184 mg/kg v	vw 0.0568			
Marine water	0.0000258 mg/				
	•				
Marine water sediment	0.00226 mg/kg				
Soil	0.00723 mg/kg	ww 0.00723			
STP	0.0000822 mg/	L 0			
RCR=Risk characterization ratio (PEC/PNEC or Exp	osure estimate/DNEL); PEC=	Predicted environmental concentration.		
4. Guidance to the Downstream U	Jser to evaluate w	hether he works inside the bo	oundaries set by the ES		
Environment: Wide di	ispersive use. Dise	charge to either on-site or mur	nicipal sewage treatment plant (STP). Estimated substance		
remova	al from wastewater	via domestic sewage treatment	nt: 88.4% (EUSES).		
Exposure scenario (12): Profes	sional and cons	umer use as a carrier for a	grochemicals		
1. Exposure scenario (12)			groononnoaio		
Short title of the exposure scenar	rio:				
Professional and consumer use a		ochemicals			
List of use descriptors:					
Sector of use category (SU): SU2	21. SU22				
Product category (PC): PC8, PC2					

Page 26 / 32

Process category (PROC): PROC4, PROC7, PROC8a, PROC8b, PROC11, PROC13

Environmental release category (ERC): ERC8d (ECPA SpERC 8d.2.v1)

List of names of contributing worker scenarios and corresponding PROCs:

PROC4 Chemical production where opportunity for exposure arises.

PROC7 Industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC11 Non industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC13 Treatment of articles by dipping and pouring.

Name of contributing environmental scenario and corresponding ERCs:

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).

Further explanations:

Covers the outdoor use of substances as co-formulants in plant protection products by consumers and professional users.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf). For further information on CEFIC (The European Chemical Industry Council) Specific Environmental Release Categories (SpERCs), see http://www.cefic.org/Industry-support/Implementing-reach/Libraries/.

2. Conditions of use affecting exposure

2.1 Control of workers exposure	
General:	This substance is not classified for human health end-points therefore a human health risk
	assessment was not conducted.
2.2 Control of environmental exposure	
Product characteristics:	Concentration of substance: Up to 100%.
	Physical state: liquid.
	Vapour pressure: 0.00016 Pa at 25 °C
Amounts used:	Amounts used in the EU: 550 tonnes/year.
	Fraction of EU tonnage used in region: 0.1.
	Fraction of regional tonnage used locally: 0.002.
Frequency and duration of use:	Emission days: <=365 days/year.
	Wide dispersive use.
Environmental factors not influenced by risk	Flow rate of receiving surface water: >=18000 m3/day (default).
management:	Local freshwater dilution factor: 10 (default).
	Local marine water dilution factor: 100 (default).
Other given operational conditions affecting	Industry category: 15/0: Others.
environmental exposure:	Use category: 55: Others.
	Release fraction to air from process: 0.1 (EPCA SpERC 8d.2.v1).
	Release fraction to wastewater from process: 0 (EPCA SpERC 8d.2.v1).
	Release fraction to soil from process: 0.9 (EPCA SpERC 8d.2.v1).
Conditions and measures related to municipal	Municipal Sewage Treatment Plant (STP): Yes (freshwater).
sewage treatment plant:	Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).
	Estimated substance removal from wastewater via domestic sewage treatment: 88.4%
	(EUSES).
Conditions and measures related to external	External treatment and disposal of waste should comply with applicable local and/or national
treatment of waste for disposal:	regulations.
Conditions and measures related to external	External recovery and recycling of waste should comply with applicable local and/or national
recovery of waste:	regulations.
Additional good practive advice. Obligations	Spills are cleaned immediately.
according to Article 37(4) of REACH do not	All risk management measures utilised must also comply with all relevant local regulations.
apply:	
3. Exposure estimation and reference to its sour	Ce
Environment	

Information for contributing scenario (2): ERC8d (ECPA SpERC 8d.2.v1)

Assessment method: EUSES.

