

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

- 1.1 Product identifier:**  
Product name: OBEX CORTEX 0778FR Class B Contact Adhesive  
UFI: 9T42-NOPM-400S-1PJ0
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified uses: Adhesive.  
Uses advised against: No specific uses advised against are identified.
- 1.3 Details of the supplier of the safety data sheet:**  
**OBEX Protection Ltd**  
Unit 5  
St. Modwen Park  
Norton Road  
Broomhall  
Worcester  
WR5 2QR  
Tel (including for emergencies): 01905 337800  
(Mon – Fri 7am – 5pm)  
Email: sales@obexuk.com

## 2: Hazards identification

- 2.1 Classification of substance or mixture:**  
Classification (EC 1272/2008)  
**Physical hazards:** Not Classified  
**Health hazards:** Skin Irrit. 2 - H315  
Eye Irrit. 2 - H319  
Carc. 2 - H351 STOT SE 3 - H336
- Environmental hazards:** Aquatic Chronic 3 - H412  
**Human health:** Product has a defatting effect on skin.  
**Physicochemical:** Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers.
- 2.2 Label elements:**  
Hazard pictograms



Signal word    Warning

**Hazard statements:**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H351 Suspected of causing cancer.  
H336 May cause drowsiness or dizziness.  
H412 Harmful to aquatic life with long-lasting effects.

**Precautionary statements:**

P261 Avoid breathing vapour/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352  
**IF ON SKIN:** Wash with plenty of water.  
P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

**Contains:** DICHLOROMETHANE

**Supplementary precautionary statements:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash contaminated skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P304+P340 **IF INHALED:** Remove person to fresh air and keep comfortable for breathing.  
P308+P313 **IF exposed or concerned:** Get medical advice/attention.  
P312 Call a POISON CENTRE/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label).  
P332+P313 **If skin irritation occurs:** Get medical advice/attention.  
P337+P313 **If eye irritation persists:** Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**2.3 Other hazards:**

No data available.

### 3: Composition/information on ingredients

#### 3.2 Mixtures:

DICHLOROMETHANE CAS number: 75-09-2	EC number: 200-838-9	60-100% REACH registration number: 01-2119480404-41-0007
Classification Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Carc. 2 - H351 STOT SE 3 - H336		
ZINC DIBENZYL-DITHIOCARBAMATE CAS number: 14726-36-4 M factor (Acute) = 1	REACH registration number: 01- 2119543708-31- 0002 M factor (Chronic) = 1	<1
Classification Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		

The full text for all hazard statements is displayed in 16

### 4: First-aid measures

#### 4.1 Description of first-aid measures

**General information:** Remove affected person from source of contamination.

**Inhalation:** Move affected person to fresh air at once.

**Ingestion:** DO NOT induce vomiting. Get medical attention immediately.

**Skin contact:** Remove contaminated clothing immediately and wash skin with soap and water.

**Eye contact:** Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

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

**General information:** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation:** Vapours may cause drowsiness and dizziness. Irritation of nose, throat and airway.  
**Ingestion:** May cause chemical burns in mouth and throat.

**Skin contact:** Prolonged skin contact may cause redness and irritation. Eye contact: Severe irritation, burning and tearing.

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

**Notes for the doctor:** No specific recommendations. If in doubt, get medical attention promptly.

### 5: Firefighting measures

#### 5.1 Suitable extinguishing media:

Extinguish with foam, carbon dioxide, dry powder or water fog.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

#### 5.2 Special hazards arising from the substance or mixture:

**Specific hazards:** The product is fire rated Class B. Toxic gases or vapours. No unusual fire or explosion hazards noted.

**Hazardous combustion products:** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

#### 5.3 Advice for firefighters:

Protective actions during firefighting: Containers close to fire should be removed or cooled with water. Do not allow water to contact any leaked material.

**Special protective equipment for firefighters:**  
Wear positive-pressure self-contained breathing

apparatus (SCBA) and appropriate protective clothing.

## 6: Accidental release measure

- 6.1 Personal precautions, protective equipment and emergency procedures:**  
**Personal precautions:** Wear protective clothing as described in 8 of this safety data sheet.
- 6.2 Environmental precautions:**  
 Do not discharge into drains or watercourses or onto the ground.
- 6.3 Methods and material for containment and cleaning up:**  
**Methods for cleaning up:** Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material.
- 6.4 Reference to other sections:**  
 Reference to other sections: Wear protective clothing as described in 8 of this safety data sheet.

## 7: Handling and storage

- 7.1 Precautions for safe handling:**  
**Usage precautions:** Eliminate all sources of ignition. Vapours may accumulate on the floor and in low-lying areas. Static electricity and formation of sparks must be prevented. Avoid inhalation of vapours and spray/mists.
- 7.2 Conditions for safe storage, including any incompatibilities**  
**Storage precautions:** Keep away from heat, sparks and open flame. Store in closed original container at temperatures between 5°C and 25°C.
- Storage class:** Chemical storage.
- 7.3 Specific end use(s):** The identified uses for this product are detailed in 1.2.

## 8: Exposure control and personal protection

- 8.1 Control parameters:**  
 Occupational exposure limits

**DICHLOROMETHANE**  
 Long-term exposure limit (8-hour TWA): WEL 100 ppm 350 mg/m<sup>3</sup>  
 Short-term exposure limit (15-minute): WEL 300 ppm 1060 mg/m<sup>3</sup> Sk  
 WEL = Workplace Exposure Limit.  
 Sk = Can be absorbed through the skin.  
 Ingredient comments: WEL = Workplace Exposure Limits

**DICHLOROMETHANE (CAS: 75-09-2)**  
 Ingredient comments  
 WEL = Workplace Exposure Limits  
 DNEL: Consumer - Dermal; Short term systemic effects: 353 mg/m<sup>3</sup> Workers - Dermal; Short term systemic effects: 706 mg/m<sup>3</sup>  
 PNEC - Freshwater; 0.54 mg/l  
 Sediment (Freshwater); 4.47 mg/kg  
 Intermittent release; 0.27 mg/l  
 Sediment (Marinewater); 1.61 mg/kg  
 Marinewater; 0.194 mg/l  
 STP; 26 mg/l  
 Soil; 0.583 mg/kg

- 8.2 Exposure controls:**  
 Protective equipment



**Appropriate engineering controls:** Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

**Eye/face protection:** The following protection should be worn: Chemical splash goggles or face shield.

**Hand protection:** It is recommended that gloves are made of the following material: Nitrile rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. For exposure up to 8 hours, wear gloves made of the following material: Viton rubber (fluoro rubber). The most suitable glove should be chosen in consultation with the glove supplier/ manufacturer, who can provide information about the breakthrough time of the glove material.

**Other skin and body protection:** Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.

**Hygiene measures:** Use engineering controls to reduce air contamination to permissible exposure level. Wash hands after handling.

**Respiratory protection:** If ventilation is inadequate, suitable respiratory protection must be worn. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear a respirator fitted with the following cartridge: Particulate filter, type P3. ABEK2-P3: Environmental exposure controls

Keep container tightly sealed when not in use.

## 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Liquid

#### Colour

Black

#### Odour

Chlorinated hydrocarbons

#### Odour threshold

Not available

#### pH

Not available

#### Melting point

Not available

#### Initial boiling point and range

39-40°C

#### Flash point

Technically not feasible

#### Evaporation rate

Not available

#### Evaporation factor

Not available

#### Flammability (solid, gas)

Not available

#### Other flammability

Not available

#### Vapour pressure

Not available

#### Vapour density

Not available

#### Relative density

~ 1.23 @ 20°C

#### Bulk density

Not available

#### Solubility(ies)

Insoluble in water

#### Partition coefficient

Not available

#### Decomposition Temperature

Not available

#### Viscosity

900 cP @ 20°C

#### Explosive properties

Not available

#### Explosive under the influence of a flame

Not considered to be explosive.

#### Oxidising properties

Not available

#### Comments

Information given is applicable to the product as supplied

**9.2 Other information:**

Other information: No information required.  
Refractive index: Not available.  
Particle size: Not available.  
Molecular weight: Not available.  
Volatility: Not available.  
Saturation concentration: Not available.  
Critical temperature: Not available.  
Volatile organic compound: This product contains a maximum VOC content of 861 g/l.

The toxicity of this substance has been assessed during REACH registration.

**Acute toxicity oral:**

(LD<sub>50</sub>mg/kg): 2,000.0  
Species Rat  
ATE oral (mg/kg) 2,000.0

**Acute toxicity - dermal:**

(LD<sub>50</sub>mg/kg): 2,000.0  
Species Rat

**Acute toxicity - inhalation:**

(LC<sub>50</sub> vapours mg/l): 86.0  
Species Rat  
ATE inhalation (vapoursmg/l): 86.0

**Skin corrosion/irritation:**

Irritating to skin. REACH dossier information.

**Serious eye damage/irritation:**

Causes eye irritation.

**Respiratory sensitisation**

Not sensitising.

**Germ cell mutagenicity**

Genotoxicity - in vitro Positive.  
Genotoxicity - in vivo Negative.

**Carcinogenicity**

IARC carcinogenicity IARC Group 2B Possibly carcinogenic to humans.

**Reproductive toxicity**

Reproductive toxicity - fertility: No evidence of reproductive toxicity in animal studies.  
Reproductive toxicity - development: No evidence of reproductive toxicity in animal studies.

## 10: Stability and reactivity

**10.1 Reactivity:**

There are no known reactivity hazards associated with this product.

**10.2 Chemical stability:**

Stable at normal ambient temperatures and when used as recommended.

**10.3 Possibility of hazardous reactions:**

Not applicable. Not relevant.

**10.4 Conditions to avoid:**

Avoid freezing.

**10.5 Incompatible materials:**

Materials to avoid: Flammable/combustible materials. Strong acids. Strong alkalis.

**10.6 Hazardous decomposition products:**

Does not decompose when used and stored as recommended

## 11: Toxicological information

**11.1 Information on toxicological effects**

Acute toxicity - oral  
ATE oral (mg/kg) 2,898.55

Toxicological information on ingredients.

**DICHLOROMETHANE****Toxicological effects:****Acute toxicity - oral**

Acute toxicity oral (LD<sub>50</sub>mg/kg):16,000.0  
Species: Rabbit  
ATE oral (mg/kg) 16,000.0

Inhalation: Coughing, chest tightness, feeling of chest pressure. Ingestion: Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.

Skin contact: Causes mild skin irritation.  
Eye contact: Irritating and may cause redness and pain.

bioaccumulating. Partition coefficient: Not available.

## 12: Ecological information

### 12.1 Toxicity

Ecological information on ingredients.

#### DICHLOROMETHANE

##### Acute aquatic toxicity:

Acute toxicity - fish: LC<sub>50</sub>, 96 hours: 193 mg/l,

Pimephales promelas

(Fat-head Minnow) LC<sub>50</sub>, 48 hours: 97 mg/l,

Fundulus heteroclitus

Acute toxicity - aquatic invertebrates: EC<sub>50</sub>, 48

hours: 27 mg/l, Daphnia magna LC<sub>50</sub>, 48 hours:

109 mg/l, Palaemonetes pugio

Acute toxicity - aquatic plants: NOEC, 192 hours:

550 mg/l, Microcystis aeruginosa - Algae, blue,

cyanobacteria

Acute toxicity - microorganisms: EC<sub>50</sub>, 0.67 hours:

2590 mg/l, Bacteria

##### Chronic aquatic toxicity:

Chronic toxicity - fish early life stage: NOEC, 28

days: 83 mg/l, Pimephales promelas (Fat-head

Minnow)

#### ZINC DIBENZYLDITHIOCARBAMATE

Acute aquatic toxicity: LE(C)<sub>50</sub> 0.1 < L(E)C<sub>50</sub> ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC<sub>50</sub>, 96 hours: 10 mg/l,

Brachydanio rerio (Zebra Fish)

##### Chronic aquatic toxicity:

M factor (Chronic) 1

### 12.2 Persistence and degradability

### 12.3 Bioaccumulative potential:

Partition coefficient: Not available. Ecological information on ingredients.

