SAFETY DATA SHEET

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

1.1. Product identifier

Name of the substance	LATHANOL LAL COARSE/MB
Identification number	939-512-2 (EC number)
Synonyms	Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt
Product code	0546EU
Issue date	26-July-2018
Version number	05
Revision date	09-August-2023
Supersedes date	29-December-2022

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

Identified uses	Industrial use Emulsifier
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Only Representative	STEPAN UK LIMITED OR
Address	Bridge St, Stalybridge Cheshire, SK15 1PH England
Telephone	+44(0)161 338 5511
Fax	+44(0)161 303 2991
E-mail	sds.contact@stepan.com
Contact person	See email address

Manufacturer	STEPAN COMPANY
Address	1101 Skokie Blvd. Northbrook, IL 60062 USA
Telephone	1-800-228-5635
CHEMTREC	1-800-424-9300
E-mail	sds.contact@stepan.com
Contact person	See email address

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, oral	Category 4	H302 - Harmful if swallowed.
Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt

Hazard pictograms

Signal word Danger

Hazard statements

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash thoroughly after handling.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTRE/doctor.

Storage Not available.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information None.

2.3. Other hazards This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Substance

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt	90 - 100	- 939-512-2	-	-	

Classification: Acute Tox. 4;H302;(ATE: 660 mg/kg), Eye Dam. 1;H318, Aquatic Chronic 3;H412

Composition comments See special hints in section 15.
The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO2). Dry chemicals. Water fog.

Large Fires: Extinguish with water fog.

Unsuitable extinguishing media Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

In the event of fire the following can be released:
Carbon oxides (COx)
Sulphur Oxides (SOx).
Hydrogen Chloride (HCl).

5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear appropriate personal protective equipment. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid generation and spreading of dust.

For emergency responders

Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination. Inform appropriate managerial or supervisory personnel of all environmental releases.

6.3. Methods and material for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Sweep up or vacuum up spillage and collect in suitable container for disposal. Following product recovery, flush area with water.

Small Spills: Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Observe good industrial hygiene practices. Provide adequate ventilation. Do not get this material in contact with eyes. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment.

Promptly remove any clothing that becomes contaminated. Remove dust, fly and finish residues through ventilation or vacuum cleaning. Do not breathe dust.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.
Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General Population

Product	Value	Assessment factor	Notes
Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt (CAS -)			
Long-term, Systemic, Dermal	4.688 mg/kg bw/day	200	Repeated dose toxicity
Long-term, Systemic, Inhalation	6.52 mg/m3	50	Repeated dose toxicity
Long-term, Systemic, Oral	3.75 mg/kg bw/day	200	Repeated dose toxicity

Workers

Product	Value	Assessment factor	Notes
Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt (CAS -)			
Long-term, Systemic, Dermal	9.375 mg/kg bw/day	100	Repeated dose toxicity
Long-term, Systemic, Inhalation	26.45 mg/m3	25	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Product	Value	Assessment factor	Notes
Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt (CAS -)			
Freshwater	0.004 mg/l	1000	
Intermittent releases	0.042 mg/l	100	
Marine water	0 mg/l	10000	
Sediment (freshwater)	0.253 mg/kg		
Sediment (marine water)	0.025 mg/kg		
Soil	0.048 mg/kg		
STP	1 mg/l	10	

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

- Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. PVC gloves are recommended.

- Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form Chunks

Colour White.

Odour Pungent.

Odour threshold Not available.

pH 5 - 7.5 @ 50 g/l (20°C)

Melting point/freezing point Not available.

Initial boiling point and boiling range Not applicable

Flash point Not applicable

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit – upper (%) Not available.

Vapour pressure 0 Pa

Vapour density Not available.

Relative density 1.314 @ 20°C

Solubility(ies)

Solubility (water) Partially Soluble

Partition coefficient (n-octanol/water) -0.31 @ 20°C

Auto-ignition temperature	306 °C (582.8 °F)
Decomposition temperature	163 - 175 °C (325.4 - 347 °F)
Viscosity	Not applicable
Explosive properties	Not explosive. Airborne dust may form explosive mixture with air.
Oxidising properties	Not oxidising.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	To avoid thermal decomposition, do not overheat. Contact with incompatible materials.
10.5. Incompatible materials	Avoid contact with acids and oxidising substances. Alkalis.
10.6. Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide. (COx), Sulphur Oxides (SOx)., Hydrogen chloride.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Eye contact	Causes serious eye damage.
Skin contact	No adverse effects due to skin contact are expected.
Ingestion	Harmful if swallowed.
Symptoms	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

11.1. Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg (OECD 402)
Oral		
LD50	Rat	660 - 1650 mg/kg (OECD 401)
Subchronic		
Oral		
NOAEL	Rat	750 mg/kg/day, 90 days (OECD 408)

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Mixture versus substance information	No information available.

SECTION 12: Ecological information

12.1. Toxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
Acetic acid, 2-sulfo-, mono-C12-14(even numbered)-alkyl esters, sodium salt			
Aquatic			
Algae	IC50	Green algae (Selenastrum capricornutum)	6.8 mg/l, 72 hours (OECD 201)
Crustacea	EC50	Daphnia magna	7.9 mg/l, 48 hours (OECD 202)
Fish	LC50	Danio rerio	4.2 mg/l, 96 hours (OECD 203)
Chronic			
Algae	EC10	Green algae (Selenastrum capricornutum)	1.5 mg/l, 72 hours (OECD 201)

12.2. Persistence and degradability Readily biodegradable.

Biodegradability

Percent Degradation (Aerobic Biodegradation)

> 60 % (EPA OPPTS 835.3120)
Test Duration: 28 days

12.3. Bioaccumulative potential The bioaccumulation potential is expected to be low.

Partition coefficient n-octanol/water (log Kow)

-0.31 @ 20°C

12.4. Mobility in soil

Adsorption

Soil/Sediment Sorption - Log Koc

2.8 @ 20°C (KOCWIN v2.0)

Mobility in general

Distribution

Octanol/water distribution coefficient log DOW

< 4.5

12.5. Results of PBT and vPvB assessment This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

General Not regulated as dangerous goods.

