

600113 AMBERWOOD® F

Version 12

Revision Date 12.01.2015

Print Date 16.09.2016

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Commercial Product Name : AMBERWOOD® F
Material number : 600113
Substance name : (Ethoxymethoxy)cyclododecane
REACH Registration Number : 01-2119971571-34-0000
CAS-No. : 58567-11-6
EC-No. : 261-332-1

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

Use of the Substance/Mixture : **Fragrance**
Further information on identified uses can be found in the annex of the safety data sheet.

1.3 Details of the supplier of the safety data sheet

Company : Holzminden
Muehlenfeldstrasse 1
D-37603 Holzminden
Telephone : +495531900
Telefax : +495531901649
E-mail address : sds@symrise.com

For further information, please contact:
Symrise AG - Tel.: +49 / (0)5531 / 90-0

1.4 Emergency telephone number

Symrise AG - Tel.: +49 / (0)5531 / 90-0

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2 H315
Chronic aquatic toxicity, Category 2 H411
Skin sensitisation, Category 1 H317

Classification (67/548/EEC, 1999/45/EC)

Xi, N; R38, R43, R51/53

2.2 Label elements



Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms	:		
Signal word	:	Warning	
Hazard statements	:	H315 H317 H411	Causes skin irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.
Precautionary statements	:	Prevention: P261 P264 P273 P280 Response: P302 + P352 P333 + P313	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Avoid release to the environment. Wear protective gloves. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention.

Labelling (67/548/EEC, 1999/45/EC)

Symbol(s)	:	Xi N	Irritant Dangerous for the environment
R-phrases(s)	:	R38 R43 R51/53	Irritating to skin. May cause sensitisation by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	:	S24 S36/37 S61	Avoid contact with skin. Wear suitable protective clothing and gloves. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical characterization	:	(Ethoxymethoxy)cyclododecane
Molecular weight	:	242,40 g/mol
Total formula	:	C15-H30-O2
CAS-No.	:	58567-11-6
EINECS-No. / ELINCS No.	:	261-332-1
REACH Registration Number	:	01-2119971571-34-0000

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3.2 Mixtures

Hazardous components

Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

- General advice : Move out of dangerous area.
Never give anything by mouth to an unconscious person.
- Inhalation : Move to fresh air.
- Skin contact : Take off all contaminated clothing immediately.
If skin irritation persists, call a physician.
Wash off immediately with plenty of water for at least 15 minutes.
- Eye contact : Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.
Remove contact lenses.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.
Prevent vomiting if possible.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Extinguishing media which shall not be used for safety reasons : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

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Further information : In the event of fire and/or explosion do not breathe fumes.
Use water spray to cool unopened containers.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation.
Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions : Should not be released into the environment.
Avoid subsoil penetration.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Dam up.
Wipe up with absorbent material (e.g. cloth, fleece).

Additional advice : Local authorities should be advised if significant spillages cannot be contained.
Suppress (knock down) gases/vapours/mists with a water spray jet.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : Dispose of rinse water in accordance with local and national regulations.
For personal protection see section 8.

Advice on protection against fire and explosion : When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
To maintain product quality, do not store in heat or direct sunlight.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage : No special restrictions on storage with other products.

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Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Fragrance

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

none

DNEL:

(Ethoxymethoxy)cyclododecane:

End Use : Workers
Exposure routes : Inhalation
Potential health effects : Long-term systemic effects
Value : 23,5 mg/m³

End Use : Workers
Exposure routes : Skin contact
Potential health effects : Long-term systemic effects
Value : 3,3 mg/kg bw/day

End Use : Consumers
Exposure routes : Inhalation
Potential health effects : Long-term systemic effects
Value : 5,8 mg/m³

End Use : Consumers
Exposure routes : Skin contact
Potential health effects : Long-term systemic effects
Value : 1,67 mg/kg bw/day

End Use : Consumers
Exposure routes : Ingestion
Potential health effects : Long-term systemic effects
Value : 1,67 mg/kg bw/day

PNEC:

(Ethoxymethoxy)cyclododecane:

Compartment : Fresh water
Value : 0,002 mg/l

Compartment : Fresh water sediment
Value : 2,35 mg/kg dry weight (d.w.)

Compartment : Marine water
Value : 0,00016 mg/l

Compartment : Marine sediment
Value : 0,235 mg/kg dry weight (d.w.)

Compartment : Sewage treatment plant
Value : 100 mg/l

Compartment : Soil
Value : 0,468 mg/kg dry weight (d.w.)