#### DICHLOROMETHANE

Bioaccumulative potential: The product is not

### 12.4 Mobility in soil:

**Mobility:** The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

Ecological information on ingredients.

#### ZINC DIBENZYLDITHIOCARBAMATE

**Mobility:** Insoluble in water.

### 12.5 Results of PBT and vPvB assessment:

This product does not contain any substances classified as PBT or vPvB.

#### Ecological information on ingredients.

#### DICHLOROMETHANE

Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

#### ZINC DIBENZYLDITHIOCARBAMATE

Results of PBT and vPvB assessment

#### 12.6. Other adverse effects

This substance is not classified as PBT or vPvB according to current EU criteria.

**Other adverse effects:** Not applicable. Ecological information on ingredients.

#### DICHLOROMETHANE

Other adverse effects: Not applicable.

## 13: Disposal consideration

### 13.1 Waste treatment methods:

General information: Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Disposal methods: Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Avoid the spillage or runoff entering drains, sewers or watercourses.

## 14: Transport information

### 14.1 UN number

UN No. (ADR/RID): 2810  
UN No. (IMDG): 2810  
UN No. (ICAO): 2810  
UN No. (ADN): 2810

### 14.2 UN proper shipping name

Proper shipping name (ADR/RID)  
TOXIC LIQUID, ORGANIC, N.O.S.  
Proper shipping name (IMDG) TOXIC LIQUID,  
ORGANIC, N.O.S. Proper shipping name (ICAO)  
TOXIC LIQUID, ORGANIC, N.O.S. Proper shipping  
name (ADN) TOXIC LIQUID, ORGANIC, N.O.S.

### 14.3 Transport hazard class(es)

ADR/RID class: 6.1  
ADR/RID classification code: T1  
ADR/RID label 6.1  
IMDG class 6.1  
ICAO class/division: 6.1  
ADN class: 6.1  
Transport labels

### 14.4 Packing group

ADR/RID packing group: III  
IMDG packing group: III  
ICAO packing group: III  
ADN packing group: III

### 14.5 Environmental hazards

Environmentally hazardous substance/marine  
pollutant: No.

### 14.6 Special precautions for user

EmS: F-A, S-A  
ADR transport category: 2  
Emergency Action Code: 2X  
Hazard Identification Number 60 (ADR/RID)  
Tunnel restriction code (E)

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

## 15: Regulatory information

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

National regulations: The Control of Substances  
Hazardous to Health Regulations 2002 (SI 2002  
No. 2677) (as amended).

Control of Pollution Act 1974.

Control of Substances Hazardous to Health  
Regulations 2002 (as amended).

EU legislation: Regulation (EC) No 1907/2006 of  
the European Parliament and of the Council of  
18 December 2006 concerning the Registration,  
Evaluation, Authorisation and Restriction of  
Chemicals (REACH) (as amended).

Guidance: Approved Classification and Labelling  
Guide (Sixth edition) L131.

Authorisations (Annex XIV Regulation  
1907/2006)

No specific authorisations are known for this  
product.

### 15.2 Chemical safety assessment

No chemical safety assessment has been carried out

## 16: Other information

Revision date: 17/07/2020

Revision: 20

Supersedes date: 09/04/2018

SDS number: 20995

SDS status: Approved.

Hazard statements in full

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long-lasting  
effects.

H412 Harmful to aquatic life with long-lasting  
effects.

Store between: 5°C - 25°C

METHYLENE CHLORIDE (stabilizer: Amylene)

## 1: Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product identifier

Trade name: METHYLENE CHLORIDE (stabilizer: Amylene)

Substance name: Dichloromethane (Stabilizer: Amylene) REACH Registration Number: 01-2119480404-41-0000

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

Use of the Substance/Mixture

Specific use(s): Industrial and professional use  
Consumer use

Refer to attached exposure scenario Annex.

Recommended restrictions on use: Paint strippers

See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

### 1.3 Details of the supplier of the safety data sheet

Supplier:

**Unit 5**

St. Modwen Park

Norton Road

Broomhall

Worcester

WR5 2QR

Tel (including for emergencies): 01905 337800

(Mon – Fri 7am – 5pm)

Email: sales@obexuk.com

mentioned in this Section, see 16. Classification (67/548/EEC, 1999/45/EC)  
Carcinogenic Category 3, Xn, R40

For the full text of the R-phrases mentioned in this section, see 16.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

**Symbol(s):**

Signal word: Warning



**Signal word**

**Warning**

Hazard statements: H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.  
H336: May cause drowsiness or dizziness.  
H351: Suspected of causing cancer.  
H373: May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements:

Prevention:

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash skin thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P308 + P313

IF exposed or concerned: Get medical

Storage: advice/attention.

P403 + P233: Store in a well-ventilated place.

Keep container tightly closed.

#### Disposal:

P501: Dispose of contents/container to an approved waste disposal plant.

For the full list of P-statements please see 16.

Hazardous components which must be listed on the label: Dichloromethane: 75-09-2

### 2.3 Other hazards:

## 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, 2, H315

Eye irritation, 2, H319

Carcinogenicity, 2, H351

Specific target organ toxicity - single exposure,

3, Respiratory system, H335, Central nervous system, H336

Specific target organ toxicity - repeated exposure,

2, H373 For the full text of the H-Statements



No further data available.

### 3: Composition/information on ingredients

#### 3.1 Substances

Formula: CH<sub>2</sub>Cl<sub>2</sub>

##### Hazardous substance:

For the full text of the H-statements mentioned in this Section, see 16. For the full text of the R-phrases mentioned in this Section, see 16.

##### Chemical Name

Dichloromethane

##### PBTvPvBOEL

-

##### CAS-No. EC-No. REACH No

75-09-2 200-838-901-2119480404-41

##### Classification(REGULATION (EC) No 1272/2008)

Skin Irrit. 2; H315 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H335, H336 STOT RE 2; H373

##### Classification (67/548/EEC)

Xi; R36/37/38 Carc.Cat.3; R40 R67

##### Concentration [%]

99.5

### 4: First-aid measures

#### 4.1 Description of first-aid measures

**General advice:** Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled:** If breathed in, move person into fresh air. Consult a physician after significant exposure. Give oxygen or artificial respiration if needed.

**In case of skin contact:** Take off contaminated clothing and shoes immediately. Wash off with plenty of water. If skin irritation persists, call a physician.

**In case of eye contact:** Remove contact lenses. Rinse with plenty of water. Protect unharmed eye. Keep eye wide open while rinsing. Obtain medical

attention.

**If swallowed:** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Induce vomiting, but only if victim is fully conscious. Obtain medical attention.

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

**Symptoms:** Nausea/vomiting/fatigue/dizziness/headache/shortness of breath

**Risks:** Later control for pneumonia and lung oedema. May cause cardiac arrhythmia. Respiratory disorders.

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

**Treatment:** Treat symptomatically. Do not give drugs from adrenaline-ephedrine group.

### 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting/Specific hazards arising from the chemical: Do not allow run-off from fire fighting to enter drains or water courses.

In case of fire hazardous decomposition products may be produced such as: Carbon monoxide/Hydrogen chloride/Phosgene

#### 5.3 Advice for firefighters

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

**Further information:** Prevent fire extinguishing water from contaminating surface water or the

groundwater system.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Wear respiratory protection.  
Ensure adequate ventilation.

### 6.2 Environmental precautions

**Environmental precautions:** Do not flush into surface water or sanitary sewer system.  
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/Methods for containment:** Soak up with inert absorbent material.  
**Unsuitable material for picking up:** Earth/Sand  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

**Additional advice:** For personal protection see 8.

## 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling:** For personal protection see 8.  
Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.  
Avoid contact with skin, eyes and clothing.

**Advice on protection against fire and explosion:**  
Normal measures for preventive fire protection.  
Vapours are heavier than air and may spread along floors. Do not burn, or use a cutting torch on, the empty drum.

### 7.2 Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers:**  
Prevent unauthorized access. Keep in a well-ventilated place.

**Other data:** Suitable container and packaging materials for safe storage  
Stainless steel  
Carbon steel

### 7.3 Specific end use(s)

Specific use(s): Refer to attached exposure scenario Annex.

## 8: Exposure controls/Personal protection

### 8.1 Control parameters:

Components with workplace control parameters

Components	CAS No.	Value	Control parameters	Update	Basis	Form of exposure
Dichloromethane	75-09-2	TWA	100 ppm 350 mg/m <sup>3</sup>	2007-08-01	GB EH40	
Further information Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.						
		STEL	300 ppm 1,060 mg/m <sup>3</sup>	2007-08-01	GB EH40	
Further information Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.						

STEL: Short term exposure limit  
TWA: Time Weighted Average (TWA)

**Component:** Dichloromethane  
**DNEL/DMEL:** Workers Inhalation  
Acute systemic effects 706 mg/m<sup>3</sup>

**Workers Inhalation:**  
Long-term systemic effects 353 mg/m<sup>3</sup>

**Workers Skin contact:**  
Long-term systemic effects 4750 mg/kg bw/day

**Consumers Inhalation:**  
Acute systemic effects 353 mg/m<sup>3</sup>

**Consumers Inhalation:**  
Long-term systemic effects  
88.3 mg/m<sup>3</sup>

**Consumers Skin contact**

Long-term systemic effects 2395 mg/kg bw/day

**Consumers Ingestion**

Long-term systemic effects

0.06 mg/kg bw/day

Component: Dichloromethane

PNEC: Freshwater

0.54 mg/l

Marine water

0.194 mg/l

Intermittent water

0.27 mg/l

Sewage treatment plant

26 mg/l

Freshwater sediment

4.47 mg/kg

Marine sediment

1.61 mg/kg

Soil

0.583 mg/kg

**PVA**

Breakthrough time: &gt; 480 min

Glove thickness: &gt; 0.8 mm

**Butyl-rubber**

Breakthrough time: &gt; 10 min

Glove thickness: &gt; 0.4 mm

Protective gloves complying with EN 374.

**Eye protection:** Safety glasses with side-shields conforming to EN166 or face-shield**Skin and body protection:**

Wear suitable protective clothing. Boots

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. When using, do not eat or drink. When using, do not smoke. Wash hands before breaks and at the end of workday.**Environmental exposure controls****General advice:** Do not flush into surface water or sanitary sewer system.

If the product contaminates rivers and lakes or drains inform respective authorities.