ADR

14.1. UN number Not available.

14.2. UN proper shipping name Not available.

14.3. Transport hazard class(es)

Class Not available.

Subsidiary risk -

Hazard No. (ADR) Not available.

Tunnel restriction code	Not available.
14.4. Packing group	Not available.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

RID

14.1. UN number	Not available.
14.2. UN proper shipping name	Not available.
14.3. Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
14.4. Packing group	Not available.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

IATA

14.1. UN number	Not available.
14.2. UN proper shipping name	Not available.
14.3. Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
14.4. Packing group	Not available.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

IMDG

14.1. UN number	Not available.
14.2. UN proper shipping name	Not available.
14.3. Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
14.4. Packing group	Not available.
14.5. Environmental hazards	
Marine pollutant	No.
EmS	Not available.
14.6. Special precautions for user	Not available.

Segregation group : None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.
General information	Not regulated as dangerous goods.

SECTION 15: Regulatory information

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

Retained direct EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

Alternative CAS (purpose of safety) of:
EC # 939-512-2 = CAS # 1847-58-1

Follow national regulation for work with chemical agents.

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) N° 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request or at the request of a detergent manufacturer.

15.2. Chemical safety assessment

Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

REACH: Registration, Evaluation and Authorization of Chemicals (REGULATION (EC) No 1907/2006)
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008
CAS: Chemical Abstract Service
EINECS: European Inventory of Existing Commercial Chemical Substances
PBT: Persistent, bioaccumulative, toxic
vPvB: very Persistent, very Bioaccumulative
BLV: Biological Limit Value
LD50: Lethal Dose 50%
EC50: Effective Concentration 50%
LC50: Lethal Concentration 50%
IC50: Inhibition Concentration 50%
ES: Exposure scenario
CSR: Chemical Safety Report
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
ADR: European agreement concerning the international carriage of dangerous goods by road
RID: Regulations concerning the international carriage of dangerous goods by rail
IMDG Code: International Maritime Dangerous Goods Code
IATA: International Air Transport Association

References

Not available.

Information on evaluation method leading to the classification of mixture

Not applicable.

Full text of any H-statements not written out in full under Sections 2 to 15

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Revision information

Product and Company Identification: Product and Company Identification
SECTION 2: Hazards identification: Response
Composition / Information on Ingredients: Disclosure Overrides
SECTION 3: Composition/information on ingredients: Composition comments
SECTION 7: Handling and storage: 7.2. Conditions for safe storage, including any incompatibilities
Physical & Chemical Properties: Multiple Properties
SECTION 10: Stability and reactivity: 10.6. Hazardous decomposition products
Ecological Information: Ecotox Property Data
SECTION 12: Ecological information: Partition coefficient n-octanol/water (log Kow)
SECTION 12: Ecological information: 12.4. Mobility in soil
REACH: Registration Substance

Training information	Follow training instructions when handling this material.
Disclaimer	STEPAN EUROPE / STEPAN UK LIMITED cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Annex to the extended Safety Data Sheet (eSDS)

Table of contents

1. ES 1: Formulation or re-packing Various products Formulation into mixture Washing and cleaning products

1.1. Title section

ES Name: Formulation into mixture Washing and cleaning products

Product Category: Polishes and wax blends (PC31) Biocidal products (PC8) Washing and cleaning products (PC35) Air care products (PC3)

Environment		
1:	Formulation into mixture (large scale)	ERC2
2:	Formulation into mixture (medium scale)	ERC2
3:	Formulation into mixture (small scale)	ERC2
4:	Formulation into mixture Low Viscosity (large scale)	ERC2
5:	Formulation into mixture Low Viscosity (medium scale)	ERC2
6:	Formulation into mixture Low Viscosity (small scale)	ERC2
7:	Formulation into mixture High viscosity (large scale)	ERC2
8:	Formulation into mixture High viscosity (medium scale)	ERC2
9:	Formulation into mixture High viscosity (small scale)	ERC2

Worker		
10:	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
11:	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions	PROC2
12:	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
13:	Chemical production where opportunity for exposure arises	PROC4
14:	Mixing or blending in batch processes	PROC5
15:	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
16:	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
17:	Tabletting, compression, extrusion or pelletisation	PROC14
18:	Use as laboratory reagent	PROC15
19:	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
20:	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions	PROC2
21:	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
22:	Chemical production where opportunity for exposure arises	PROC4
23:	Mixing or blending in batch processes	PROC5
24:	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
25:	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
26:	Use as laboratory reagent	PROC15

1.2. Conditions of use affecting exposure

1.2.1. Control of environmental exposure: Formulation into mixture (large scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 4.5 tonnes/day

Annual amount per site <= 50 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Residues of granular detergents recovered in cleaning steps at packaging or transfer lines are recycled into the slurries. Process optimized for highly efficient use of raw materials. Granular detergents are obtained by drying liquid slurries.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.2. Control of environmental exposure: Formulation into mixture (medium scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.45 tonnes/day

Annual amount per site <= 50 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Residues of granular detergents recovered in cleaning steps at packaging or transfer lines are recycled into the slurries. Granular detergents are obtained by drying liquid slurries. Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.3. Control of environmental exposure: Formulation into mixture (small scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.225 tonnes/day

Annual amount per site <= 56.25 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Residues of granular detergents recovered in cleaning steps at packaging or transfer lines are recycled into the slurries. Process optimized for efficient use of raw materials. Granular detergents are obtained by drying liquid slurries.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.4. Control of environmental exposure: Formulation into mixture Low Viscosity (large scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 4.5 tonnes/day