Exposure estimation:

<u>Compartment</u>	PEC	RCR	Notes	
Freshwater	0.000202 mg/L	0.0546		
Freshwater sediment	0.0176 mg/kg ww	0.0546		

Compartment	PEC	RCR	Notes
Marine water	0.000025 mg/L	0.0676	
Marine water sediment	0.00218 mg/kg ww	0.0676	
Soil	0.00671 mg/kg ww	0.00671	
STP	00	0.00071	
-	0 mg/L	•	
			Predicted environmental concentration.
	m User to evaluate whether he		-
			icipal sewage treatment plant (STP). Estimated substance
remo	oval from wastewater via domes	stic sewage treatmen	t: 88.4% (EUSES).
Exposure scenario (13): Prot	fessional laboratory use		
1. Exposure scenario (13)			
Short title of the exposure scen Professional laboratory use	nario:		
List of use descriptors:			
Sector of use category (SU): S	3U22		
Process category (PROC): PF			
••••	ry (ERC): ERC8a, ERC9a (ESV	/OC SpERC 8.17.v1)	
-	orker scenarios and correspon		
PROC15 Use as laboratory re	agent. Use of substances at sm	nall scale in laborator	ies (less than or equal to 1 l or 1 kg present at workplace).
	nental scenario and correspond		
ERC8a Widespread use of no	n-reactive processing aid (no in	clusion into or onto a	rticle, indoor).
ERC9a Widespread use of fur	nctional fluid (indoor).		
Further explanations:			
•	laboratory settings, including ma		
Chapter R.12: Use descriptor system	(http://guidance.echa.europa.eu/docs/g	guidance_document/inforr	Suidance on information requirements and chemical safety assessment, mation_requirements_r12_en.pdf). For further information on CEFIC (The ://www.cefic.org/Industry-support/Implementing-reach/Libraries/.
2. Conditions of use affecting e	exposure		
2.1 Control of workers exposu	re		
General:	This subst	ance is not classified	for human health end-points therefore a human health risk
	assessme	nt was not conducted	L.
2.2 Control of environmental e	xposure		
Product characteristics:	Concentra	tion of substance: Up	o to 100%.
	Physical st		
		essure: 0.00016 Pa a	
Amounts used:		ised in the EU: 120 to	
		EU tonnage used in	-
		regional tonnage us	-
Frequency and duration of use		lays: <=365 days/yea	ar.
F	Wide dispe		
Environmental factors not influ	•	-	/ater: >=18000 m3/day (default).
management:		water dilution factor: ne water dilution factor	
Other given operational conditional		ategory: 15/0: Others	
environmental exposure:	-	ory: 55: Others.	
	-	-	cess: 0.5 (ESVOC SpERC 8.17.v1).
			from process: 0.5 (ESVOC SpERC 8.17.v1).
			ocess: 0 (ESVOC SpERC 8.17.v1).
Conditions and measures rela			lant (STP): Yes (freshwater).
sewage treatment plant:	•		m/treatment plant: >=2000 m3/day (standard town).
			rom wastewater via domestic sewage treatment: 88.4%
	(EUSES).		
Conditions and measures rela	ted to external External tr	eatment and disposa	l of waste should comply with applicable local and/or nationa
	• • • •		
treatment of waste for disposa			
			of waste should comply with applicable local and/or nationa

Additional good practive advice. Obligations according to Article 37(4) of REACH do not apply:

Spills are cleaned immediately. All risk management measures utilised must also comply with all relevant local regulations.

3. Exposure estimation and reference to its source

Environment

Information for contributing scenario (2): ERC8a, ERC9a (ESVOC SpERC 8.17.v1)

Assessment method: EUSES.

EC	RCR	Notes
.000243 mg/L	0.0658	
.0212 mg/kg ww	0.0658	
.0000291 mg/L	0.0788	
.00254 mg/kg ww	0.0788	
.00945 mg/kg ww	0.00945	
.000415 mg/L	0	
/PNEC or Exposure estim	nate/DNEL); PEC=	Predicted environmental concentration.
Ũ		nicipal sewage treatment plant (STP). Estimated substance nt: 88.4% (EUSES).
use of cosmetics and	personal care pr	roducts
onal care products		
:): ERC8a, ERC8c (COLI	PA SpERC 8a.1.a.	v1)
cenario and correspondir	ng ERCs:	
ve processing aid (no incl	usion into or onto	article, indoor).
clusion into/onto article (in	door).	
netic products (e.g. hair ca	are, oral care, body	y care and deodorants) for end users.
dance.echa.europa.eu/docs/gu	idance_document/info	Guidance on information requirements and chemical safety assessment, rmation_requirements_r12_en.pdf). For further information on CEFIC (The p://www.cefic.org/Industry-support/Implementing-reach/Libraries/.
e		
This substar	nce is not classified	d for human health end-points therefore a human health risk
assessment	was not conducte	d.
)		
Concentratio	on of substance: U	p to 100%.
Physical sta	te: liquid.	
Vapour pres	sure: 0.00016 Pa a	at 25 °C
Amounts use	ed in the EU: 305 t	onnes/year.
Fraction of E	EU tonnage used ir	n region: 0.1.
Fraction of r	egional tonnage us	sed locally: 0.00075.
Emission da		
Enlocion da	ys: <=365 days/ye	ar.
Wide dispers		ar.
	to evaluate whether he v sive use. Discharge to ei n wastewater via domesti use of cosmetics and onal care products conal care products cenario and correspondir ve processing aid (no incl clusion into/onto article (in netic products (e.g. hair ca coriptors see the European Che idance.echa.europa.eu/docs/gu Environmental Release Catego This substar assessment Concentratic Physical sta Vapour pres Amounts us Fraction of E Fraction of r	.000243 mg/L 0.0658 .0212 mg/kg ww 0.0658 .0000291 mg/L 0.0788 .00254 mg/kg ww 0.00945 .000415 mg/L 0 /PNEC or Exposure estimate/DNEL); PEC= to evaluate whether he works inside the boars in the evaluate in the e