**8.2 Exposure controls****Engineering Controls**

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protective equipment****Respiratory protection:** In the case of vapour formation use a respirator with an approved filter.**Hand protection:** Fluorinated rubber

Breakthrough time: &gt; 120 min

Glove thickness: &gt; 0.4 mm

**Fluorinated rubber**

Breakthrough time: &gt; 480 min Glove thickness: &gt; 0.8 mm

**9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

Form: clear liquid

**Colour**

colourless

**Odour**

sweet

**Odour threshold**

No data available

**pH**

Not applicable

**Melting point**

ca. -97°C at 1,013 hPa

**Initial boiling point and range**

40°C at 1,013 hPa

**Flash point**

Does not flash

**Evaporation rate**

No data available

**Flammability (solid, gas)**

The product is not flammable

**Lower explosion limit**

13%(V)

**Upper explosion limit**

22%(V)

**Vapour pressure**

476 hPa at 20°C 584 hPa at 25°C 709 hPa at 30°C

**Relative vapour density**

2.93 at 25°C

**Relative density**

1.359 at 20°C

**Water solubility**

ca. 20 g/l at 20°C

**Solubility in other solvents**

Miscible with most organic solvents

**Partition coefficient**

n-octanol/water: log Pow: 1.25 at 20°C

**Auto-ignition temperature**

605°C at 1,013 hPa

**Decomposition temperature**

&gt; 120°C

**Viscosity, dynamic**

0.42 mPa.s at 25°C

**Viscosity, kinematic**

No data available

**Explosive properties**

Not explosive

**Oxidizing properties**

not classified as oxidising

This safety data sheet only contains information relating to safety and does not replace any product information or product specification.

## 10: Stability and reactivity

### 10.1 Reactivity

Stable under normal conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid: Avoid elevated temperatures

### 10.5 Incompatible materials

Materials to avoid: Zinc/Magnesium/Finely divided aluminium/Strong bases/Alkali metals/Strong oxidizing agents/Alkaline earth metals

### 10.6 Hazardous decomposition products

Hazardous decomposition products: Hydrogen chloride/Carbon monoxide/Phosgene  
Thermal decomposition: > 120°C

## 11: Toxicological information

**Product information:****Hazard Summary**

**Inhalation:** Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough. Thermal decomposition can lead to release of irritating gases and vapours. Inhalation may cause central nervous system effects.

**Skin:** Causes skin irritation.

**Eyes:** Causes serious eye irritation.

**Ingestion:** May be harmful if swallowed.

### 11.1 Information on toxicological effects toxicology

### 9.2 Other information

Peroxide content: not applicable

**data for the components:****Toxicology Assessment Dichloromethane****CMR effects:** Carcinogenicity: Limited evidence of carcinogenicity in animal studies**Test result Dichloromethane**

Acute oral toxicity: LD50: &gt; 2,000 mg/kg

Species: rat

Method: OECD Test Guideline 401

**Acute inhalation toxicity:** LC50: 86 mg/l

Exposure time: 4 h Species: rat

**Acute dermal toxicity:** LD50: > 2,000 mg/kg

Species: rat

Method: OECD Test Guideline 402

**Skin irritation:** Species: rabbit - Irritating to skin.

Method: OECD Test Guideline 404

**Eye irritation:** Species: rabbit - Irritating to eyes.**Sensitization:** Species: mouse - Not sensitizing.

Method: OECD Guideline 429 - Skin Sensitization:

Local Lymph Node Assay

**Repeated dose toxicity:** Species: rat

Application Route: Oral Exposure time: 104 weeks

() NOEL: 6

Method: OECD Test Guideline 453

Species: rat

**Application Route:** Inhalation

Exposure time: 104 weeks () NOEL: 200

Method: OECD Test Guideline 453

Germ cell mutagenicity

**Genotoxicity in vitro:** In vitro cytogenetic test in

CHO cells: positive

**Method:** OECD guideline 476 - In vitro Mammalian

Cell Gene Mutation Test

**In vitro gene mutation study in mammalian cells****negative:**

Method: Other guidelines

**Ames test positive:**

Method: Mutagenicity (Salmonella typhimurium -

reverse mutation assay)

**Genotoxicity in vivo:** Chromosome aberration test in vivo

Species: mouse

Method: Mutagenicity (micronucleus test)

negative

**Reproductive toxicity/Fertility:** Method: OECD

Test Guideline 416 Species: rat

Application Route: Inhalation

**Reproductive toxicity/Development/****Teratogenicity:** Method: OECD Test Guideline 414

Species: mouse

Application Route: Inhalation

Method: OECD Test Guideline 414 Species: rat

Application Route: Inhalation

**Target Organ Systemic Toxicant - Single exposure:**

May cause respiratory irritation.

May cause drowsiness or dizziness.

**Target Organ Systemic Toxicant - Repeated**

exposure: Species: rat Application Route: Oral

Exposure time: 104 weeks () NOEL: 6

Method: OECD Test Guideline 453 Species: rat

Application Route: Inhalation Exposure time: 104

weeks () NOEL: 200 Method: OECD Test Guideline

453 Exposure routes: Inhalation

Target Organs: Blood, Central nervous system

May cause damage to organs through prolonged

or repeated exposure. Exposure routes: Ingestion

Target Organs: Blood, Liver

May cause damage to organs through prolonged

or repeated exposure.

## 12: Ecological information

**Product information:** Ecotoxicology Assessment

Additional ecological information

### 12.1 Toxicity

**Components:** Ecotoxicology Assessment**Dichloromethane:** None known.**Results of PBT assessment:** Not classified as PBT or vPvB

**Test result** Dichloromethane  
**Toxicity to fish:** LC50: 193 mg/l Exposure time: 96 h  
**Species:** Pimephales promelas (fathead minnow)  
flow-through test  
**Method:** Other guidelines

**LC50:** 97 mg/l Exposure time: 48 h  
**Species:** Fundulus heteroclitus  
Marine water **Method:** Other guidelines

**Toxicity to daphnia and other aquatic invertebrates:** LC50: 27 mg/l  
**Exposure time:** 48 h  
**Species:** Daphnia magna (Water flea) Freshwater  
**Method:** EPA-660/3-75-009

**LC50:** 109 mg/l Exposure time: 48 h  
**Species:** Palaemonetes pugio  
Marine water **Method:** Other guidelines

**Toxicity to algae:** NOEC: 550 mg/l Exposure time: 192 h  
**Species:** Microcystis aeruginosa - Algae, blue, cyanobacteria Cell multiplication inhibition test  
**Toxicity to bacteria:** EC50: 2,590 mg/l  
**Exposure time:** 0.67 h Respiration inhibition  
**Method:** OECD Guideline 209

**Toxicity to fish (Chronic toxicity):** NOEC: 83 mg/l  
**Exposure time:** 28 d

**Species:** Pimephales promelas (fathead minnow)  
flow-through test **Method:** Other guidelines

#### 12.2 Persistence and degradability

**Components:** Dichloromethane  
**Biodegradability:** aerobic  
Readily biodegradable. 66%  
**Method:** OECD Test Guideline 301D

#### 12.3 Bioaccumulative potential

**Components:** Dichloromethane  
**Bioaccumulation:** No bioaccumulation is to be expected (log Pow <= 4).

#### 12.4 Mobility in soil

**Components:** Dichloromethane  
**Mobility:** Medium: Soil

no data available

#### 12.5 Results of PBT and vPvB assessment

**Components:** Dichloromethane  
**PBT and vPvB assessment:** Not classified as PBT or vPvB

#### 12.6 Other adverse effects

**Components:** Dichloromethane  
**Biochemical Oxygen Demand (BOD):** no data available

13: Disposal considerations

#### 13.1 Waste treatment methods

**Product:** Dispose of as hazardous waste in compliance with local and national regulations. Where possible recycling is preferred to disposal or incineration.

**Contaminated packaging:** Dispose of contents/ container in accordance with local regulation.

### 14: Transport information

#### 14.1 UN number

ADR: 1593  
RID: 1593  
IMDG: 1593  
IATA: 1593

#### 14.2 Proper shipping name

ADR: DICHLOROMETHANE  
RID: DICHLOROMETHANE  
IMDG: DICHLOROMETHANE  
IATA: Dichloromethane

#### 14.3 Transport hazard class

ADR: 6.1  
RID: 6.1  
IMDG: 6.1  
IATA: 6.1

#### 14.4 Packing group ADR

**Packaging group:** III  
**Classification Code:** T1  
**Hazard identification No:** 60

Labels: 6.1  
Tunnel restriction code: (E) RID  
Packaging group: III  
Classification Code: T1  
Hazard identification No: 60  
Labels: 6.1  
IMDG  
Packaging group: III  
Labels: 6.1  
EmS Number: F-A, S-A  
IATA  
Packing instruction (cargo aircraft): 663  
Packaging group: III  
Labels: 6.1

#### 14.5 Environmental hazards

ADR  
Environmentally hazardous: no  
RID  
Environmentally hazardous: no  
IMDG  
Marine Pollutant: no  
IATA  
Environmentally hazardous: no

#### 14.6 Special precautions for user

Handle with care.

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

No data available

### 15: Regulatory information

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

Major Accident Hazard Legislation: 96/82/EC  
Update: 2003 Directive 96/82/EC does not apply

**Water contaminating class (Germany):** WGK 2  
water endangering

##### Notification status

CH INV: YES. The formulation contains substances listed on the Swiss Inventory US.TSCA: YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

DSL: YES. All components of this product are on the Canadian

DSL. AICS: YES. On the inventory, or in compliance with the inventory NZIoC: YES. On the inventory, or in compliance with the inventory ENCS: YES. On the inventory, or in compliance with the inventory ISHL: YES. On the inventory, or in compliance with the inventory

KECI: YES. On the inventory, or in compliance with the inventory

PICCS: YES. On the inventory, or in compliance with the inventory IECSC: YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see 16.

#### 15.2 Chemical Safety Assessment

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

### 16: Other information

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

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

Full text of R-phrases referred to under sections 2 and 3 R36/37/38 Irritating to eyes, respiratory system and skin. R40 Limited evidence of a carcinogenic effect.

R67 Vapours may cause drowsiness and dizziness.

Full list of P-statements.

##### Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated

area.

P280 Wear protective gloves/eye protection/face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 If exposed or concerned: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

**Disposal:**

P501 Dispose of contents/container to an approved waste disposal plant.

**Explanations for possible abbreviations mentioned in 2**

PBT: Persistent, bioaccumulative and toxic. vPvB: Very persistent and very bioaccumulative. OEL: Occupational exposure limit.

**Notification status explanation**

CH INV Switzerland. New notified substances and declared preparations US.TSCA United States TSCA Inventory

DSL Canadian Domestic Substances List (DSL)

AICS Australia Inventory of Chemical Substances (AICS)

NZIoC New Zealand. Inventory of Chemical Substances

ENCS Japan. ENCS - Existing and New Chemical Substances Inventory ISHL Japan. ISHL - Inventory of Chemical Substances (METI)

KECI Korea. Korean Existing Chemicals Inventory (KECI)

PICCS Philippines Inventory of Chemicals and Chemical Substances (PICCS)

IECSC China. Inventory of Existing Chemical Substances in China (IECSC)

**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.

**Annex:**

1. Manufacture, recycling, distribution of substance
2. Intermediate
3. Formulation & (re)packing of substances and mixtures
4. Use as process chemical
5. Use in paints/coatings (industrial)
6. Use in cleaning agents
7. Use of blowing agents in manufacture of foam
8. Use in/as functional fluids (industrial)
9. Use in paints/coatings
10. Use in cleaning agents
11. Use in cosmetics
12. Use in agrochemicals (professional)
13. Packing and repacking of formulations
14. Laboratory reagents
15. Consumer use

**1****Short title of exposure scenario:**

Manufacture, recycling, distribution of substance

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

**Sectors of end-use: SU8, SU9:** Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals

**Environmental release categories: ERC1:**

Manufacture of substances

**Process categories:**



**PROC1:** Use in closed process, no likelihood of exposure  
**PROC2:** Use in closed, continuous process with occasional controlled exposure  
**PROC3:** Use in closed batch process (synthesis or formulation)  
**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  
**PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
**PROC15:** Use as laboratory reagent

## 2.1 Contributing scenario controlling environmental exposure for:

**ERC1:** Manufacture of substances

### Amount used

Daily amount per site: 8570 kg

Annual amount per site: 2570 tonnes

### Environment factors not influenced by risk management

Flow rate: 18,000 m<sup>3</sup>/day

### Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year: 300

Emission or Release Factor: Air: 0.000060%

Emission or Release Factor: Water: 0.000369%

Emission or Release Factor: Soil: 0%

Remarks: Indoor use, Used in closed system

### Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Treat on-site wastewater (prior to receiving water discharge).