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8.2 Exposure controls

Engineering measures

none

Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection : Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred.
Wear chemicals-resistant gloves, e.g. safety gloves of chloroprene Level 2 or of butyl rubber Level 6.
- Eye protection : Safety glasses
- Skin and body protection : Lightweight protective clothing
Remove and wash contaminated clothing before re-use.
- Hygiene measures : Wash hands before breaks and immediately after handling the product.
- Protective measures : Avoid contact with skin.
When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

- Form : clear liquid
- Colour : colorless
- Odour : characteristic
- Odour Threshold : No data available

Safety data

- Flash point : 136 °C
- Water solubility : 0,00112 g/l
Method: Directive 440/2008/EG, Annex , A.6.
- Relative density : 0,9280 - 0,9360 at
20 °C relation to density of water at 4°C
- Bulk density :
- Relative vapour density : not determined
- Vapour pressure : < 1 kPa at 50 °C
calculated
0,00296 hPa at 25 °C
Method: Directive 440/2008/EG, Annex , A.4.
- Melting point/freezing point : Setting point
< -20 °C at 1.013 hPa

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Boiling point	:	290,1 °C Method: OECD Test Guideline 103 GLP: no
Partition coefficient: n-octanol/water	:	log Pow: 5,4
pH	:	Not applicable
Viscosity, dynamic	:	8,26 mPa.s Method: ISO 3219 B GLP: no
Evaporation rate	:	Lower than the evaporation rate of butyl acetate = 1
Flammability (solid, gas)	:	Not applicable
Auto-ignition temperature	:	225 - 235 °C at 1.014 hPa
Decomposition temperature	:	No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Explosive properties	:	Due to its structural properties, the product is not classified as explosive
Lower explosion limit	:	Vapours may form explosive mixtures with air.
Upper explosion limit	:	Vapours may form explosive mixtures with air.

A final assessment of potential explosion hazards can only be made on a case-by-case basis when precise information is available on product handling, production setup and the circumstances surrounding the use of the product.

9.2 Other data

None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	:	No data available
10.2 Chemical stability	:	No data available
10.3 Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
10.4 Conditions to avoid	:	No data available
10.5 Incompatible materials to avoid	:	No data available
10.6 Hazardous decomposition products	:	No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	:	LD50 Oral Rat: > 5.000 mg/kg, OECD Test Guideline 401
Acute inhalation toxicity	:	No data available

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Acute dermal toxicity	: LD50 Dermal Rabbit: > 5.000 mg/kg, OECD Test Guideline 402
Repeated dose toxicity	: No data available
Acute toxicity (other routes of administration)	: No data available
Skin irritation	: Rabbit: Moderate irritation of skin @ 100 %
Eye irritation	: Rabbit: No eye irritation @ 100 %
Sensitisation	: Mouse: Sensitizing effect. @ 25,1 %
Mutagenicity	: No experimental indication of genotoxicity in vitro.
Carcinogenicity	: No data available
Reproductive toxicity	: No data available
Teratogenicity	: No data available
Specific target organ toxicity - single exposure	: No data available
Specific target organ toxicity - repeated exposure	: No data available
Aspiration toxicity	: No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute Fish toxicity	: LC50: 1,9 mg/l/96 h; Danio rerio (zebra fish), OECD Test Guideline 203
Acute toxicity Aquatic invertebrates	: EC50: 1,6 mg/l/48 h; Daphnia magna (Water flea), OECD Test Guideline 202
Toxicity to aquatic plants	: EC50: 53 mg/l/96 h; Desmodesmus subspicatus (green algae), DIN 38412 (part 9)
Toxicity to microorganisms	: EC50: > 1.000 mg/l/3 h; Activated sludge, OECD 209

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12.2 Persistence and degradability

Not readily biodegradable.
< 5 %/28 d, OECD 301B

12.3 Bioaccumulative potential

Bioconcentration factor : 340,00 - 580,00 (calculated)
(BCF)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Toxic to aquatic life with long lasting effects.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product : Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR : 3082
RID : 3082
IMDG : 3082
IATA-DGR : 3082

14.2 Proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
((ETHOXYMETHOXY)CYCLODODECANE)
RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
((ETHOXYMETHOXY)CYCLODODECANE)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
((ETHOXYMETHOXY)CYCLODODECANE) MP
IATA-DGR : Environmentally hazardous substance, liquid, n.o.s.
((ETHOXYMETHOXY)CYCLODODECANE)

14.3 Transport hazard class

ADR : 9
RID : 9
IMDG : 9
IATA-DGR : 9

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14.4 Packing group

ADR:

Packaging group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (E)

RID:

Packaging group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG:

Packaging group : III
Labels : 9
EmS - EmS : F-A , S-F

IATA-DGR:

Packing instruction (cargo aircraft) : 964
Qty/Pkg (Cargo) : 450,00 L
Packing instruction (passenger aircraft) : 964
Qty/Pkg (Passenger) : 450,00 L
Packaging group : III
Labels : 9MI

14.5 Environmental hazards

ADR:

Environmentally hazardous : yes

RID:

Environmentally hazardous : yes

IMDG:

Marine pollutant : yes

IATA-DGR:

Environmentally hazardous : yes

14.6 Special precautions for user

No data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

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

National legislation

Risk classification according to BetrSichV (Germany) : Exempt

Water contaminating class (Germany) : WGK 1 (slightly water endangering)
2980 VwVwS Annex 3

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15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3:

R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3.:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Any data changes with reference to previous versions are marked by a vertical line in front of the concerned paragraph.