Annual amount per site <= 50 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Equipment cleaning with minimized emissions to wastewater Product applied in aqueous process solution with negligible volatilization. Process optimized for highly efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.5. Control of environmental exposure: Formulation into mixture Low Viscosity (medium scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.45 tonnes/day

Annual amount per site <= 112.5 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Product applied in aqueous process solution with negligible volatilization. Equipment cleaning with reduced emissions to wastewater Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.6. Control of environmental exposure: Formulation into mixture Low Viscosity (small scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.225 tonnes/day

Annual amount per site <= 56.25 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials. Equipment cleaned with water, washing disposed of with wastewater. Worst case assumption for solvent-borne products

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.7. Control of environmental exposure: Formulation into mixture High viscosity (large scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.45 tonnes/day

Annual amount per site <= 50 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Equipment cleaning with minimized emissions to wastewater Process optimized for highly efficient use of raw materials. Product applied in aqueous process solution with negligible volatilization.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.8. Control of environmental exposure: Formulation into mixture High viscosity (medium scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.225 tonnes/day

Annual amount per site <= 56.25 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials. Product applied in aqueous process solution with negligible volatilization. Equipment cleaning with reduced emissions to wastewater

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.9. Control of environmental exposure: Formulation into mixture High viscosity (small scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.113 tonnes/day

Annual amount per site <= 28.25 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials. Equipment cleaned with water, washing disposed of with wastewater. Worst case assumption for solvent-borne products

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Indoor use

Trained staff, spill protection including waste reuse

1.2.10. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.11. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.12. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.13. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.14. Control of worker exposure: Mixing or blending in batch processes (PROC5)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.15. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.16. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.17. Control of worker exposure: Tabletting, compression, extrusion or pelletisation (PROC14)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.18. Control of worker exposure: Use as laboratory reagent (PROC15)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.19. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.20. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.21. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.22. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.23. Control of worker exposure: Mixing or blending in batch processes (PROC5)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.24. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.25. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.2.26. Control of worker exposure: Use as laboratory reagent (PROC15)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

1.3. Exposure estimation and reference to its source

1.3.1. Environmental release and exposure: Formulation into mixture (large scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.a.v2
Air	0 kg/day	AISE SPERC 2.1.a.v2
Soil	0 kg/day	AISE SPERC 2.1.a.v2

protection target	Exposure estimate	Method	RCR
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 7.82E-5 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67

1.3.2. Environmental release and exposure: Formulation into mixture (medium scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.b.v2
Air	0 kg/day	AISE SPERC 2.1.b.v2
Soil	0 kg/day	AISE SPERC 2.1.b.v2

protection target	Exposure estimate	Method	RCR
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Man via environment - Oral	= 8E-5 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Air	= 1.01E-10 mg/m³	EUSES v2.1	

1.3.3. Environmental release and exposure: Formulation into mixture (small scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.c.v2
Air	0 kg/day	AISE SPERC 2.1.c.v2
Soil	0 kg/day	AISE SPERC 2.1.c.v2

protection target	Exposure estimate	Method	RCR
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71

1.3.4. Environmental release and exposure: Formulation into mixture Low Viscosity (large scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.g.v2
Air	0 kg/day	AISE SPERC 2.1.g.v2
Soil	0 kg/day	AISE SPERC 2.1.g.v2

protection target	Exposure estimate	Method	RCR
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67

Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 7.82E-5 mg/kg bw/day	EUSES v2.1	<0.01
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67

1.3.5. Environmental release and exposure: Formulation into mixture Low Viscosity (medium scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.h.v2
Air	0 kg/day	AISE SPERC 2.1.h.v2
Soil	0 kg/day	AISE SPERC 2.1.h.v2

protection target	Exposure estimate	Method	RCR
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67

1.3.6. Environmental release and exposure: Formulation into mixture Low Viscosity (small scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.i.v2
Air	0 kg/day	AISE SPERC 2.1.i.v2
Soil	0 kg/day	AISE SPERC 2.1.i.v2

protection target	Exposure estimate	Method	RCR
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03

1.3.7. Environmental release and exposure: Formulation into mixture High viscosity (large scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.j.v2
Air	0 kg/day	AISE SPERC 2.1.j.v2
Soil	0 kg/day	AISE SPERC 2.1.j.v2

protection target	Exposure estimate	Method	RCR
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Man via environment - Oral	= 8E-5 mg/kg bw/day	EUSES v2.1	<0.01

1.3.8. Environmental release and exposure: Formulation into mixture High viscosity (medium scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	AISE SPERC 2.1.k.v2
Air	0 kg/day	AISE SPERC 2.1.k.v2
Soil	0 kg/day	AISE SPERC 2.1.k.v2

protection target	Exposure estimate	Method	RCR
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71

1.3.9. Environmental release and exposure: Formulation into mixture High viscosity (small scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.452 kg/day	AISE SPERC 2.1.l.v2
Air	0 kg/day	AISE SPERC 2.1.l.v2
Soil	0 kg/day	AISE SPERC 2.1.l.v2

protection target	Exposure estimate	Method	RCR
Freshwater	= 2.82E-3 mg/L	EUSES v2.1	= 0.67
Soil	= 3.42E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Marine sediment	= 1.7E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Marine water	= 2.82E-4 mg/L	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 1.11E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 1.7E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.73E-2 mg/L	EUSES v2.1	= 0.03
Air	= 1.01E-10 mg/m³	EUSES v2.1	

1.3.10. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 9.92E-4 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 3.4E-3 mg/kg bw/day	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, long-term	= 9.92E-4 mg/cm2	ECETOC TRA worker v3	

1.3.11. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	

dermal, systemic, long-term	= 1.37E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.01
inhalative, systemic, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	<0.01

1.3.12. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, long-term	= 2.01E-2 mg/cm2	ECETOC TRA worker v3	
dermal, local, short-term	= 2.01E-2 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.9E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01