(Effectiveness (of a measure): 93.5%)

**Soil:** Soil emission controls are not applicable as

there is no direct release to soil.

**Remarks:** Common practices vary across sites thus conservative process release estimates used.

**Water:** Prevent discharge of undissolved substance to or recover from wastewater.

### Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant: Sewage treatment plant

### Flow rate of sewage treatment plant effluent

Percentage removed from wastewater: 63,072 m<sup>3</sup>/day: 93.5%

**Remarks:** Domestic sewage treatment is not assumed.

## 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, vapour pressure > 10 kPa

### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

### Technical conditions and measures

Handle substance within a closed system.

### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin

contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**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 the percentage of the substance in the product up to 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.4 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a predominantly closed system provided with extract ventilation.  
(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.5 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 the percentage of the substance in the product up to 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.  
(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation. Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.6 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 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour

pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Drain or remove substance from equipment prior to break-in or maintenance. (Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.7 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Fill containers/cans at dedicated filling points supplied with local extract ventilation. (Effectiveness (of a measure): 97%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.8 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 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Fill containers/cans at dedicated filling

points supplied with local extract ventilation. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**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 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

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

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC1	EUSES	Freshwater	5.17 µg/L	0.00957
ERC1	EUSES	Marine water	9.3 µg/kg wwt	0.00957
ERC1	EUSES	Freshwater sediment	0.749 µg/kg wwt	0.00214
ERC1	EUSES	Marine sediment	0.749 µg/kg wwt	0.00214
ERC1	EUSES	Soil	0.126 µg/kg	0.000245
ERC1	EUSES	Groundwater	0.0498 µg/L	0.000092
ERC1	EUSES	Sewage treatment plant	0.883 µg/L	0.000034

**Workers**

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.27mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37mg/kg/day	0.0003
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC8a	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	2.74mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	4.5 ppm	0.05
PROC8b	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37mg/kg/day	0.0003

PROC9	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	20 ppm	0.2
PROC9	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37mg/kg/day	0.0003
PROC15	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07mg/kg/day	0.00001

**ERC1: Manufacture of substances**
**PROC1:** Use in closed process, no likelihood of exposure

**PROC15:** Use as laboratory reagent

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**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

**PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**
**1.1 Short title of exposure scenario:**
**Intermediate**
**Main user groups: SU 3:**
**Industrial uses:** Uses of substances as such or in preparations at industrial sites

**Sectors of end-use: SU8, SU9:** Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals

**Environmental release categories: ERC6a:**

Industrial use resulting in manufacture of another substance (use of intermediates)

**Process categories:**
**PROC1:** Use in closed process, no likelihood of

exposure

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**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

**PROC15:** Use as laboratory reagent

## 2.1 Contributing scenario controlling environmental exposure for:

**ERC6a:** Industrial use resulting in manufacture of another substance (use of intermediates)

### Amount used

**Daily amount per site:** 8567 kg

**Annual amount per site:** 2570 tonnes

### Environment factors not influenced by risk management

**Flow rate:** 18,000 m<sup>3</sup>/day

### Other given operational conditions affecting environmental exposure

**Continuous use/release**

**Number of emission days per year:** 300

**Emission or Release Factor: Air:** 0.0005%

**Emission or Release Factor: Water:** 0.01%

**Emission or Release Factor: Soil:** 0%

**Remarks:** Indoor use, Used in closed system

### Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP.

(Effectiveness (of a measure): 93.5%)

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

**Water:** Prevent discharge of undissolved substance to or recover from wastewater.

### 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<sup>3</sup>/day Percentage removed from wastewater: 93.5%

## 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, vapour pressure > 10 kPa

### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently): Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

### Technical conditions and measures

Handle substance within a closed system.

### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

## 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 the percentage of the substance in the product up to 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently): Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.4 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently): Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.5 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 the percentage of the substance in the product up to 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently): Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational

hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

**2.6 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 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently): Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Drain or remove substance from equipment prior to break-in or maintenance. (Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.7 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently): Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Fill containers/cans at dedicated filling points supplied with local extract ventilation. (Effectiveness (of a measure): 97%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with



substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

#### 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, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

### 3 Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Specific Conditions	Compartment	Level of Exposure	RCR
ERC2	EUSES	Paint strippers	Freshwater	0.283 mg/L	0.524
ERC2	EUSES	Paint strippers	Marine water	0.0282 mg/L	0.145
ERC2	EUSES	Paint strippers	Freshwater sediment	0.509 mg/kg wet weight	0.524
ERC2	EUSES	Paint strippers	Marine sediment	0.0507 mg/kg wet weight	0.145
ERC2	EUSES	Paint strippers	Soil	0.308 mg/kg dry weight	0.599
ERC2	EUSES	Paint strippers	Groundwater	0.0639 mg/L	0.118
ERC2	EUSES	Paint strippers	Sewage treatment plant	2.78 mg/L	0.107
ERC2	EUSES	Aerosol	Freshwater	4.96 µg/L	0.00919
ERC2	EUSES	Aerosol	Marine water	4.00 µg/L	0.00206
ERC2	EUSES	Aerosol	Freshwater sediment	8.93 µg/kg wwt	0.00919
ERC2	EUSES	Aerosol	Marine sediment	0.72 µg/kg wwt	0.00206
ERC2	EUSES	Aerosol	Soil	1.29 µg/kg	0.00251
ERC2	EUSES	Aerosol	Groundwater	1.26 µg/L	0.00233
ERC2	EUSES	Aerosol	Sewage treatment plant	1.06 µg/L	0.00004
ERC2	EUSES	Metal degreasers	Freshwater	0.259 mg/L	0.480
ERC2	EUSES	Metal degreasers	Marine water	0.029 mg/L	0.133
ERC2	EUSES	Metal degreasers	Freshwater sediment	0.467 mg/kg wet weight	0.480
ERC2	EUSES	Metal degreasers	Marine sediment	0.047 mg/kg wet weight	0.133
ERC2	EUSES	Metal degreasers	Soil	0.283 mg/kg dry weight	0.550
ERC2	EUSES	Metal degreasers	Groundwater	0.059 mg/L	0.110
ERC2	EUSES	Metal degreasers	Sewage treatment plant	2.54 mg/L	0.098
ERC2	EUSES	Adhesives, sealants	Freshwater	4.85 µg/L	0.0090
ERC2	EUSES	Adhesives, sealants	Marine water	0.39 µg/L	0.0020
ERC2	EUSES	Adhesives, sealants	Freshwater sediment	8.74 µg/kg wwt	0.0090
ERC2	EUSES	Adhesives, sealants	Marine sediment	0.701 µg/kg wwt	0.0020

ERC2	EUSES	Adhesives, sealants	Soil	0.419 µg/kg	0.0073
ERC2	EUSES	Adhesives, sealants	Groundwater	0.440 µg/L	0.0008
ERC2	EUSES	Adhesives, sealants	Sewage treatment plant	0 mg/L	0

### Workers

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	0.07mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	1.37mg/kg/day	0.0003
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	2.74mg/kg/day	0.0006
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	2.74mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	4.5 ppm	0.05
PROC8b	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	1.37mg/kg/day	0.0003
PROC9	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	20 ppm	0.2
PROC9	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	1.37mg/kg/day	0.0003
PROC15	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	0.07mg/kg/day	0.00001

**ERC2:** Formulation of preparations

**PROC15:** Use as laboratory reagent

**PROC3:** Use in closed batch process (synthesis or formulation)

**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

**PROC9:** Transfer of substance or preparation into

small containers  
(dedicated filling line, including weighing)

**4** **Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1** **Short title of exposure scenario:**

**Use as process chemical**

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

**Sectors of end-use: SU5, SU9:** Manufacture of textiles, leather, fur, Manufacture of fine chemicals

**Environmental release categories:**  
**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Process categories:**  
**PROC1:** Use in closed process, no likelihood of exposure  
**PROC2:** Use in closed, continuous process with occasional controlled exposure  
**PROC3:** Use in closed batch process (synthesis or formulation)  
**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises  
**PROC10:** Roller application or brushing  
**PROC15:** Use as laboratory reagent

**2.1** **Contributing scenario controlling environmental exposure for:**

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** solvents

**Amount used**

Daily amount per site: 24100 kg

Annual amount per site: 2410 tonnes

Environment factors not influenced by risk management

Flow rate: 18,000 m<sup>3</sup>/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year: 100

Emission or Release Factor: Air: 0.669%

Emission or Release Factor: Water: 0.00154%

Emission or Release Factor: Soil: 0%

Remarks: Indoor use, Used in closed system

Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

## 2.2 Contributing scenario controlling environmental exposure for:

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** Extraction agents

**Amount used**

**Daily amount per site:** 36712 kg

**Annual amount per site:** 13400 tonnes

Environment factors not influenced by risk management

Flow rate: 18,000 m<sup>3</sup>/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year: 365

Emission or Release Factor: Air: 0.000706%

Emission or Release Factor: Water: 0.00529%

Emission or Release Factor: Soil: 0%

Remarks: Indoor use, Used in closed system

Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

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<sup>3</sup>/day Percentage removed from wastewater: 93.5%

## 2.3 Contributing scenario controlling environmental exposure for:

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** Extraction agents

**Amount used**

**Daily amount per site:** 38460 kg

**Annual amount per site:** 3846 tonnes

Environment factors not influenced by risk management

Flow rate: 18,000 m<sup>3</sup>/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year: 100  
Emission or Release Factor: Air: 0.114%  
Emission or Release Factor: Water: 0.095%  
Emission or Release Factor: Soil: 0%  
Remarks: Indoor use, Used in closed system

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

**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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

**2.4 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.5 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 the percentage of the substance in the product up to 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic

employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.6 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a predominantly closed system provided with extract ventilation.  
(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.7 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 the percentage of the substance in the product up to 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.  
(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.8 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**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 100% (unless stated differently).