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1. Short title of Exposure Scenario: Formulation of compounds

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC3: Use in closed batch process (synthesis or formulation) PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent
Environmental Release Categories	: ERC2: Formulation of preparations

2.1 Contributing scenario controlling environmental exposure for: ERC2: Formulation of preparations

Further information	: Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1
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Amount used

Daily amount per site	: <= 160 kg
Annual amount per site	: <= 40000 kg
Remarks	: Percentage of tonnage used at regional scale: 100%

Environment factors not influenced by risk management

Flow rate	: 18.000 m3/d
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Other given operational conditions affecting environmental exposure

Number of emission days per year	: 250
Emission or Release Factor: Air	: 2,5 %
Emission or Release Factor: Water	: 0,002 %
Emission or Release Factor: Soil	: 0 %

Technical conditions and measures / Organizational measures

End Use	: Industrial use
Soil	: Avoid subsoil penetration.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	: Onsite sewage treatment plant
Effectiveness (of a measure)	: 99 %
Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	: 2.000 m3/d

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Effectiveness (of a measure) : 66,3 %
Sludge Treatment : No application of sludge to soil

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 1 h

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

2.3 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

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Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.4 Contributing scenario controlling worker exposure for: PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide the operation with a properly sited receiving hood. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
(Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.5 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide the operation with a properly sited receiving hood. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
(Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

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2.6 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 1 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide the operation with a properly sited receiving hood. (Effectiveness (of a measure): 95 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.7 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 1 h

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Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
(Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.8 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 15 min

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

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Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC2	EUSES		Fresh water		0,0001175mg/l	0,073
ERC2	EUSES		Fresh water sediment		0,172mg/kg dry weight (d.w.)	0,73
ERC2	EUSES		Marine water		0,0000104mg/l	0,065
ERC2	EUSES		Marine sediment		0,015mg/kg dry weight (d.w.)	0,65
ERC2	EUSES		Sewage treatment plant		0,0005388mg/l	< 0,01
ERC2	EUSES		Soil		0,013mg/kg dry weight (d.w.)	0,29

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	ECETOC TRA		Chronic inhalation systemic exposure	0,02 mg/m ³	< 0,01
PROC1	ECETOC TRA		Chronic dermal systemic exposure	0,034 mg/kg bw/day	0,01
PROC3	ECETOC TRA		Chronic inhalation systemic exposure	18,18 mg/m ³	0,774
PROC3	ECETOC TRA		Chronic dermal systemic exposure	0,69 mg/kg bw/day	0,209
PROC5	ECETOC TRA		Chronic inhalation systemic exposure	3,03 mg/m ³	0,129
PROC5	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416
PROC8a	ECETOC TRA		Chronic inhalation systemic exposure	3,636 mg/m ³	0,155
PROC8a	ECETOC TRA		Chronic dermal systemic exposure	0,823 mg/kg bw/day	0,249
PROC8b	ECETOC TRA		Chronic inhalation systemic exposure	0,505 mg/m ³	0,021
PROC8b	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416
PROC9	ECETOC TRA		Chronic inhalation systemic exposure	6,06 mg/m ³	0,258
PROC9	ECETOC TRA		Chronic dermal systemic exposure	0,412 mg/kg bw/day	0,125
PROC15	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215

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PROC15	ECETOC TRA	Chronic dermal systemic exposure	0,34 mg/kg bw/day	0,103
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- PROC1 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC3 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC5 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC8a For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC8b For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC9 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC15 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

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

Potential risks to humans and the environment were evaluated using:

ECETOC TRA v3 Worker

EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

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1. Short title of Exposure Scenario: Formulation of end-products

Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites

Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC15: Use as laboratory reagent

Environmental Release Categories : **ERC2:** Formulation of preparations

2.1 Contributing scenario controlling environmental exposure for: ERC2: Formulation of preparations

Further information : Releases based on SpERC (Specific Environmental Release Categories):
IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount per site : <= 80 kg
Annual amount per site : <= 20000 kg
Remarks : Percentage of tonnage used at regional scale: 100%

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 250
Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 0,001 %
Emission or Release Factor: Soil : 0 %