1.3.13. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 6.86E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.07
inhalative, systemic, short-term	= 2 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	= 0.02
dermal, local, short-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 2 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	

1.3.14. Worker exposure: Mixing or blending in batch processes (PROC5)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 1.37 mg/kg bw/day	ECETOC TRA worker v3	= 0.15
inhalative, systemic, short-term	= 2 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 2 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	= 0.02
dermal, local, long-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	

1.3.15. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	

inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 1.37 mg/kg bw/day	ECETOC TRA worker v3	= 0.15
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01

1.3.16. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, long-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
dermal, local, short-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.86E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.07

1.3.17. Worker exposure: Tabletting, compression, extrusion or pelletisation (PROC14)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 3.43E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.04
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 5E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 5E-2 mg/cm2	ECETOC TRA worker v3	

1.3.18. Worker exposure: Use as laboratory reagent (PROC15)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 9.92E-3 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 3.4E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, long-term	= 9.92E-3 mg/cm2	ECETOC TRA worker v3	

1.3.19. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 1.98E-4 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 2E-3 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 8E-3 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1.98E-4 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.8E-4 mg/kg bw/day	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 8E-3 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 2E-3 mg/m³	ECETOC TRA worker v3	<0.01

1.3.20. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, long-term	= 4E-3 mg/cm2	ECETOC TRA worker v3	
dermal, local, short-term	= 4E-3 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01

1.3.21. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 1.38E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 4.03E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 4.03E-3 mg/cm2	ECETOC TRA worker v3	

1.3.22. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 1.37E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.01
inhalative, systemic, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 5 mg/m³	ECETOC TRA worker v3	

inhalative, local, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5 mg/m³	ECETOC TRA worker v3	= 0.19
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	

1.3.23. Worker exposure: Mixing or blending in batch processes (PROC5)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 4E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 5 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 4E-2 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.03
inhalative, systemic, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5 mg/m³	ECETOC TRA worker v3	= 0.19

1.3.24. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 5 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5 mg/m³	ECETOC TRA worker v3	= 0.19
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.03

1.3.25. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 1.37E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.01
inhalative, systemic, short-term	= 1.6E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 4 mg/m³	ECETOC TRA worker v3	= 0.15
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 4 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 1.6E1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	

1.3.26. Worker exposure: Use as laboratory reagent (PROC15)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 1.98E-3 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.8E-3 mg/kg bw/day	ECETOC TRA worker v3	<0.01

inhalative, systemic, short-term	= 4 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 4 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1 mg/m³	ECETOC TRA worker v3	= 0.04
dermal, local, long-term	= 1.98E-3 mg/cm2	ECETOC TRA worker v3	

2. ES 2: Formulation or re-packing Cosmetics, personal care products Formulation into mixture Cosmetics, personal care products

2.1. Title section

ES Name: Formulation into mixture Cosmetics, personal care products

Product Category: Cosmetics, personal care products (PC39)

Environment		
1:	Formulation into mixture Phrase Not Found	ERC2
2:	Formulation into mixture Low Viscosity Liquids (medium scale)	ERC2
3:	Formulation into mixture Low Viscosity Liquids (small scale)	ERC2
4:	Formulation into mixture High viscosity body care products (medium scale)	ERC2
5:	Formulation into mixture High viscosity body care products (small scale)	ERC2
6:	Formulation into mixture Non-liquid creams (large scale)	ERC2
7:	Formulation into mixture Non-liquid creams (medium scale)	ERC2
8:	Formulation into mixture Non-liquid creams (small scale)	ERC2
Worker		
9:	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
10:	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions	PROC2
11:	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
12:	Chemical production where opportunity for exposure arises	PROC4
13:	Mixing or blending in batch processes	PROC5
14:	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
15:	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
16:	Tabletting, compression, extrusion or pelletisation	PROC14
17:	Use as laboratory reagent	PROC15
18:	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
19:	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions	PROC2
20:	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
21:	Chemical production where opportunity for exposure arises	PROC4
22:	Mixing or blending in batch processes	PROC5
23:	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
24:	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
25:	Use as laboratory reagent	PROC15

2.2. Conditions of use affecting exposure

2.2.1. Control of environmental exposure: Formulation into mixture Phrase Not Found (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.45 tonnes/day

Annual amount per site <= 112.5 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.2. Control of environmental exposure: Formulation into mixture Low Viscosity Liquids (medium scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.225 tonnes/day

Annual amount per site <= 56.25 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.3. Control of environmental exposure: Formulation into mixture Low Viscosity Liquids (small scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.1125 tonnes/day

Annual amount per site <= 28.125 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.4. Control of environmental exposure: Formulation into mixture High viscosity body care products (medium scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.045 tonnes/day

Annual amount per site <= 11.25 tonnes/year

Emission days: 250 days per year

Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.5. Control of environmental exposure: Formulation into mixture High viscosity body care products (small scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.0225 tonnes/day

Annual amount per site <= 0.625 tonnes/year

Emission days: 27.77778 days per year
Intermittent release

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %
STP effluent: 2000 m3/day

Other conditions affecting environmental exposure

Receiving surface water flow >= 18000 m3/day

2.2.6. Control of environmental exposure: Formulation into mixture Non-liquid creams (large scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.045 tonnes/day
Annual amount per site <= 11.25 tonnes/year
Emission days: 250 days per year
Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %
STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.7. Control of environmental exposure: Formulation into mixture Non-liquid creams (medium scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.0225 tonnes/day
Annual amount per site <= 5.625 tonnes/year
Emission days: 250 days per year
Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %
STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.8. Control of environmental exposure: Formulation into mixture Non-liquid creams (small scale) (ERC2)

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site <= 0.01125 tonnes/day
Annual amount per site <= 2.1825 tonnes/year
Emission days: 250 days per year
Continuous release