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours

(unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

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

Environment

Contributing Scenario	Exposure Assessment Method	Specific Conditions	Compartment	Level of Exposure	RCR
ERC4	EUSES	Process solvent	Freshwater	0.082 mg/L	0.153
ERC4	EUSES	Process solvent	Marine water	0.082 mg/L	0.042
ERC4	EUSES	Process solvent	Freshwater sediment	0.149 mg/kg wet weight	0.153
ERC4	EUSES	Process solvent	Marine sediment	0.015 mg/kg wet weight	0.042
ERC4	EUSES	Process solvent	Soil	0.126 mg/kg dry weight	0.245
ERC4	EUSES	Process solvent	Groundwater	0.060 mg/L	0.111
ERC4	EUSES	Process solvent	Sewage treatment plant	0.776 mg/L	0.030
ERC4	EUSES	Extraction medium - large sites	Freshwater	11 µg/L	0.021
ERC4	EUSES	Extraction medium - large sites	Marine water	1.03 µg/L	0.005
ERC4	EUSES	Extraction medium - large sites	Freshwater sediment	0.020 mg/kg wet weight	0.021

ERC4	EUSES	Extraction medium - large sites	Marine sediment	0.002 mg/kg wet weight	0.005
ERC4	EUSES	Extraction medium - large sites	Soil	7.46 µg/kg wwt	0.245
ERC4	EUSES	Extraction medium - large sites	Groundwater	1.85 µg/L	0.003
ERC4	EUSES	Extraction medium - large sites	Sewage treatment plant	64 µg/L	0.0025
ERC4	EUSES	Extraction medium - small sites	Freshwater	0.185 mg/L	0.343
ERC4	EUSES	Extraction medium - small sites	Marine water	0.018 mg/L	0.093
ERC4	EUSES	Extraction medium - small sites	Freshwater sediment	0.334 mg/kg wet weight	0.343
ERC4	EUSES	Extraction medium - small sites	Marine sediment	0.033 mg/kg wet weight	0.093
ERC4	EUSES	Extraction medium - small sites	Soil	0.211 mg/kg dry weight	0.411
ERC4	EUSES	Extraction medium - small sites	Groundwater	0.053 mg/L	0.098
ERC4	EUSES	Extraction medium - small sites	Sewage treatment plant	1.81 mg/L	0.070

### Workers

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.27mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37mg/kg/day	0.0003
PROC10	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	4.5 ppm	0.25
PROC10	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37mg/kg/day	0.001

PROC15	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	5.49mg/kg/day	0.00001
PROC15	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07mg/kg/day	0.00001

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**PROC1:** Use in closed process, no likelihood of exposure

**PROC10:** Roller application or brushing

**PROC15:** Use as laboratory reagent

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**PROC4:** Use in batch and other process

(synthesis) where opportunity for exposure arises

**4** **Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1** **Short title of exposure scenario: Use in Paints/ coatings (industrial)**

**Main user groups:**

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

**Sectors of end-use: SU11, SU18:** Manufacture of rubber products, manufacture of furniture

**Environmental release categories:**

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Process categories:**

**PROC7:** Industrial spraying

**PROC10:** Roller application or brushing

**Activity:** Use in coatings (paints, adhesives, sealants), industrial

**2.1** **Contributing scenario controlling environmental exposure for:**

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** Aerosols

**Amount used**

**Daily amount per site:** 10720 kg

**Annual amount per site:** 1072 tonnes

Environment factors not influenced by risk management

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

**Continuous use/release**

**Number of emission days per year:** 100

**Emission or Release Factor: Air:** 0.95%

**Emission or Release Factor: Water:** 1%

**Emission or Release Factor: Soil:** 0%

**Remarks:** Indoor use, Used in closed system

**Technical conditions and measures/Organisational measures**

**Water:** Ensure all wastewater is collected and treated via a WWTP.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

**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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

## 2.2 Contributing scenario controlling environmental exposure for:

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** Adhesives

**Amount used**

**Daily amount per site:** 6900 kg

**Annual amount per site:** 2070 tonnes

Environment factors not influenced by risk management

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure** Continuous use/release

**Number of emission days per year:** 300

**Emission or Release Factor: Air:** 0.006%

**Emission or Release Factor: Water:** 0%

**Emission or Release Factor: Soil:** 0%

**Remarks:** Indoor use, Used in closed system

**Technical conditions and measures/Organisational measures**

**Water:** Ensure all wastewater is collected and treated via a WWTP.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

**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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

## 2.3 Contributing scenario controlling worker exposure for:

**PROC7:** Industrial spraying

**Activity:** Aerosols, paint/coatings

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational



hygiene is implemented.

**Technical conditions and measures**

Carry out in a vented booth provided with laminar airflow. (Effectiveness (of a measure): 95%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur.

Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.4 Contributing scenario controlling worker exposure for:**

**PROC7:** Industrial spraying

**Activity:** Aerosols, mould release agents

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Carry out in a vented booth provided with laminar airflow. (Effectiveness (of a measure): 95%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.5 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Adhesives, sealants

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with

substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

#### 3 Exposure estimation and reference to its source

##### Environment

Contributing Scenario	Exposure Assessment Method	Specific Conditions	Compartment	Level of Exposure	RCR
ERC4	EUSES	Aerosol	Freshwater	4.96 µg/L	0.0092
ERC4	EUSES	Aerosol	Marine water	0.40 µg/L	0.0021
ERC4	EUSES	Aerosol	Freshwater sediment	8.93 µg/kg wwt	0.0092
ERC4	EUSES	Aerosol	Marine sediment	0.72 µg/kg wwt	0.0021
ERC4	EUSES	Aerosol	Soil	0.045 mg/kg dry weight	0.087
ERC4	EUSES	Aerosol	Groundwater	0.047 mg/L	0.087
ERC4	EUSES	Aerosol	Sewage treatment plant	1.06 µg/L	0.00004
ERC4	EUSES	Adhesives	Freshwater	4.85 µg/L	0.153
ERC4	EUSES	Adhesives	Marine water	0.39 µg/L	0.042
ERC4	EUSES	Adhesives	Freshwater sediment	8.74 µg/kg wwt	0.153
ERC4	EUSES	Adhesives	Marine sediment	0.702 µg/kg wwt	0.042
ERC4	EUSES	Adhesives	Soil	2.05	0.004
ERC4	EUSES	Adhesives	Groundwater	2.15 µg/L	0.004
ERC4	EUSES	Adhesives	Sewage treatment plant	0 mg/L	0

##### Workers

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC7	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC7	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	8.57 mg/kg/day	0.002

PROC7	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC7	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	8.57 mg/kg/day	0.002
PROC7	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC7	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**PROC10:** Roller application or brushing

**PROC7:** Industrial spraying

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1 Short title of exposure scenario: Use in cleaning agents**

#### Main user groups:

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

#### Sectors of end-use: SU5, SU7, SU12, SU13, SU17:

Manufacture of textiles, leather, fur, Printing and reproduction of recorded media, Manufacture of plastics products, including compounding and conversion, Manufacture of other non-metallic mineral products, e.g. plasters, cement, General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

#### Environmental release categories: ERC4, ERC7:

Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems

#### Process categories:

**PROC0:** Other process or activity

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**PROC4:** Use in batch and other process

(synthesis) where opportunity for exposure arises

**PROC7:** Industrial spraying

**PROC10:** Roller application or brushing  
**PROC13:** Treatment of articles by dipping and pouring

## 2.1 Contributing scenario controlling environmental exposure for:

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** Aerosols, Metal degreasers

### Amount used

Daily amount per site: 59000 kg

Annual amount per site: 1180 tonnes

### Environment factors not influenced by risk management

**Flow rate:** 18,000 m<sup>3</sup>/day

### Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year: 20

Emission or Release Factor: Air: 0.3%

Emission or Release Factor: Water: 0.0001%

Emission or Release Factor: Soil: 0%

**Remarks:** Indoor use, Used in closed system

### Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

### 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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

## 2.2 Contributing scenario controlling environmental exposure for:

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Activity:** Paint strippers

### Amount used

**Daily amount per site:** 140500 kg

**Annual amount per site:** 2810 tonnes

### Environment factors not influenced by risk management

**Flow rate:** 18,000 m<sup>3</sup>/day

### Other given operational conditions affecting environmental exposure

Continuous use/release

**Number of emission days per year:** 20

**Emission or Release Factor: Air:** 0.3%

**Emission or Release Factor: Water:** 0.0001%

**Emission or Release Factor: Soil:** 0%

**Remarks:** Used in closed system

### Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

### 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<sup>3</sup>/day Percentage removed from

wastewater: 93.5%

### 2.3 Contributing scenario controlling environmental exposure for:

**ERC7:** Industrial use of substances in closed systems

**Activity:** Cleaning agent/functional fluid

#### Amount used

**Daily amount per site:** 10720 kg

**Annual amount per site:** 1072 tonnes

#### Environment factors not influenced by risk management

**Flow rate:** 18,000 m<sup>3</sup>/day

#### Other given operational conditions affecting environmental exposure

**Continuous use/release**

Number of emission days per year: 20

Emission or Release Factor: Air: 0.01%

Emission or Release Factor: Water: 0.001%

Emission or Release Factor: Soil: 0.001%

**Remarks:** Used in closed system

#### Technical conditions and measures/Organisational measures

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

#### 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<sup>3</sup>/day Percentage removed from wastewater: 93.5%

### 2.4 Contributing scenario controlling worker exposure for:

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**Activity:** Industrial surface cleaning, metal cleaning (vapour degreasing)

#### 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, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures

Handle substance within a closed system.

#### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

### 2.5 Contributing scenario controlling worker exposure for:

**PROC3:** Use in closed batch process (synthesis or formulation)

**Activity:** Raw leather cleaning

#### 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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.6 Contributing scenario controlling worker exposure for:**

**PROC3:** Use in closed batch process (synthesis or formulation)

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.7 Contributing scenario controlling worker exposure for:**

**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

**2.8 Contributing scenario controlling worker exposure for:**

**PROC7:** Industrial spraying

**Activity:** Paint strippers

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a respirator conforming to EN 140 with Type A filter or better.

(Effectiveness (of a measure): 90%)

**2.9 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Manual use as cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Conditions and measures related to personal protection, hygiene and health evaluation**  
Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.10 Contributing scenario controlling worker exposure for:**

**PROC13:** Treatment of articles by dipping and pouring

**Activity:** Paint stripping/Metal cleaning

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.  
(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin

contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.11 Contributing scenario controlling worker exposure for:**

**PROC13:** Treatment of articles by dipping and pouring

**Activity:** Paint stripping/Metal cleaning

**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, vapour pressure > 10 kPa

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid carrying out operation for more than 1 hour. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

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

Environment

Contributing Scenario	Exposure Assessment Method	Specific Conditions	Compartment	Level of Exposure	RCR
ERC4	EUSES	Metal degreasers	Freshwater	6.40 µg/L	0.012
ERC4	EUSES	Metal degreasers	Marine water	0.544 µg/L	0.0028
ERC4	EUSES	Metal degreasers	Freshwater sediment	12 µg/kg wwt	0.012
ERC4	EUSES	Metal degreasers	Marine sediment	0.980 µg/kg wwt	0.0028
ERC4	EUSES	Metal degreasers	Soil	2.81 µg/kg wwt	0.00546
ERC4	EUSES	Metal degreasers	Groundwater	1.51 µg/L	0.00278
ERC4	EUSES	Metal degreasers	Sewage treatment plant	16 µg/L	0.00062
ERC4	EUSES	Paint strippers	Freshwater	6.42 µg/L	0.012
ERC4	EUSES	Paint strippers	Marine water	0.564 µg/L	0.0028
ERC4	EUSES	Paint strippers	Freshwater sediment	12 µg/kg wwt	0.012
ERC4	EUSES	Paint strippers	Marine sediment	0.983 µg/kg wwt	0.0028
ERC4	EUSES	Paint strippers	Soil	2.85 µg/kg wwt	0.00553
ERC4	EUSES	Paint strippers	Groundwater	1.52 µg/L	0.00281
ERC4	EUSES	Paint strippers	Sewage treatment plant	16 µg/L	0.00062
ERC7	EUSES	-	Freshwater	6.52 µg/L	0.012
ERC7	EUSES	-	Marine water	0.556 µg/L	0.0029
ERC7	EUSES	-	Freshwater sediment	12.1 µg/kg wwt	0.012
ERC7	EUSES	-	Marine sediment	1.00 µg/kg wwt	0.0029
ERC7	EUSES	-	Soil	1.86 µg/kg wwt	0.00361
ERC7	EUSES	-	Groundwater	0.396 µg/L	0.00733
ERC7	EUSES	-	Sewage treatment plant	17 µg/L	0.00066