Technical conditions and measures / Organizational measures

End Use : Industrial use
Soil : Avoid subsoil penetration.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Onsite sewage treatment plant
Effectiveness (of a measure) : 90 %
Type of Sewage Treatment Plant : Municipal sewage treatment plant

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Flow rate of sewage treatment plant effluent : 2.000 m3/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

2.3 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : Liquid substance

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Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.4 Contributing scenario controlling worker exposure for: PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

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Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
(Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.5 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

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2.6 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 1 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.7 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

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Application duration : < 1 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.8 Contributing scenario controlling worker exposure for: PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

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Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.9 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 15 min

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC2	EUSES		Fresh water		0,0000780mg/l	0,049
ERC2	EUSES		Fresh water sediment		0,114mg/kg dry weight (d.w.)	0,49
ERC2	EUSES		Marine water		0,0000065mg/l	0,04
ERC2	EUSES		Marine sediment		0,009mg/kg dry weight (d.w.)	0,4
ERC2	EUSES		Sewage treatment plant		0,0001347mg/l	< 0,01

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ERC2	EUSES	Soil	0,01mg/kg dry weight (d.w.)	0,21
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Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	ECETOC TRA		Chronic inhalation systemic exposure	0,101 mg/m ³	< 0,01
PROC1	ECETOC TRA		Chronic dermal systemic exposure	0,034 mg/kg bw/day	0,01
PROC3	ECETOC TRA		Chronic inhalation systemic exposure	10,91 mg/m ³	0,464
PROC3	ECETOC TRA		Chronic dermal systemic exposure	0,414 mg/kg bw/day	0,126
PROC5	ECETOC TRA		Chronic inhalation systemic exposure	7,575 mg/m ³	0,322
PROC5	ECETOC TRA		Chronic dermal systemic exposure	0,343 mg/kg bw/day	0,104
PROC8a	ECETOC TRA		Chronic inhalation systemic exposure	6,06 mg/m ³	0,258
PROC8a	ECETOC TRA		Chronic dermal systemic exposure	0,274 mg/kg bw/day	0,083
PROC8b	ECETOC TRA		Chronic inhalation systemic exposure	6,06 mg/m ³	0,258
PROC8b	ECETOC TRA		Chronic dermal systemic exposure	0,823 mg/kg bw/day	0,249
PROC9	ECETOC TRA		Chronic inhalation systemic exposure	1,01 mg/m ³	0,043
PROC9	ECETOC TRA		Chronic dermal systemic exposure	0,686 mg/kg bw/day	0,208
PROC14	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215
PROC14	ECETOC TRA		Chronic dermal systemic exposure	0,343 mg/kg bw/day	0,104
PROC15	ECETOC TRA		Chronic inhalation systemic exposure	3,03 mg/m ³	0,129
PROC15	ECETOC TRA		Chronic dermal systemic exposure	0,204 mg/kg bw/day	0,062

PROC1 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC3 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC5 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC8a For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

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- PROC8b For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.
All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC9 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.
All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC14 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.
All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC15 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.
All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

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

Potential risks to humans and the environment were evaluated using:

ECETOC TRA v3 Worker

EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

ECETOC TRA v3.0 Worker; modified version

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1. Short title of Exposure Scenario: Industrial end-use of washing and cleaning products

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC7: Industrial spraying PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring
Environmental Release Categories	: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Further information	: Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1 The environmental exposure scenarios for industrial, professional and consumer end-use of washing and cleaning products are assessed together as wide dispersive use in the exposure scenario "Consumer end-use of washing and cleaning products".
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Amount used

Daily amount for wide dispersive uses	: <= 0,008 kg
Remarks	: Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate	: 18.000 m ³ /d
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Other given operational conditions affecting environmental exposure

Number of emission days per year	: 365
Emission or Release Factor: Air	: 0 %
Emission or Release Factor: Water	: 100 %
Emission or Release Factor: Soil	: 0 %

Technical conditions and measures / Organizational measures

End Use	: Industrial use
Soil	: Avoid subsoil penetration.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
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Flow rate of sewage treatment plant effluent : 2.000 m3/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

2.3 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

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Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

2.4 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

2.5 Contributing scenario controlling worker exposure for: PROC7: Industrial spraying

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands and upper wrists (1500 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.6 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

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Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

2.7 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

Technical conditions and measures

Ensure operation is undertaken outdoors.