Technical and organisational conditions and measures

Control measures to prevent releases : Process optimized for efficient use of raw materials.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %
STP effluent: 2000 m3/day

Conditions and measures related to treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure

Indoor use

2.2.9. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.10. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.11. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.12. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.13. Control of worker exposure: Mixing or blending in batch processes (PROC5)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.14. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.15. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.16. Control of worker exposure: Tabletting, compression, extrusion or pelletisation (PROC14)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.17. Control of worker exposure: Use as laboratory reagent (PROC15)

Product (article) characteristics

Solid, low dustiness

0 Pa

Covers concentrations up to 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.18. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.19. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.20. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.21. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.22. Control of worker exposure: Mixing or blending in batch processes (PROC5)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.23. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.24. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Use suitable eye protection.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.2.25. Control of worker exposure: Use as laboratory reagent (PROC15)

Product (article) characteristics

0 Pa

Covers concentrations up to 5 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

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

Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor use

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

2.3. Exposure estimation and reference to its source

2.3.1. Environmental release and exposure: Formulation into mixture Phrase Not Found (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.a.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.a.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.a.v2

protection target	Exposure estimate	Method	RCR
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Air	= 1.01E-10 mg/m³	EUSES v2.1	

2.3.2. Environmental release and exposure: Formulation into mixture Low Viscosity Liquids (medium scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.b.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.b.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.b.v2

protection target	Exposure estimate	Method	RCR
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01

Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67

2.3.3. Environmental release and exposure: Formulation into mixture Low Viscosity Liquids (small scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.c.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.c.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.c.v2

protection target	Exposure estimate	Method	RCR
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03

2.3.4. Environmental release and exposure: Formulation into mixture High viscosity body care products (medium scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.f.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.f.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.f.v2

protection target	Exposure estimate	Method	RCR
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67

2.3.5. Environmental release and exposure: Formulation into mixture High viscosity body care products (small scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Environmental Release Category (ERC)
Air	0.5625 kg/day	Environmental Release Category (ERC)
Soil	0 kg/day	Environmental Release Category (ERC)

protection target	Exposure estimate	Method	RCR
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.42E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Air	= 1.19E-5 mg/m³	EUSES v2.1	
Man via environment - Inhalation	= 1.19E-5 mg/m³	EUSES v2.1	<0.01
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Man via environment - Oral	= 7.9E-5 mg/kg bw/day	EUSES v2.1	<0.01
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67

2.3.6. Environmental release and exposure: Formulation into mixture Non-liquid creams (large scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.h.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.h.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.h.v2

protection target	Exposure estimate	Method	RCR
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01

2.3.7. Environmental release and exposure: Formulation into mixture Non-liquid creams (medium scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.i.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.i.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.i.v2

protection target	Exposure estimate	Method	RCR
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 1.1E-4 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67

2.3.8. Environmental release and exposure: Formulation into mixture Non-liquid creams (small scale) (ERC2)

Release rate	Release rate	Release estimation method
Water	0.45 kg/day	Cosmetics Europe SPERC 2.1.j.v2
Air	0 kg/day	Cosmetics Europe SPERC 2.1.j.v2
Soil	0 kg/day	Cosmetics Europe SPERC 2.1.j.v2

protection target	Exposure estimate	Method	RCR
Soil	= 3.41E-2 mg/kg dry weight	EUSES v2.1	= 0.71
Freshwater	= 2.81E-3 mg/L	EUSES v2.1	= 0.67
Freshwater sediment	= 1.69E-1 mg/kg dry weight	EUSES v2.1	= 0.67
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Marine water	= 2.81E-4 mg/L	EUSES v2.1	= 0.67
Man via environment - Oral	= 9.74E-5 mg/kg bw/day	EUSES v2.1	<0.01
Marine sediment	= 1.69E-2 mg/kg dry weight	EUSES v2.1	= 0.67
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Sewage treatment plant	= 2.72E-2 mg/L	EUSES v2.1	= 0.03

2.3.9. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 3.4E-3 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 9.92E-4 mg/cm2	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	

inhalative, local, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3
dermal, local, long-term	= 9.92E-4 mg/cm2	ECETOC TRA worker v3
inhalative, local, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3

2.3.10. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 1.37E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.01
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-2 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-2 mg/m³	ECETOC TRA worker v3	

2.3.11. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2.01E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.9E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 2.01E-2 mg/cm2	ECETOC TRA worker v3	

2.3.12. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, local, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 2 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	= 0.02
inhalative, systemic, short-term	= 2 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.86E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.07
dermal, local, short-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	

2.3.13. Worker exposure: Mixing or blending in batch processes (PROC5)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 1.37 mg/kg bw/day	ECETOC TRA worker v3	= 0.15
dermal, local, short-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	

inhalative, systemic, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	= 0.02
inhalative, systemic, short-term	= 2 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 5E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 2 mg/m³	ECETOC TRA worker v3	

2.3.14. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 1.37 mg/kg bw/day	ECETOC TRA worker v3	= 0.15
dermal, local, short-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	

2.3.15. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 6.86E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.07
dermal, local, short-term	= 1E-1 mg/cm2	ECETOC TRA worker v3	

2.3.16. Worker exposure: Tabletting, compression, extrusion or pelletisation (PROC14)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 5E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 3.43E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.04
dermal, local, short-term	= 5E-2 mg/cm2	ECETOC TRA worker v3	

2.3.17. Worker exposure: Use as laboratory reagent (PROC15)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 3.4E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 9.92E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 9.92E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4E-1 mg/m³	ECETOC TRA worker v3	

2.3.18. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 6.8E-4 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 1.98E-4 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 2E-3 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1.98E-4 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 8E-3 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 2E-3 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 8E-3 mg/m³	ECETOC TRA worker v3	

2.3.19. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 4E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 4E-3 mg/cm2	ECETOC TRA worker v3	