### Workers

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC2	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1

PROC3	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.34 mg/kg/day	0.00001
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.34 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC7	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC7	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	42.86 mg/kg/day	0.002
PROC10	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC10	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	27.43 mg/kg/day	0.001
PROC13	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC13	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	13.71 mg/kg/day	0.0006
PROC10	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	13.71 mg/kg/day	0.0006

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**ERC7:** Industrial use of substances in closed systems

**PROC10:** Roller application or brushing

**PROC13:** Treatment of articles by dipping and pouring

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**PROC4:** Use in batch and other process

(synthesis) where opportunity for exposure arises

**PROC7:** Industrial spraying

**4** Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario

**1** Short title of exposure scenario:  
Use of blowing agents in manufacture of foam

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



**Sectors of end-use: SU 3: Industrial Manufacturing (all)**

**Environmental release categories: ERC4:**  
Industrial use of processing aids in processes and products, not becoming part of articles

**Process categories:**

**PROC1:** Use in closed process, no likelihood of exposure  
**PROC2:** Use in closed, continuous process with occasional controlled exposure  
**PROC3:** Use in closed batch process (synthesis or formulation)  
**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises  
**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)  
**PROC12:** Use of blowing agents in manufacture of foam

**2.1 Contributing scenario controlling environmental exposure for:**

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**Amount used**

**Daily amount per site:** 3183 kg  
**Annual amount per site:** 955 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

**Continuous use/release**

**Number of emission days per year:** 300  
**Emission or Release Factor: Air:** 1%  
**Emission or Release Factor: Water:** 0.001%  
**Emission or Release Factor: Soil:** 0%

**Remarks:** Used in closed system

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

**2.2 Contributing scenario controlling worker exposure for:**

**PROC1:** Use in closed process, no likelihood of exposure

**Activity:** Surface treatment

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.3 Contributing scenario controlling worker exposure for:**

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**Activity:** Surface treatment

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures

and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.4 Contributing scenario controlling worker exposure for:**

**PROC3:** Use in closed batch process (synthesis or formulation)

**Activity:** Cleaning

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a closed system.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.5 Contributing scenario controlling worker exposure for:**

**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.6 Contributing scenario controlling worker exposure for:**

**PROC8b:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

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

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Limit the substance content in the product to 25%. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.8 Contributing scenario controlling worker exposure for:**

**PROC12:** Use of blowing agents in manufacture of foam

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

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

**Environment**

Contributing Scenario	Exposure Assessment Method	Specific Conditions	Compartment	Level of Exposure	RCR
ERC4	EUSES	Metal degreasers	Freshwater	15 µg/L	0.028
ERC4	EUSES	Metal degreasers	Marine water	1.42 µg/L	0.0073
ERC4	EUSES	Metal degreasers	Freshwater sediment	27 µg/kg wwt	0.028
ERC4	EUSES	Metal degreasers	Marine sediment	2.56 µg/kg wwt	0.0073
ERC4	EUSES	Metal degreasers	Soil	0.048 mg/kg dry weight	0.093
ERC4	EUSES	Metal degreasers	Groundwater	0.040 mg/L	0.748
ERC4	EUSES	Metal degreasers	Sewage treatment plant	0.103 µg/L	0.00398

**Workers**

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.04 mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	30 ppm	0.3
PROC2	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.16 mg/kg/day	0.00003
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	60 ppm	0.6
PROC3	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.04 mg/kg/day	0.00001

PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	60 ppm	0.6
PROC4	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.82 mg/kg/day	0.0002
PROC8b	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	90 ppm	0.9
PROC9	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.82 mg/kg/day	0.0002
PROC9	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	12 ppm	0.12
PROC12	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.82 mg/kg/day	0.0002
PROC12	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	60 ppm	0.6
PROC12	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.04 mg/kg/day	0.00001

**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

**PROC1:** Use in closed process, no likelihood of exposure

**PROC12:** Use of blowing agents in manufacture of foam

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises

**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)

#### 4 Guidance to downstream user to evaluate whether they works inside the boundaries set by the exposure scenario

##### 1 Short title of exposure scenario: Use in/as functional fluids (industrial)

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

**Sectors of end-use: SU 3: Industrial Manufacturing (all)**

**Environmental release categories: ERC7:**

Industrial use of substances in closed systems

#### Process categories:

**PROC1:** Use in closed process, no likelihood of exposure

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises

#### 2.1 Contributing scenario controlling environmental exposure for:

**ERC7:** Industrial use of substances in closed systems

**Activity:** Aerosols

#### Amount used

**Daily amount per site:** 500 kg

**Annual amount per site:** 10 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

Continuous use/release

**Number of emission days per year:** 20

Emission or Release Factor: Air: 0.01%

Emission or Release Factor: Water: 0.001%

Emission or Release Factor: Soil: 0.001%

**Remarks:** Used in closed system

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

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<sup>3</sup>/day

Percentage removed from waste: 93.5% water

## 2.2 Contributing scenario controlling worker exposure for:

**PROC1:** Use in closed process, no likelihood of exposure

**Activity:** Surface treatment

### 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, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures

Handle substance within a closed system.

#### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

#### Conditions and measures related to personal

#### protection, hygiene and health evaluation

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

## 2.3 Contributing scenario controlling worker exposure for:

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**Activity:** Surface treatment

### 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, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures

Handle substance within a closed system.

#### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

## 2.4 Contributing scenario controlling worker exposure for:

**PROC3:** Use in closed batch process (synthesis or formulation)

**Activity:** Cleaning

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.5 Contributing scenario controlling worker exposure for:**

**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises

**Activity:** Cleaning agent

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

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

**Environment**

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC7	EUSES	Freshwater	6.52 µg/L	0.012
ERC7	EUSES	Marine water	0.556 µg/L	0.0029
ERC7	EUSES	Freshwater sediment	12.1 µg/kg wwt	0.012
ERC7	EUSES	Marine sediment	1.00 µg/kg wwt	0.0029

ERC7	EUSES	Soil	1.86 µg/kg wwt	0.00361
ERC7	EUSES	Groundwater	0.396 µg/L	0.00733
ERC7	EUSES	Sewage treatment plant	17 µg/L	0.00066

**Workers**

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.27 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003

**ERC7:** Industrial use of substances in closed systems

**PROC1:** Use in closed process, no likelihood of exposure

**PROC2:** Use in closed, continuous process with occasional controlled exposure

**PROC3:** Use in closed batch process (synthesis or formulation)

**PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1 Short title of exposure scenario: Use in paints/coatings**

**Main user groups: SU 22: Professional uses: Public domain**

(administration, education, entertainment, services, craftsmen)

**Sectors of end-use: SU 22: Professional uses: Public domain**

(administration, education, entertainment,

services, craftsmen)

**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

**Process categories:**

**PROC10:** Roller application or brushing

**PROC11:** Non-industrial spraying

**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

**Activity:** Aerosols

**Amount used**

**Daily amount per site:** 6.14 kg

**Annual amount per site:** 2.24 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

Dispersive use

Number of emission days per year: 365

Emission or Release Factor: Air: 1%

Emission or Release Factor: Water: 1%

Emission or Release Factor: Soil: 0.01%

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**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<sup>3</sup>/day  
Percentage removed from wastewater: 93.5%

- 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

**Activity:** Adhesives

**Amount used**

Daily amount per site: 11.4 kg  
Annual amount per site: 4.14 tonnes  
Environment factors not influenced by risk management  
Flow rate: 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**  
Dispersive use

Number of emission days per year: 365  
Emission or Release Factor: Air: 1%  
Emission or Release Factor: Water: 1%  
Emission or Release Factor: Soil: 0.01%

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**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**

Percentage removed from wastewater: 2,000 m<sup>3</sup>/day: 93.5%

- 2.3 Contributing scenario controlling worker exposure for:**  
**PROC10:** Roller application or brushing

**Activity:** Paint/coatings, indoor

**Product characteristics**

**Concentration of the substance in mixture/article:**  
Limit the substance content in the mixture to 50%.

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 90%)

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

- 2.4 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Paint/coatings, outdoor

**Product characteristics**

**Concentration of the substance in mixture/article:**  
Limit the substance content in the mixture to 50%.

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (Effectiveness (of a measure): 30%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 1 hour. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.5 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Adhesives, sealants, indoor

**Product characteristics**

**Concentration of the substance in mixture/article:**

Limit the substance content in the mixture to 50%.

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80%)

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.6 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying

**Activity:** Paint/coatings, aerosols, indoor

**Product characteristics**

**Concentration of the substance in mixture/article:**

Limit the substance content in the mixture to 50%.

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure.**  
Avoid carrying out operation for more than 4 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**  
Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**Wear a respirator conforming to EN 140 with Type A filter or better.**  
(Effectiveness (of a measure): 90%)

### 3 Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Freshwater	12 µg/L	0.022
ERC8a	EUSES	Marine water	1.15 µg/L	0.00593
ERC8a	EUSES	Freshwater sediment	22 µg/kg wwt	0.022
ERC8a	EUSES	Marine sediment	2.06 µg/kg wwt	0.00593
ERC8a	EUSES	Soil	8.40 µg/kg wwt	0.016
ERC8a	EUSES	Groundwater	1.74 µg/L	0.00322
ERC8a	EUSES	Sewage treatment plant	76 µg/L	0.00293
ERC8a	EUSES	Freshwater	19 µg/L	0.035
ERC8a	EUSES	Marine water	1.85 µg/L	0.00954
ERC8a	EUSES	Freshwater sediment	35 µg/kg wwt	0.035
ERC8a	EUSES	Marine sediment	3.33 µg/kg wwt	0.00954
ERC8a	EUSES	Soil	16 µg/kg wwt	0.00563
ERC8a	EUSES	Groundwater	3.35 µg/L	0.00619
ERC8a	EUSES	Sewage treatment plant	0.146 mg/L	0.00564

#### 2.7 Contributing scenario controlling worker exposure for:

**PROC11: Non-industrial spraying**

**Activity:** Paint/coatings, aerosols, outdoor

#### Product characteristics

**Concentration of the substance in mixture/article:**  
Limit the substance content in the mixture to 50%.

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

#### Other operational conditions affecting workers exposure

#### Outdoor/Indoor: Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures

Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  
(Effectiveness (of a measure): 30%)

#### Organisational measures to prevent/limit releases, dispersion and exposure

Ensure operation is undertaken outdoors.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

#### Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	2.74mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	2.74mg/kg/day	0.001
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	60 ppm	0.6
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	10.71mg/kg/day	0.002

PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	10.71 mg/kg/day	0.002

**ERC8d:** Wide dispersive outdoor use of processing aids in open systems  
**PROC10:** Roller application or brushing

**PROC11:** Non-industrial spraying

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1 Short title of exposure scenario: Use in cleaning agents**

**Main user groups: SU 22: Professional uses:**  
 Public domain  
 (administration, education, entertainment, services, craftsmen)

**Sectors of end-use: SU 22: Professional uses:**  
 Public domain  
 (administration, education, entertainment, services, craftsmen)

**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

**Process categories:**  
**PROC10:** Roller application or brushing  
**PROC11:** Non-industrial spraying  
**PROC13:** Treatment of articles by dipping and pouring

**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

**Activity:** Metal degreasers

**Amount used**  
**Daily amount per site:** 6.47 kg

**Annual amount per site:** 2.36 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

Dispersive use

**Number of emission days per year:** 365

**Emission or Release Factor: Air:** 1%

**Emission or Release Factor: Water:** 1%

**Emission or Release Factor: Soil:** 0.01%

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**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<sup>3</sup>/day  
 Percentage removed from wastewater: 93.5%

**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

**Activity:** Paint strippers

**Amount used**  
**Daily amount per site:** 15.4 kg  
**Annual amount per site:** 5.62 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day  
Other given operational conditions affecting environmental exposure Dispersive use

**Number of emission days per year:** 365  
**Emission or Release Factor: Air:** 1%  
**Emission or Release Factor: Water:** 1%  
**Emission or Release Factor: Soil:** 0.01%

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**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**  
**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

**2.3 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Cleaning agent, indoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor:

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a respirator conforming to EN 140 with Type A filter or better.