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Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Lightweight protective clothing

2.8 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Safety glasses with side-shields

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Lightweight protective clothing

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3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC4	EUSES		Fresh water		0,0002002mg/l	0,125
ERC4	EUSES		Fresh water sediment		0,294mg/kg dry weight (d.w.)	0,125
ERC4	EUSES		Marine water		0,0000187mg/l	0,117
ERC4	EUSES		Marine sediment		0,027mg/kg dry weight (d.w.)	0,116
ERC4	EUSES		Sewage treatment plant		0,001mg/l	< 0,01
ERC4	EUSES		Soil		0,1mg/kg dry weight (d.w.)	0,215

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	ECETOC TRA		Chronic inhalation systemic exposure	0,01 mg/m ³	< 0,01
PROC1	ECETOC TRA		Chronic dermal systemic exposure	0,003 mg/kg bw/day	< 0,01
PROC2	ECETOC TRA		Chronic inhalation systemic exposure	1,01 mg/m ³	0,043
PROC2	ECETOC TRA		Chronic dermal systemic exposure	0,137 mg/kg bw/day	0,042
PROC4	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215
PROC4	ECETOC TRA		Chronic dermal systemic exposure	0,686 mg/kg bw/day	0,208
PROC7	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC7	ECETOC TRA		Chronic dermal systemic exposure	0,043 mg/kg bw/day	0,013
PROC8b	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215
PROC8b	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416
PROC10	ECETOC TRA		Chronic inhalation systemic exposure	7,07 mg/m ³	0,301
PROC10	ECETOC TRA		Chronic dermal systemic exposure	0,549 mg/kg bw/day	0,166
PROC13	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC13	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416

PROC1 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC2 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.

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PROC4	<p>All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.</p> <p>For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.</p>
PROC7	<p>All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.</p> <p>For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.</p>
PROC8b	<p>All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.</p> <p>For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.</p>
PROC10	<p>All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.</p> <p>For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.</p>
PROC13	<p>All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.</p> <p>For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.</p>

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

Potential risks to humans and the environment were evaluated using:

ECETOC TRA v3 Worker

EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

ECETOC TRA v3.0 Worker; modified version

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1. Short title of Exposure Scenario: Professional end-use of washing and cleaning products

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring
Environmental Release Categories	: ERC8a: Wide dispersive indoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a: Wide dispersive indoor use of processing aids in open systems

Further information	: Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1 The environmental exposure scenarios for industrial, professional and consumer end-use of washing and cleaning products are assessed together as wide dispersive use in the exposure scenario "Consumer end-use of washing and cleaning products".
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Amount used

Daily amount for wide dispersive uses	: <= 0,008 kg
Remarks	: Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate	: 18.000 m ³ /d
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Other given operational conditions affecting environmental exposure

Number of emission days per year	: 365
Emission or Release Factor: Air	: 0 %
Emission or Release Factor: Water	: 100 %
Emission or Release Factor: Soil	: 0 %

Technical conditions and measures / Organizational measures

End Use	: Professional use
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Soil : Avoid subsoil penetration.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.3 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

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Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.4 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.5 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 1 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm2)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.6 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm2)

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Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.7 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

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2.8 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands and upper wrists (1500 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.9 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

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Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		0,0002002mg/l	0,125
ERC8a	EUSES		Fresh water sediment		0,294mg/kg dry weight (d.w.)	0,125
ERC8a	EUSES		Marine water		0,0000187mg/l	0,117
ERC8a	EUSES		Marine sediment		0,027mg/kg dry weight (d.w.)	0,116
ERC8a	EUSES		Sewage treatment plant		0,001mg/l	< 0,01
ERC8a	EUSES		Soil		0,1mg/kg dry weight (d.w.)	0,215

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	ECETOC TRA		Chronic inhalation systemic exposure	0,01 mg/m ³	< 0,01
PROC1	ECETOC TRA		Chronic dermal systemic exposure	0,003 mg/kg bw/day	< 0,01
PROC2	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215
PROC2	ECETOC TRA		Chronic dermal systemic exposure	0,137 mg/kg bw/day	0,042
PROC4	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC4	ECETOC TRA		Chronic dermal systemic exposure	0,686 mg/kg bw/day	0,208
PROC8a	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215
PROC8a	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416
PROC8b	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC8b	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416
PROC10	ECETOC TRA		Chronic inhalation systemic exposure	2,525 mg/m ³	0,107
PROC10	ECETOC TRA		Chronic dermal systemic exposure	0,055 mg/kg bw/day	0,017

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PROC11	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC11	ECETOC TRA		Chronic dermal systemic exposure	0,107 mg/kg bw/day	0,032
PROC13	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC13	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416

- PROC1** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC2** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC4** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC8a** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC8b** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC10** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC11** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.
- PROC13** For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

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

Potential risks to humans and the environment were evaluated using:

ECETOC TRA v3 Worker

EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

ECETOC TRA v3.0 Worker; modified version

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1. Short title of Exposure Scenario: Professional end-use of polishes and wax blends

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	: PROC2: Use in closed, continuous process with occasional controlled exposure PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC11: Non industrial spraying
Environmental Release Categories	: ERC8a: Wide dispersive indoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a: Wide dispersive indoor use of processing aids in open systems