2.3.20. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, local, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 4.03E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 2E-1 mg/m³	ECETOC TRA worker v3	<0.01

inhalative, systemic, short-term	= 8E-1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 1.38E-2 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 4.03E-3 mg/cm2	ECETOC TRA worker v3	

2.3.21. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 1.37E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.01
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5 mg/m³	ECETOC TRA worker v3	= 0.19
inhalative, systemic, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 5 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	

2.3.22. Worker exposure: Mixing or blending in batch processes (PROC5)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 2.74E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.03
dermal, local, short-term	= 4E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 5 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 4E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 5 mg/m³	ECETOC TRA worker v3	= 0.19
inhalative, systemic, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	

2.3.23. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 5 mg/m³	ECETOC TRA worker v3	= 0.19
inhalative, systemic, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 5 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 2E1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.03
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	

2.3.24. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, local, long-term	= 4 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	

inhalative, local, short-term	= 1.6E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 4 mg/m³	ECETOC TRA worker v3	= 0.15
inhalative, systemic, short-term	= 1.6E1 mg/m³	ECETOC TRA worker v3	
dermal, systemic, long-term	= 1.37E-1 mg/kg bw/day	ECETOC TRA worker v3	= 0.01
dermal, local, short-term	= 2E-2 mg/cm2	ECETOC TRA worker v3	

2.3.25. Worker exposure: Use as laboratory reagent (PROC15)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 6.8E-3 mg/kg bw/day	ECETOC TRA worker v3	<0.01
dermal, local, short-term	= 1.98E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1 mg/m³	ECETOC TRA worker v3	= 0.04
inhalative, systemic, short-term	= 4 mg/m³	ECETOC TRA worker v3	
inhalative, local, long-term	= 1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 1.98E-3 mg/cm2	ECETOC TRA worker v3	
inhalative, local, short-term	= 4 mg/m³	ECETOC TRA worker v3	

3. ES 3: Widespread use by professional workers Washing and cleaning products Professional use of general surface cleaning products

3.1. Title section

ES Name: Professional use of general surface cleaning products

Product Category: Washing and cleaning products (PC35)

Environment		
1:	Professional use of general surface cleaning products	ERC8a
Worker		
2:	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities	PROC8a
3:	Roller application or brushing Diluted product	PROC10
4:	Roller application or brushing Non-diluted product (non-aqueous)	PROC10
5:	Non-industrial spraying	PROC11

3.2. Conditions of use affecting exposure

3.2.1. Control of environmental exposure: Professional use of general surface cleaning products (ERC8a)

Technical and organisational conditions and measures

Control measures to prevent releases : Product applied in aqueous process solution with negligible volatilization.

Conditions and measures related to sewage treatment plant

Municipal sewage treatment plant is assumed. Waste - minimum efficiency of >= 87.903 %

Other conditions affecting environmental exposure

Indoor or outdoor use

Spent process fluid discharged to wastewater for subsequent treatment.

3.2.2. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Product (article) characteristics

0 Pa

Covers concentrations up to 2 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 1 h/day

Other conditions affecting workers exposure

Indoor use

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

3.2.3. Control of worker exposure: Roller application or brushing Diluted product (PROC10)

Product (article) characteristics

0 Pa

Covers concentrations up to 1 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 8 h/day

Other conditions affecting workers exposure

Indoor use

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

3.2.4. Control of worker exposure: Roller application or brushing Non-diluted product (non-aqueous) (PROC10)

Product (article) characteristics

0 Pa

Covers concentrations up to 2 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 4 h/day

Other conditions affecting workers exposure

Indoor use

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

3.2.5. Control of worker exposure: Non-industrial spraying (PROC11)

Product (article) characteristics

0 Pa

Covers concentrations up to 2 %

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers use up to <= 1 h/day

Other conditions affecting workers exposure

Indoor use

Assumes process temperature up to 40°C

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

3.3. Exposure estimation and reference to its source

3.3.1. Environmental release and exposure: Professional use of general surface cleaning products (ERC8a)

Release rate	Release rate	Release estimation method
Water	0.00062 kg/day	AISE SPERC 8a.1.a.v2
Air	0 kg/day	AISE SPERC 8a.1.a.v2
Soil	0 kg/day	AISE SPERC 8a.1.a.v2

protection target	Exposure estimate	Method	RCR
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Freshwater	= 9.6E-5 mg/L	EUSES v2.1	= 0.02
Soil	= 1.43E-4 mg/kg dry weight	EUSES v2.1	<0.01
Marine water	= 8.98E-6 mg/L	EUSES v2.1	= 0.02
Marine sediment	= 5.4E-4 mg/kg dry weight	EUSES v2.1	= 0.02
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Man via environment - Oral	= 3.46E-6 mg/kg bw/day	EUSES v2.1	<0.01
Freshwater sediment	= 5.78E-3 mg/kg dry weight	EUSES v2.1	= 0.02
Sewage treatment plant	= 3.72E-5 mg/L	EUSES v2.1	<0.01

3.3.2. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, local, short-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74 mg/kg bw/day	ECETOC TRA worker v3	= 0.29
inhalative, local, short-term	= 4E1 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 2 mg/m³	ECETOC TRA worker v3	= 0.08
inhalative, systemic, short-term	= 4E1 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 2 mg/m³	ECETOC TRA worker v3	

3.3.3. Worker exposure: Roller application or brushing Diluted product (PROC10)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, local, short-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	
dermal, local, short-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 2.74 mg/kg bw/day	ECETOC TRA worker v3	= 0.29
dermal, local, long-term	= 2E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	<0.01

inhalative, systemic, short-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	