(Effectiveness (of a measure): 90%)

**2.4 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Cleaning agent, outdoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic

standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)  
Wear a respirator conforming to EN 140 with Type A filter or better.  
(Effectiveness (of a measure): 90%)

**2.5 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Paint stripper & graffiti remover, indoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor  
Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)  
Wear a respirator conforming to EN 140 with Type A filter or better.  
(Effectiveness (of a measure): 90%)

**2.6 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Paint stripper & graffiti remover, outdoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor  
Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a respirator conforming to EN 140 with Type A filter or better.

(Effectiveness (of a measure): 90%)

**2.7 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying

**Activity:** Paint stripper & graffiti remover, indoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a full face respirator conforming to EN 140 with Type A filter or better. (Effectiveness (of a measure): 95%)

**2.8 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying

**Activity:** Paint stripper & graffiti remover, outdoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as

they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a full face respirator conforming to EN 140 with Type A filter or better. (Effectiveness (of a measure): 95%)

**2.9 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying

**Activity:** Degreasing agent, aerosols, indoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures

and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a full face respirator conforming to EN 140 with Type A filter or better. (Effectiveness (of a measure): 95%)

**2.10 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying

**Activity:** Degreasing agent, aerosols, outdoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.



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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

Wear a full face respirator conforming to EN 140 with Type A filter or better. (Effectiveness (of a measure): 95%)

**2.11 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying, Option 1

**Activity:** Paint strippers

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.  
(Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.12 Contributing scenario controlling worker exposure for:**

**PROC11:** Non-industrial spraying, Option 2

**Activity:** Paint strippers

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently). Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur.

Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

Wear a respirator conforming to EN 140 with Type A filter or better.  
(Effectiveness (of a measure): 90%)

### 3 Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Specific Conditions	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Metal degreasers	Freshwater	13 µg/L	0.024
ERC8a	EUSES	Metal degreasers	Marine water	1.19 µg/L	0.00613
ERC8a	EUSES	Metal degreasers	Freshwater sediment	23 µg/kg wwt	0.024
ERC8a	EUSES	Metal degreasers	Marine sediment	2.14 µg/kg wwt	0.00613
ERC8a	EUSES	Metal degreasers	Soil	8.86 µg/kg wwt	0.017
ERC8a	EUSES	Metal degreasers	Groundwater	1.84 µg/L	0.00341
ERC8a	EUSES	Metal degreasers	Sewage treatment plant	80 µg/L	0.00308
ERC8a	EUSES	Paint strippers	Freshwater	24 µg/L	0.044
ERC8a	EUSES	Paint strippers	Marine water	2.30 µg/L	0.012
ERC8a	EUSES	Paint strippers	Freshwater sediment	43 µg/kg wwt	0.044
ERC8a	EUSES	Paint strippers	Marine sediment	4.14 µg/kg wwt	0.012
ERC8a	EUSES	Paint strippers	Soil	21 µg/kg wwt	0.041
ERC8a	EUSES	Paint strippers	Groundwater	4.37 µg/L	0.00809
ERC8a	EUSES	Paint strippers	Sewage treatment plant	191 µg/L	0.00737

#### Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	30 ppm	0.3
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm 0.35	
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	5.49 mg/kg/day 0.001	

PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm 0.5	
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	21.43 mg/kg/day 0.005	
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm 0.35	
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	21.43 mg/kg/day 0.005	0.005
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	21.43 mg/kg/day	0.005
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	21.43 mg/kg/day	0.005
PROC13	ECETOC TRA v2.0 Worker	Option 1	Chronic inhalation systemic exposure	50 ppm	0.5
PROC13	ECETOC TRA v2.0 Worker	Option 1	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001
PROC13	ECETOC TRA v2.0 Worker	Option 1	Chronic inhalation systemic exposure	25 ppm	0.25
PROC13	ECETOC TRA v2.0 Worker	Option 1	Chronic dermal systemic exposure	2.74mg/kg/day	0.001

**ERC8a:** Wide dispersive indoor use of processing aids in open systems

**ERC8d:** Wide dispersive outdoor use of processing aids in open systems

**PROC10:** Roller application or brushing

**PROC11:** Non-industrial spraying

**PROC13:** Treatment of articles by dipping and pouring

**4** Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario

**1** Short title of exposure scenario: Use in cosmetics

**Main user groups:**

**SU 22: Professional uses: Public domain** (administration, education, entertainment, services, craftsmen)

**Sectors of end-use: SU 22: Professional uses: Public domain** (administration, education, entertainment, services, craftsmen)

**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

**Flow rate of sewage treatment plant effluent:**  
2,000 m<sup>3</sup>/day Percentage removed from wastewater: 93.5%

**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

**Activity:** Aerosols

**Amount used**

**Daily amount per site:** 6.14 kg

**Annual amount per site:** 2.24 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

**Dispersive use**

**Number of emission days per year:** 365

**Emission or Release Factor: Air:** 1%

**Emission or Release Factor: Water:** 1%

**Emission or Release Factor: Soil:** 0.01%

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**Conditions and measures related to municipal sewage treatment plant**

**Type of Sewage Treatment Plant:** Municipal sewage treatment plant

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

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Freshwater	12 µg/L	0.022
ERC8a	EUSES	Marine water	1.15 µg/L	0.00593
ERC8a	EUSES	Freshwater sediment	22 µg/kg wwt	0.022
ERC8a	EUSES	Marine sediment	2.06 µg/kg wwt	0.00593
ERC8a	EUSES	Soil	8.40 µg/kg wwt	0.016
ERC8a	EUSES	Groundwater	1.74 µg/L	0.00322
ERC8a	EUSES	Sewage treatment plant	76 µg/L	0.00293

**ERC8a:** Wide dispersive indoor use of processing aids in open systems  
**ERC8d:** Wide dispersive outdoor use of processing aids in open systems

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1 Short title of exposure scenario: Use in agrochemicals (professional)**

**Main user groups:**

**SU 22: Professional uses:** Public domain (administration, education, entertainment, services, craftsmen)

**Sectors of end-use: SU1:** Agriculture, forestry, fishery

**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

**Process categories: PROC11:** Non-industrial spraying

**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

**Activity:** Aerosols

**Amount used**

Daily amount per site: 6.14 kg

Annual amount per site: 2.24 tonnes

**Environment factors not influenced by risk  
management**

Flow rate: 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting  
environmental exposure**

**Dispersive use**

Number of emission days per year: 365

Emission or Release Factor: Air: 1%

Emission or Release Factor: Water: 1%

Emission or Release Factor: Soil: 0.01%

**Technical conditions and measures/Organisational  
measures**

**Air:** No air emission controls required; required  
removal efficiency is 0%.

**Water:** Ensure all wastewater is collected  
and treated via a WWTP. Prevent discharge  
of undissolved substance to or recover from  
wastewater.

**Soil:** No soil emission controls required.

**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<sup>3</sup>/day

Percentage removed from wastewater: 93.5%

**2.2 Contributing scenario controlling worker exposure  
for: PROC11: Non-industrial spraying**

**Activity:** Insecticide, aerosols, indoor

**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, vapour  
pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours  
(unless stated differently).

**Other operational conditions affecting workers  
exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above  
ambient temperature. Assumes a good basic  
standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit  
releases, dispersion and exposure**

Avoid direct skin contact with product. Identify  
potential areas for indirect skin contact. Wear  
gloves (tested to EN 374) if hand contact with  
substance likely. Clean up contamination/  
spills as soon as they occur. Wash off any skin  
contamination immediately. Provide basic  
employee training to prevent/minimise exposures  
and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

Wear a respirator conforming to EN 140 with  
Type A filter or better.

(Effectiveness (of a measure): 90%)

**2.3 Contributing scenario controlling worker exposure  
for:**

**PROC11:** Non-industrial spraying

**Activity:** Insecticide, aerosols, indoor

**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, vapour pressure > 10 kPa

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Ensure that enough fresh air is supplied to dilute and remove dusts, fumes or vapours. Between 5 and 15 air changes per hour are recommended, with a through draught. (Effectiveness (of a measure): 70%)

Segregate the activity away from other operations. (Effectiveness (of a measure): 50%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Avoid carrying out operation for more than 4 hours.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.4 Contributing scenario controlling worker exposure for: PROC11: Non-industrial spraying**

**Activity:** Insecticide, aerosols, outdoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

Wear a respirator conforming to EN 140 with Type A filter or better.

(Effectiveness (of a measure): 90%)

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

**Activity:** Insecticide, aerosols, outdoor

**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, vapour

pressure > 10 kPa

#### Frequency and duration of use

Remarks: Covers daily exposures up to 8 hours (unless stated differently).

#### Other operational conditions affecting workers exposure

Outdoor/Indoor: Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures

Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20. (Effectiveness (of a measure): 95%)

#### Organisational measures to prevent/limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

### 3 Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Freshwater	12 µg/L	0.022
ERC8a	EUSES	Marine water	1.15 µg/L	0.00593
ERC8a	EUSES	Freshwater sediment	22 µg/kg wwt	0.022
ERC8a	EUSES	Marine sediment	2.06 µg/kg wwt	0.00593

ERC8a	EUSES	Soil	8.40 µg/kg wwt	0.016
ERC8a	EUSES	Groundwater	1.74 µg/L	0.00322
ERC8a	EUSES	Sewage treatment plant	76 µg/L	0.00293

#### Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	60 ppm	0.6
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	12.86 mg/kg/day	0.003
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	54 ppm	0.54
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	12.86mg/kg/day	0.003
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	42 ppm	0.42
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	12.86mg/kg/day	0.003
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	21 ppm	0.21
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	12.86mg/kg/day	0.003

**ERC8a:** Wide dispersive indoor use of processing aids in open systems

**ERC8d:** Wide dispersive outdoor use of processing aids in open systems

**PROC11:** Non-industrial spraying

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1 Short title of exposure scenario: Packing and repacking of formulations**

#### Main user groups:

**SU 22: Professional uses:** Public domain (administration, education, entertainment, services, craftsmen)

#### Sectors of end-use:

**SU 22: Professional uses:** Public domain (administration, education, entertainment, services, craftsmen) 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

**Process categories:**

**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)

**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

**Activity:** Aerosols

**Amount used**

**Daily amount per site:** 15.4 kg

**Annual amount per site:** 5.62 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

Dispersive use

**Number of emission days per year:** 365

**Emission or Release Factor: Air:** 1%

**Emission or Release Factor: Water:** 1%

**Emission or Release Factor: Soil:** 0.01%

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** Soil emission controls are not applicable as there is no direct release to soil.