Further information	: Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1 The environmental exposure scenarios for industrial, professional and consumer end-use of polishes and wax blends are assessed together as wide dispersive use in the exposure scenario "Consumer end-use of polishes and wax blends".
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Amount used

Daily amount for wide dispersive uses	: < 0,001 kg
Remarks	: Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate	: 18.000 m ³ /d
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Other given operational conditions affecting environmental exposure

Number of emission days per year	: 365
Emission or Release Factor: Air	: 100 %
Emission or Release Factor: Water	: 100 %
Emission or Release Factor: Soil	: 20 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	: 2.000 m ³ /d
Effectiveness (of a measure)	: 66,3 %
Sludge Treatment	: Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods	: Can be landfilled or incinerated, when in compliance with local regulations.
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2.2 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.3 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

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Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Protective gloves complying with EN 374., Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.4 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid substance
Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 4 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities
Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Safety glasses with side-shields conforming to EN166, Lightweight protective clothing

2.5 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Product characteristics

Concentration of the Substance in : Covers percentage substance in the product up to 1 %.

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Mixture/Article

Physical Form (at time of use) : Liquid substance

Process Temperature : max. 40 °C

Frequency and duration of use

Application duration : < 1 h

Human factors not influenced by risk management

Dermal exposure : Two hands and upper wrists (1500 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor activities

Ventilation rate per hour : 3

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Safety glasses with side-shields conforming to EN166,
Lightweight protective clothing

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		0,0000675mg/l	0,042
ERC8a	EUSES		Fresh water sediment		0,099mg/kg dry weight (d.w.)	0,042
ERC8a	EUSES		Marine water		0,0000054mg/l	0,034
ERC8a	EUSES		Marine sediment		0,008mg/kg dry weight (d.w.)	0,034
ERC8a	EUSES		Sewage treatment plant		0,0000277mg/l	< 0,01
ERC8a	EUSES		Soil		0,002mg/kg dry weight (d.w.)	< 0,01

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC2	ECETOC TRA		Chronic inhalation systemic exposure	5,05 mg/m ³	0,215

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PROC2	ECETOC TRA		Chronic dermal systemic exposure	0,137 mg/kg bw/day	0,042
PROC8b	ECETOC TRA		Chronic inhalation systemic exposure	10,1 mg/m ³	0,43
PROC8b	ECETOC TRA		Chronic dermal systemic exposure	1,371 mg/kg bw/day	0,416
PROC10	ECETOC TRA		Chronic inhalation systemic exposure	15,15 mg/m ³	0,645
PROC10	ECETOC TRA		Chronic dermal systemic exposure	0,549 mg/kg bw/day	0,166
PROC11	ECETOC TRA		Chronic inhalation systemic exposure	2,02 mg/m ³	0,086
PROC11	ECETOC TRA		Chronic dermal systemic exposure	0,214 mg/kg bw/day	0,065

PROC2 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC8b For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC10 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

PROC11 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up. All other risks were assessed qualitatively. Under the given use conditions (OCs, RMMs), all risks are adequately controlled.

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

Potential risks to humans and the environment were evaluated using:

ECETOC TRA v3 Worker

EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

ECETOC TRA v3.0 Worker; modified version

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1. Short title of Exposure Scenario: Consumer end-use of washing and cleaning products

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)
Chemical product category : **PC35:** Washing and cleaning products (including solvent based products)
Environmental Release Categories : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Further information : This exposure scenario covers ERC8a and ERC8d. Releases based on SpERC (Specific Environmental Release Categories):
IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount for wide dispersive uses : <= 0,008 kg
Remarks : Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 100 %
Emission or Release Factor: Soil : 0 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling consumer exposure for: PC35: Washing and cleaning products (including solvent based products)

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Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage of the substance in the product up to 0.2%

Amount used

Amount used per event : 0,035 kg

Frequency and duration of use

Exposure duration : 4 h
Frequency of use : 1 uses per day

Human factors not influenced by risk management

Dermal exposure : Hands (857.5 cm²)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a ERC8d	EUSES		Fresh water		0,0002002mg/l	0,125
ERC8a ERC8d	EUSES		Fresh water sediment		0,294mg/kg dry weight (d.w.)	0,125
ERC8a ERC8d	EUSES		Marine water		0,0000187mg/l	0,117
ERC8a ERC8d	EUSES		Marine sediment		0,027mg/kg dry weight (d.w.)	0,116
ERC8a ERC8d	EUSES		Sewage treatment plant		0,001mg/l	< 0,01
ERC8a ERC8d	EUSES		Soil		0,1mg/kg dry weight (d.w.)	0,215

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PC35	ECETOC TRA		Chronic inhalation systemic exposure	1,287mg/m ³	0,222
PC35	ECETOC TRA		Chronic dermal systemic exposure	0,357mg/kg bw/day	0,214
PC35	ECETOC TRA		Chronic oral systemic exposure	0mg/kg bw/day	< 0,01

PC35 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.