3.3.4. Worker exposure: Roller application or brushing Non-diluted product (non-aqueous) (PROC10)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, local, short-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	
inhalative, systemic, long-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	<0.01
inhalative, systemic, short-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	
dermal, local, long-term	= 4E-1 mg/cm2	ECETOC TRA worker v3	
inhalative, local, long-term	= 1.9E-6 mg/m³	ECETOC TRA worker v3	
dermal, local, short-term	= 4E-1 mg/cm2	ECETOC TRA worker v3	
dermal, systemic, long-term	= 5.49 mg/kg bw/day	ECETOC TRA worker v3	= 0.59

3.3.5. Worker exposure: Non-industrial spraying (PROC11)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 2.65 mg/kg bw/day	RISKOFDERM v2.1	= 0.28
inhalative, systemic, long-term	= 6.9E-2 mg/m³	ART v1.5	<0.01
inhalative, local, long-term	= 6.9E-2 mg/m³	ART v1.5	
dermal, local, long-term	= 1 mg/cm2	ECETOC TRA worker v3	
inhalative, systemic, short-term	= 1.6E2 mg/m³	ECETOC TRA worker v3	
inhalative, local, short-term	= 1.6E2 mg/m³	ECETOC TRA worker v3	
dermal, local, short-term	= 1 mg/cm2	ECETOC TRA worker v3	

4. ES 4: Consumer use Various products Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

4.1. Title section

ES Name: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Product Category: Air care products (PC3) Washing and cleaning products (PC35)

Environment		
1:	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)	ERC8a
Consumer		
2:	Washing and cleaning products Hand dishwasing (liquid regular, liquid concentrate) for consumer use	PC35
3:	Washing and cleaning products Wipes (bathroom, kitchen, floor) for consumer use	PC35
4:	Air care products Air fresheners non-aerosol (timed-release aerosols, perfume in/on solid substarte (gel), candles, diffusers (heated)) for consumer use	PC3

4.2. Conditions of use affecting exposure

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

Other conditions affecting environmental exposure

Indoor or outdoor use

Spent process fluid discharged to wastewater for subsequent treatment.

Municipal sewage treatment plant is assumed. Water - minimum efficiency of >= 87.903 %

Product applied in aqueous process solution with negligible volatilization.

4.2.2. Control of consumer exposure: Washing and cleaning products Hand dishwasing (liquid regular, liquid concentrate) for consumer use (PC35)

Product (article) characteristics

Covers concentrations up to 2 %

Amount used (or contained in articles), frequency and duration of use/exposure

For each use event, covers use amounts up to <= 7.14286 g/event

Frequency: Covers use up to = 1.2 events per day

For each use event, avoid using a product amount greater than 0.031 g/event

Other conditions affecting consumers exposure

Release area <= 0.15 m2.

Covers skin contact area up to <= 2200 cm²

Ventilation rate >= 2.5 ach (air changes per hour)

Assumes product amount in contact to skin

4.2.3. Control of consumer exposure: Washing and cleaning products Wipes (bathroom, kitchen, floor) for consumer use (PC35)

Product (article) characteristics

Covers concentrations up to 2 %

No spraying

Oral exposure is considered to be not relevant.

Amount used (or contained in articles), frequency and duration of use/exposure

For each use event, covers use amounts up to <= 250 g/event

Duration: Exposure duration = 0.33 h/event Frequency: Covers use up to = 1 events per day

Other conditions affecting consumers exposure

Assumes that potential dermal contact is limited to hands.

4.2.4. Control of consumer exposure: Air care products Air fresheners non-aerosol (timed-release aerosols, perfume in/on solid substarte (gel), candles, diffusers (heated)) for consumer use (PC3)

Product (article) characteristics

Covers concentrations up to 2 %

No spraying

Oral exposure is considered to be not relevant.

Amount used (or contained in articles), frequency and duration of use/exposure

For each use event, covers use amounts up to <= 50 g/event

Duration: Exposure duration = 8 h/event Frequency: Covers use up to = 1 events per day

Other conditions affecting consumers exposure

Assumes that potential dermal contact is limited to fingertips.

4.3. Exposure estimation and reference to its source

4.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release rate	Release rate	Release estimation method
Water	0.00152 kg/day	AISE SPERC 8a.1.a.v2
Air	0 kg/day	AISE SPERC 8a.1.a.v2
Soil	0 kg/day	AISE SPERC 8a.1.a.v2

protection target	Exposure estimate	Method	RCR
Freshwater sediment	= 6.11E-3 mg/kg dry weight	EUSES v2.1	= 0.02
Soil	= 2.11E-4 mg/kg dry weight	EUSES v2.1	<0.01
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Freshwater	= 1.01E-4 mg/L	EUSES v2.1	= 0.02
Man via environment - Oral	= 3.73E-6 mg/kg bw/day	EUSES v2.1	<0.01
Sewage treatment plant	= 9.18E-5 mg/L	EUSES v2.1	<0.01
Marine water	= 9.52E-6 mg/L	EUSES v2.1	= 0.02
Marine sediment	= 5.73E-4 mg/kg dry weight	EUSES v2.1	= 0.02

4.3.2. Consumer exposure: Washing and cleaning products Hand dishwasing (liquid regular, liquid concentrate) for consumer use (PC35)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 1.1E-14 mg/m³	Consexpo v4.1	<0.01
dermal, systemic, long-term	= 1.2E-2 mg/kg bw/day	Consexpo v4.1	<0.01
oral, systemic, long-term	= 0 mg/kg bw/day	Consexpo v4.1	0
dermal, local, long-term	= 2.8E-4 mg/cm2	Consexpo v4.1	
inhalative, systemic, short-term	= 1.6E-14 mg/m³	Consexpo v4.1	
dermal, local, short-term	= 2.8E-4 mg/cm2	Consexpo v4.1	
inhalative, local, long-term	= 1.1E-14 mg/m³	Consexpo v4.1	
inhalative, local, short-term	= 1.6E-14 mg/m³	Consexpo v4.1	