Other given operational conditions affecting environmental exposure:

management:

Use category: 55: Others. Release fraction to air from process: 0 (COLIPA SpERC 8a.1.a.v1). Release fraction to wastewater from process: 1 (COLIPA SpERC 8a.1.a.v1).

Local freshwater dilution factor: 10 (default).

Industry category: 15/0: Others.

Local marine water dilution factor: 100 (default).

Release fraction to soil from process: 0 (COLIPA SpERC 8a.1.a.v1).

Conditions and measures related to municipal sewage treatment plant:		Municipal Sewage Treatment Plant (STP): Yes (freshwater). Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town). Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES).			
Conditions and measures related to external treatment of waste for disposal:		External treatment and disposal of waste should comply with applicable local and/or national regulations.			
Conditions and measures related to external		External recovery and recycling of waste should comply with applicable local and/or national			
recovery of waste:		regulations.			
Additional good practive adv according to Article 37(4) of apply:	REACH do not All r	s are cleaned immed isk management mea	•	sed must also comply with all relevant local regulations.	
3. Exposure estimation and	reference to its source				
Environment					
Information for contributing s	cenario (2): ERC8a, ERC8	c (COLIPA SpERC 8a	a.1.a.v1)		
Assessment method: EUSES	3.				
Exposure estimation:					
Compartment	PEC	RCR		Notes	
Freshwater	0.000512 mg/L	0.138			
Freshwater sediment	0.0447 mg/kg ww	0.138			
Marine water	0.000337 mg/L	0.909			
Marine water sediment	0.0294 mg/kg ww	0.909			
Soil	0.0274 mg/kg ww	0.0274	1		
STP	0.00312 mg/L	0.0003	312		
RCR=Risk characterization r		ure estimate/DNEL): F	PEC=Predi	icted environmental concentration.	
4. Guidance to the Downstre					
	ide dispersive use. Discha moval from wastewater via	-	•	l sewage treatment plant (STP). Estimated substance 2.4% (EUSES).	
Exposure scenario (15): Di	stribution and storage				
1. Exposure scenario (15)	0				
Short title of the exposure so	enario:				
Distribution and storage					
List of use descriptors:					
Sector of use category (SU)					
Process category (PROC): I			ROC8a, PR	OC8b, PROC9, PROC15	
Environmental release cates					
PROC2 Chemical productio containment conditions. PROC3 Manufacture or form equivalent containment cond	n or refinery in closed proce n or refinery in closed conti nulation in the chemical ind dition.	ess without likelihood nuous process with o ustry in closed batch	occasional	re or processes with equivalent containment conditions. controlled exposure or processes with equivalent with occasional controlled exposure or processes with	
PROC4 Chemical productio PROC5 Mixing or blending i			f solid or lid	quid materials in the context of manufacturing or	
		nd discharging) at nor	n-dedicated	d facilities. Transfer includes loading, filling, dumping,	
PROC9 Transfer of substan both capture vapour and ae	ce or mixture into small cor rosol emissions and minimi	ntainers (dedicated fil se spillage.	ling line, in	ilities. Transfer includes loading, filling, dumping, bagging cluding weighing). Filling lines specifically designed to	
PROC15 Use as laboratory Name of contributing enviror ERC2 Formulation into mixtor	mental scenario and corre		oratories (less than or equal to 1 I or 1 kg present at workplace).	
its distribution.	-			including drums and small packs) of substance, including	
Chapter R.12: Use descriptor syste	m (http://guidance.echa.europa.e	eu/docs/guidance_docume	ent/informatio	nce on information requirements and chemical safety assessment, n_requirements_r12_en.pdf). For further information on CEFIC (The w.cefic.org/Industry-support/Implementing-reach/Libraries/.	