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

Potential risks to humans and the environment were evaluated using:

EUSES 2.1.2

ECETOC TRA v3 Consumer

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

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1. Short title of Exposure Scenario: Consumer end-use of air care products

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)
Chemical product category : **PC3:** Air care products
Environmental Release Categories : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Further information : This exposure scenario covers ERC8a and ERC8d. Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount for wide dispersive uses : <= 0,002 kg
Remarks : Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 100 %
Emission or Release Factor: Water : 100 %
Emission or Release Factor: Soil : 20 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling consumer exposure for: PC3: Air care products

Product characteristics

Concentration of the Substance in : Covers percentage of the substance in the product up to 0.2%

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Mixture/Article

Amount used

Amount used per event : 0,010 kg

Frequency and duration of use

Exposure duration : 15 min

Frequency of use : 4 uses per day

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a ERC8d	EUSES		Fresh water		0,0000919mg/l	0,057
ERC8a ERC8d	EUSES		Fresh water sediment		0,135mg/kg dry weight (d.w.)	0,057
ERC8a ERC8d	EUSES		Marine water		0,0000078mg/l	0,049
ERC8a ERC8d	EUSES		Marine sediment		0,012mg/kg dry weight (d.w.)	0,049
ERC8a ERC8d	EUSES		Sewage treatment plant		0,0002768mg/l	< 0,01
ERC8a ERC8d	EUSES		Soil		0,02mg/kg dry weight (d.w.)	0,043

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PC3	ECETOC TRA		Chronic inhalation systemic exposure	4,348mg/m ³	0,75
PC3	ECETOC TRA		Chronic dermal systemic exposure	0mg/kg bw/day	< 0,01
PC3	ECETOC TRA		Chronic oral systemic exposure	0mg/kg bw/day	< 0,01

PC3 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.

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

Potential risks to humans and the environment were evaluated using:

EUSES 2.1.2

ECETOC TRA v3 Consumer

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If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

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1. Short title of Exposure Scenario: Consumer end-use of biocides

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)
Chemical product category : **PC8:** Biocidal products (e.g. Disinfectants, pest control)
Environmental Release Categories : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Further information : This exposure scenario covers ERC8a and ERC8d. Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount for wide dispersive uses : < 0,001 kg
Remarks : Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 100 %
Emission or Release Factor: Soil : 0 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling consumer exposure for: PC8: Biocidal products (e.g. Disinfectants, pest control)

Product characteristics

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Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Amount used

Amount used per event : 0,010 kg

Frequency and duration of use

Exposure duration : 15 min
Frequency of use : 4 uses per day

3. Exposure estimation and reference to its source**Environment**

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a ERC8d	EUSES		Fresh water		0,0000675mg/l	0,042
ERC8a ERC8d	EUSES		Fresh water sediment		0,099mg/kg dry weight (d.w.)	0,042
ERC8a ERC8d	EUSES		Marine water		0,0000054mg/l	0,034
ERC8a ERC8d	EUSES		Marine sediment		0,008mg/kg dry weight (d.w.)	0,034
ERC8a ERC8d	EUSES		Sewage treatment plant		0,0000277mg/l	< 0,01
ERC8a ERC8d	EUSES		Soil		0,002mg/kg dry weight (d.w.)	< 0,01

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PC8	ConsExpo		Chronic inhalation systemic exposure	4,04mg/m ³	0,697
PC8	ConsExpo		Chronic dermal systemic exposure	0,154mg/kg bw/day	0,092
PC8	ConsExpo		Chronic oral systemic exposure	0,0000764mg/kg bw/day	< 0,01

PC8 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.

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

Potential risks to humans and the environment were evaluated using:
ConsExpo 4.1

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EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

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1. Short title of Exposure Scenario: Consumer end-use of polishes and wax blends

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)
Chemical product category : **PC31:** Polishes and wax blends
Environmental Release Categories : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Further information : This exposure scenario covers ERC8a and ERC8d. Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount for wide dispersive uses : < 0,001 kg
Remarks : Percentage of tonnage used at regional scale: 4%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 100 %
Emission or Release Factor: Water : 100 %
Emission or Release Factor: Soil : 20 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling consumer exposure for: PC31: Polishes and wax blends

Product characteristics

Concentration of the Substance in : Covers percentage of the substance in the product up to 0.1%