4.3.3. Consumer exposure: Washing and cleaning products Wipes (bathroom, kitchen, floor) for consumer use (PC35)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 7.22E-7 mg/m³	ECETOC TRA consumer v3	<0.01
dermal, systemic, long-term	= 2.86 mg/kg bw/day	ECETOC TRA consumer v3	= 0.61
oral, systemic, long-term	= 0 mg/kg bw/day	ECETOC TRA consumer v3	0
inhalative, local, long-term	= 7.22E-7 mg/m³	ECETOC TRA consumer v3	

4.3.4. Consumer exposure: Air care products Air fresheners non-aerosol (timed-release aerosols, perfume in/on solid substarte (gel), candles, diffusers (heated)) for consumer use (PC3)

Route of exposure and type of effects	Exposure estimate	Method	RCR
inhalative, systemic, long-term	= 7.22E-7 mg/m³	ECETOC TRA consumer v3	<0.01
dermal, systemic, long-term	= 1.19E-2 mg/kg bw/day	ECETOC TRA consumer v3	<0.01
inhalative, local, long-term	= 7.22E-7 mg/m³	ECETOC TRA consumer v3	
oral, systemic, long-term	= 0 mg/kg bw/day	ECETOC TRA consumer v3	0

5. ES 5: Consumer use Air care products Air fresheners aerosols (aqueous, non aqueous, concentrated (mini-aerosol)) for consumer use

5.1. Title section

ES Name: Air fresheners aerosols (aqueous, non aqueous, concentrated (mini-aerosol)) for consumer use

Product Category: Air care products (PC3)

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

Consumer		
2:	Air care products Air fresheners aerosols (aqueous, non aqueous, concentrated (mini-aerosol)) for consumer use	PC3

5.2. Conditions of use affecting exposure

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

Other conditions affecting environmental exposure

Indoor or outdoor use

Municipal sewage treatment plant is assumed. Water - minimum efficiency of >= 87.903 %

Spray application with complete evaporation of volatiles

5.2.2. Control of consumer exposure: Air care products Air fresheners aerosols (aqueous, non aqueous, concentrated (mini-aerosol)) for consumer use (PC3)

Product (article) characteristics

Covers concentrations up to 1 %

Assumes no dermal contact

Oral exposure is considered to be not relevant.

Amount used (or contained in articles), frequency and duration of use/exposure

For each use event, covers use amounts up to <= 8.4 g/event

Duration: Exposure duration = 0.25 h/event Frequency: Covers use up to = 1 events per day

5.3. Exposure estimation and reference to its source

5.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release rate	Release rate	Release estimation method
Water	0 kg/day	AISE SPERC 8a.1.c.v2
Air	0.00016 kg/day	AISE SPERC 8a.1.c.v2
Soil	0 kg/day	AISE SPERC 8a.1.c.v2

protection target	Exposure estimate	Method	RCR
Air	= 1.01E-10 mg/m³	EUSES v2.1	
Soil	= 9.62E-5 mg/kg dry weight	EUSES v2.1	<0.01
Freshwater sediment	= 5.55E-3 mg/kg dry weight	EUSES v2.1	= 0.02
Freshwater	= 9.23E-5 mg/L	EUSES v2.1	= 0.02
Man via environment - Oral	= 3.28E-6 mg/kg bw/day	EUSES v2.1	<0.01
Marine water	= 8.61E-6 mg/L	EUSES v2.1	= 0.02
Marine sediment	= 5.18E-4 mg/kg dry weight	EUSES v2.1	= 0.02
Man via environment - Inhalation	= 1.01E-10 mg/m³	EUSES v2.1	<0.01
Sewage treatment plant	= 0 mg/L	EUSES v2.1	0

5.3.2. Consumer exposure: Air care products Air fresheners aerosols (aqueous, non aqueous, concentrated (mini-aerosol)) for consumer use (PC3)

Route of exposure and type of effects	Exposure estimate	Method	RCR
dermal, systemic, long-term	= 0 mg/kg bw/day	ECETOC TRA consumer v3	0
inhalative, local, long-term	= 8.12E-1 mg/m³	ECETOC TRA consumer v3	
inhalative, systemic, long-term	= 8.12E-1 mg/m³	ECETOC TRA consumer v3	= 0.12

oral, systemic, long-term	= 0 mg/kg bw/day	ECETOC TRA consumer v3	0

6. ES 6: Consumer use Cosmetics, personal care products Cosmetics Europe SPERC 8a.1.c.v2

6.1. Title section

ES Name: Cosmetics, personal care products Cosmetics Europe SPERC 8a.1.c.v2

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

6.2. Conditions of use affecting exposure

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

Other conditions affecting environmental exposure

Municipal sewage treatment plant is assumed. Water - minimum efficiency of 87.9 %

6.3. Exposure estimation and reference to its source

6.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Release rate	Release rate	Release estimation method
Water	0.024 kg/day	Cosmetics Europe SPERC 8a.1.a.v2
Air	0 kg/day	Cosmetics Europe SPERC 8a.1.a.v2
Soil	0 kg/day	Cosmetics Europe SPERC 8a.1.a.v2

protection target	Exposure estimate	Method	RCR
Freshwater	2.38E-4 mg/L	EUSES 2.1.2	0.06
Freshwater sediment	1.4E-2 mg/kg dry weight	EUSES 2.1.2	0.06
Marine sediment	2.32E-5 mg/L	EUSES 2.1.2	0.06
Marine sediment	1.4E-3 mg/kg dry weight	EUSES 2.1.2	0.06
Sewage treatment plant	1.46E-3 mg/L	EUSES 2.1.2	< 0.01
Agricultural soil	1.92E-3 mg/kg dry weight	EUSES 2.1.2	0.04
Man via environment - Inhalation	1.01E-10 mg/m³	EUSES 2.1.2	< 0.01
Man via environment - Oral	1.04E-5 mg/kg bw/day	EUSES 2.1.2	< 0.01