 Conditions of use affecting ex Control of workers exposure 					
General:		bstance is not classified for human health end-points therefore a human health risk			
		nent was not conducted.			
2.2 Control of environmental exp	osure	-			
Product characteristics:		tration of substance: Up to 100%.			
		ıl state: liquid.			
	Vapour	pressure: 0.00016 Pa at 25 °C			
Amounts used:	Maximu	ım daily use at a site: 666667 kg/day.			
	Maximu	im annual use at a site: 200000 tonnes/year.			
	Fraction	n of EU tonnage used in region: 1.			
	Fraction	onal tonnage used locally: 1.			
Frequency and duration of use:	Emissio	on days: 300 days/year.			
	Continue	ous use/release.			
Environmental factors not influe	nced by risk Flow rat	Flow rate of receiving surface water: >=18000 m3/day (default).			
management:	Local fre	Local freshwater dilution factor: 10 (default).			
	Local m	arine water dilution factor: 100 (default).			
Other given operational condition	ons affecting Industry	v category: 15/0: Others.			
environmental exposure:		Use category: 55: Others.			
		e fraction to air from process: 0.0001 (ESVOC SpERC 1.1b.v1).			
		e fraction to wastewater from process: 0.000001 (ESVOC SpERC 1.1b.v1).			
		e fraction to soil from process: 0.00001 (ESVOC SpERC 1.1b.v1).			
Conditions and measures relate		al Sewage Treatment Plant (STP): Yes (freshwater).			
sewage treatment plant:	Size of r	Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town). Estimated substance removal from wastewater via domestic sewage treatment: 88.4%			
	Estimate				
	(EUSES				
Conditions and measures relate		I treatment and disposal of waste should comply with applicable local and/or nation			
treatment of waste for disposal:		regulations.			
Conditions and measures related to external		External recovery and recycling of waste should comply with applicable local and/or nationa			
recovery of waste:		regulations.			
Additional good practive advice	-	re cleaned immediately.			
according to Article 37(4) of RE	ACH do not All risk r	management measures utilised must also comply with all relevant local regulations			
apply:					
Exposure estimation and reference	rence to its source				
Environment					
Information for contributing scena	ario (2): ERC2 (ESVOC Sp	ERC 1.1b.v1)			
Assessment method: EUSES.					
Exposure estimation:					
Compartment	PEC	RCR Notes			
Freshwater	0.00362 mg/L	0.978			
Freshwater sediment	0.316 mg/kg ww	0.978			
Marine water	0.000367 mg/L	0.991			
Marine water sediment	0.032 mg/kg ww	0.991			
Soil	0.281 mg/kg ww	0.281			
STP	0.0344 mg/L	0.00344			
011	0.0044 mg/L	0.00344			
		estimate/DNEL); PEC=Predicted environmental concentration.			

Environment: Continuous use/release. Maximum daily use at a site: 666667 kg/day. Discharge to either on-site or municipal sewage treatment plant (STP). Estimated substance removal from wastewater via domestic sewage treatment: 88.4% (EUSES). The downstream user can check the compliance of his site by comparing site specific data with defaults used in the exposure assessment. The site specific quotient should be inferior or equal to the SpERC quotient. Further details on scaling and control technologies are provided in the SpERC factsheet (http://www.cefic.org/Industry-support/Implementing-reach/Libraries/). (MSpERC * (1 - Eer-SpERC * Frelease-SpERC)/DFSpERC)/DFSpERC >= (Msite * (1 - Eer-site) * Frelease-site)/DFsite - MSpERC = substance use rate in SpERC - Eer-SpERC = efficacy of risk management measure in SpERC - Frelease-SpERC = initial release fraction in SpERC

- DF-SpERC = dilution factor of STP (sewage treatment plant) effluent in river
- Msite = substance use rate at site
- Eer-site = efficacy of risk management measure at site
- DFsite = dilution factor of site STP (sewage treatment plant) effluent in river