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Mixture/Article

Amount used

Amount used per event : 0,135 kg

Frequency and duration of use

Exposure duration : 4 h

Frequency of use : 1 uses per day

Human factors not influenced by risk management

Dermal exposure : Hands (857.5 cm²)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a ERC8d	EUSES		Fresh water		0,0000675mg/l	0,042
ERC8a ERC8d	EUSES		Fresh water sediment		0,099mg/kg dry weight (d.w.)	0,042
ERC8a ERC8d	EUSES		Marine water		0,0000054mg/l	0,034
ERC8a ERC8d	EUSES		Marine sediment		0,008mg/kg dry weight (d.w.)	0,034
ERC8a ERC8d	EUSES		Sewage treatment plant		0,0000277mg/l	< 0,01
ERC8a ERC8d	EUSES		Soil		0,002mg/kg dry weight (d.w.)	< 0,01

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PC31	ECETOC TRA		Chronic inhalation systemic exposure	1,985mg/m ³	0,342
PC31	ECETOC TRA		Chronic dermal systemic exposure	0,143mg/kg bw/day	0,086
PC31	ECETOC TRA		Chronic oral systemic exposure	0mg/kg bw/day	< 0,01

PC31 For complete exposure estimation, the values for different routes of exposure and activities may have to be summed up.

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

Potential risks to humans and the environment were evaluated using:

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EUSES 2.1.2

ECETOC TRA v3 Consumer

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

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1. Short title of Exposure Scenario: Consumer and professional end-use of cosmetics

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)
Chemical product category : **PC39:** Cosmetics, personal care products
Environmental Release Categories : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Further information : This exposure scenario covers ERC8a and ERC8d. Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount for wide dispersive uses : <= 0,011 kg
Remarks : Percentage of tonnage used at regional scale: 5.3%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 100 %
Emission or Release Factor: Water : 100 %
Emission or Release Factor: Soil : 20 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling consumer exposure for: PC39: Cosmetics, personal care products

Further information : The consideration of exposures for consumers and professionals from the use of cosmetic products is not

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required in the chemical safety assessment. Human health aspects of cosmetics are assessed under the Cosmetics Directive and as such do not have to be covered by REACH.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a ERC8d	EUSES		Fresh water		0,0002442mg/l	0,153
ERC8a ERC8d	EUSES		Fresh water sediment		0,358mg/kg dry weight (d.w.)	0,152
ERC8a ERC8d	EUSES		Marine water		0,0000231mg/l	0,144
ERC8a ERC8d	EUSES		Marine sediment		0,034mg/kg dry weight (d.w.)	0,144
ERC8a ERC8d	EUSES		Sewage treatment plant		0,002mg/l	< 0,01
ERC8a ERC8d	EUSES		Soil		0,133mg/kg dry weight (d.w.)	0,284

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

Potential risks to humans and the environment were evaluated using:

EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.

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1. Short title of Exposure Scenario: Consumer and professional end-use of cosmetics

Main User Groups : **SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category : **PC39:** Cosmetics, personal care products
Environmental Release Categories : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Further information : This exposure scenario covers ERC8a and ERC8d. Releases based on SpERC (Specific Environmental Release Categories): IFRA "REACH Exposure Scenarios for Fragrance Substances" v 2.1

Amount used

Daily amount for wide dispersive uses : $\leq 0,011$ kg
Remarks : Percentage of tonnage used at regional scale: 5.3%, [Price OR, Hughes GO, Roche NL, Mason PJ, 2010, IEAM]

Environment factors not influenced by risk management

Flow rate : 18.000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 100 %
Emission or Release Factor: Water : 100 %
Emission or Release Factor: Soil : 20 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2.000 m³/d
Effectiveness (of a measure) : 66,3 %
Sludge Treatment : Recovery of sludge for agriculture or horticulture

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be landfilled or incinerated, when in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PC39: Cosmetics, personal care products

Further information : The consideration of exposures for consumers and professionals from the use of cosmetic products is not required in the chemical safety assessment. Human health aspects of cosmetics are assessed under the Cosmetics Directive and as such do not have to be covered by REACH.

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3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a ERC8d	EUSES		Fresh water		0,0002442mg/l	0,153
ERC8a ERC8d	EUSES		Fresh water sediment		0,358mg/kg dry weight (d.w.)	0,152
ERC8a ERC8d	EUSES		Marine water		0,0000231mg/l	0,144
ERC8a ERC8d	EUSES		Marine sediment		0,034mg/kg dry weight (d.w.)	0,144
ERC8a ERC8d	EUSES		Sewage treatment plant		0,002mg/l	< 0,01
ERC8a ERC8d	EUSES		Soil		0,133mg/kg dry weight (d.w.)	0,284

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

Potential risks to humans and the environment were evaluated using:
EUSES 2.1.2

If the uses of the downstream user are within the limits of the provided exposure scenario, you may use scaling to adapt the exposure scenario to local conditions.