**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<sup>3</sup>/day Percentage removed from wastewater: 93.5%

**2.2 Contributing scenario controlling worker exposure for:**

**PROC8a:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

**Activity:** Repackaging, indoor

**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, vapour pressure > 10 kPa

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic

employee training to prevent/minimise exposures and to report any skin problems that may develop. Avoid carrying out operation for more than 4 hours.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

### 2.3 Contributing scenario controlling worker exposure for:

**PROC8a:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Activity: Repackaging, outdoor

#### 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, vapour pressure > 10 kPa

#### Other operational conditions affecting workers exposure

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Organisational measures to prevent/limit releases, dispersion and exposure

Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 1 hour. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

#### Conditions and measures related to personal

#### protection, hygiene and health evaluation

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

### 2.4 Contributing scenario controlling worker exposure for:

**PROC8b:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Activity: Repackaging, indoor

#### 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, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

#### Other operational conditions affecting workers exposure

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation. (Effectiveness (of a measure): 90%)

#### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.



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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.5 Contributing scenario controlling worker exposure for:**

**PROC8b:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

**Activity:** Repackaging, outdoor

**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, vapour pressure > 10 kPa

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Use dedicated equipment. Avoid carrying out operation for more than 1 hour. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.  
(Effectiveness (of a measure): 80%)

**2.6 Contributing scenario controlling worker exposure for:**

**PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

**Activity:** Repackaging, indoor

**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, vapour pressure > 10 kPa

**Frequency and duration of use**

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently).

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Indoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Fill containers/cans at dedicated filling points supplied with local extract ventilation.  
(Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

**2.7 Contributing scenario controlling worker exposure for:**

**PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

**Activity:** Repackaging, outdoor

**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, vapour pressure > 10 kPa

**Other operational conditions affecting workers exposure**

**Outdoor/Indoor:** Outdoor

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Organisational measures to prevent/limit releases, dispersion and exposure**

Ensure operation is undertaken outdoors. Use dedicated equipment. Avoid carrying out operation for more than 1 hour. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 80%)

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

Environment

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Freshwater	0.283 mg/L	0.524
ERC8a	EUSES	Marine water	0.0282 mg/L	0.145
ERC8a	EUSES	Freshwater sediment	0.509 mg/kg wet weight	0.524
ERC8a	EUSES	Marine sediment	0.0507 mg/kg wet weight	0.145
ERC8a	EUSES	Soil	0.308 mg/kg dry weight	0.599
ERC8a	EUSES	Groundwater	0.0639 mg/L	0.118
ERC8a	EUSES	Sewage treatment plant	2.78 mg/L	0.107

**Workers**

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	60 ppm	0.6
PROC8a	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8a	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	70 ppm	0.7
PROC8a	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	25 ppm	0.25
PROC8b	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC8b	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	35 ppm	0.35
PROC8b	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC9	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC9	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC9	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	35 ppm	0.35
PROC9	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003

**ERC8a:** Wide dispersive indoor use of processing aids in open systems

**ERC8d:** Wide dispersive outdoor use of processing aids in open systems

**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)

**4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**

**1 Short title of exposure scenario: Laboratory Reagents**

**Main user groups:**

**SU 22: Professional uses:** Public domain (administration, education, entertainment, services, craftsmen)

**Sectors of end-use: SU24:** Scientific research and development

**Environmental release categories: ERC8a:** Wide dispersive indoor use of processing aids in open systems

**Process categories: PROC10:** Roller application or brushing  
**PROC15:** Use as laboratory reagent

**2.1 Contributing scenario controlling environmental exposure for:**

**ERC8a:** Wide dispersive indoor use of processing aids in open systems

**Activity:** Aerosols

**Amount used**

**Daily amount per site:** 704 kg

**Annual amount per site:** 257 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

Dispersive use

**Number of emission days per year:** 365

**Emission or Release Factor: Air:** 0.5%

**Emission or Release Factor: Water:** 0.5%

**Emission or Release Factor: Soil:** 0%

**Remarks:** Indoor use

**Technical conditions and measures/Organisational measures**

**Air:** No air emission controls required; required removal efficiency is 0%.

**Water:** Ensure all wastewater is collected and treated via a WWTP. Prevent discharge of undissolved substance to or recover from wastewater.

**Soil:** No soil emission controls required.

**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**

**Percentage removed from wastewater:** 2,000 m<sup>3</sup>/day: 93.5%

**2.2 Contributing scenario controlling worker exposure for:**

**PROC10:** Roller application or brushing

**Activity:** Coatings and paints, thinners, paint removers, indoor

**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, vapour pressure > 10 kPa

Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

**Technical conditions and measures**

Provide extraction ventilation at points where emissions occur.

(Effectiveness (of a measure): 80%)

**Organisational measures to prevent/limit releases, dispersion and exposure**

Avoid carrying out operation for more than 4 hours. Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN 374. (Effectiveness (of a measure): 90%)

### 2.3 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, vapour pressure > 10 kPa

#### Frequency and duration of use

**Remarks:** Covers daily exposures up to 8 hours (unless stated differently) Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented.

#### Organisational measures to prevent/limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

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

Wear suitable gloves tested to EN 374.

(Effectiveness (of a measure): 80%)

### 3 Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Freshwater	5.77 µg/L	0.011
ERC8a	EUSES	Marine water	0.481 µg/L	0.00248
ERC8a	EUSES	Freshwater sediment	10 µg/kg wwt	0.011
ERC8a	EUSES	Marine sediment	0.865 µg/kg wwt	0.00248
ERC8a	EUSES	Soil	1.02 µg/kg wwt	0.00199
ERC8a	EUSES	Groundwater	0.221 µg/L	0.000409
ERC8a	EUSES	Sewage treatment plant	9.13 µg/L	0.000353

#### Workers

Contributing Scenario	Exposure Assessment Method	Value	Level of Exposure	RCR
PROC10	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	60 ppm	0.6
PROC10	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	5.49 mg/kg/day	0.0012
PROC10	ECETOC TRA v2.0 Worker	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001

**ERC8a:** Wide dispersive indoor use of processing aids in open systems

**PROC10:** Roller application or brushing

**PROC15:** Use as laboratory reagent

### 4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario

#### 1 Short title of exposure scenario: Consumer use

##### Main user groups:

**SU 21: Consumer uses:** Private households (= general public = consumers) Sectors of end-use:

**SU 21: Consumer uses:** Private households (= general public = consumers)

**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

**Chemical product category:**

**PC1:** Adhesives, sealants

**PC8:** Biocidal products (e.g. Disinfectants, pest control)

**PC9:** Coatings and Paints, Fillers, Putties, Thinners

**PC27:** Plant protection products

**PC35:** Washing and cleaning products (including solvent-based products)

**PC39:** Cosmetics, personal care products

**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

**Amount used**

**Daily amount per site:** 15.4 kg

**Annual amount per site:** 5.62 tonnes

**Environment factors not influenced by risk management**

**Flow rate:** 18,000 m<sup>3</sup>/day

**Other given operational conditions affecting environmental exposure**

Dispersive use

**Number of emission days per year:** 365

**Emission or Release Factor: Air:** 1%

**Emission or Release Factor: Water:** 1%

**Emission or Release Factor: Soil:** 0.01%

**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<sup>3</sup>/day Percentage removed from wastewater: 93.5%

**2.2 Contributing scenario controlling consumer exposure for:**

**PC1:** Adhesives, sealants: DIY - Glues from tube

**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, vapour pressure > 10 kPa

**Amount used**

**Amount used per event:** 9 gram

Frequency and duration of use

**Duration of the activity:** < 240 min

**Frequency of use:** 52 days/year

**Human factors not influenced by risk management**

**Dermal exposure:** 2cm<sup>2</sup>

**Other given operational conditions affecting consumers exposure**

Room size: 20 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently). Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Avoid skin contact area greater than 2 cm<sup>2</sup>

**2.3 Contributing scenario controlling consumer exposure for:**

**PC1:** Adhesives, sealants

**Activity:** Use of sealants by rolling

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Amount used**

Amount used per event: 10 gram

Frequency and duration of use  
Duration of the activity: < 240 min  
Frequency of use: 52 days/year

Human factors not influenced by risk management  
Dermal exposure: 2cm<sup>2</sup>

Other given operational conditions affecting consumers exposure  
Room size: 20 m<sup>3</sup>  
Remarks: Assumes activities are at ambient temperature (unless stated differently). Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)  
Consumer Measures: Avoid skin contact area greater than 2 cm<sup>2</sup>

2.4 Contributing scenario controlling consumer exposure for:  
PC1: Adhesives, sealants: DIY - Super glue

Product characteristics

Physical form (at time of use):  
Liquid, vapour pressure > 10 kPa

Amount used  
Amount used per event: 0.5 gram

Frequency and duration of use  
Duration of the activity: < 240 min  
Frequency of use: 12 days/year

Human factors not influenced by risk management  
Dermal exposure: 2cm<sup>2</sup>  
Other given operational conditions affecting consumers exposure Room size: 20 m<sup>3</sup>  
Remarks: Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)  
Consumer Measures: Avoid skin contact area greater than 2 cm<sup>2</sup>

2.5 Contributing scenario controlling consumer exposure for:  
PC1: Adhesives, sealants: DIY - Wood parquet glue

Product characteristics

Concentration of the substance in mixture/article:  
Covers percentage substance in the product up to 10%.

Physical form (at time of use): Liquid, vapour pressure > 10 kPa

Amount used  
Amount used per event: 0.75 kg

Frequency and duration of use  
Duration of the activity: < 240 min  
Remarks: 0.25, event(s)/year

Human factors not influenced by risk management  
Dermal exposure: 110 cm<sup>2</sup>

Other given operational conditions affecting consumers exposure  
Room size: 58 m<sup>3</sup>  
Remarks: Assumes activities are at ambient temperature (unless stated differently). Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)  
Consumer Measures: Avoid skin contact area greater than 110 cm<sup>2</sup>, Avoid using at a product concentration greater than 10%, Avoid using when windows closed

2.6 Contributing scenario controlling consumer exposure for:  
PC1: Adhesives, sealants: DIY - Carpet glue

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Amount used**

**Amount used per event:** 1 kg

**Frequency and duration of use**

**Duration of the activity:** < 75 min

**Remarks:** 0.25, event(s)/year

**Human factors not influenced by risk management**

**Dermal exposure:** 110 cm<sup>2</sup>

**Other given operational conditions affecting consumers exposure**

**Room size:** 58 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently). Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Avoid skin contact area greater than 110 cm<sup>2</sup>, Avoid using at a product concentration greater than 10%, Avoid using when windows closed

**2.7 Contributing scenario controlling consumer exposure for:**

**PC1:** Adhesives, sealants: DIY - Glue from spray

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Frequency and duration of use**

**Duration of the activity:** < 240 min

**Frequency of use:** 12 days/year

**Human factors not influenced by risk management**

**Dermal exposure:** 430 cm<sup>2</sup>

**Other given operational conditions affecting consumers exposure**

**Room size:** 20 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently). Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Spraying away from exposed person, Avoid

skin contact area greater than 430 cm<sup>2</sup>, Avoid

using at a product concentration greater than 20%

**2.8 Contributing scenario controlling consumer exposure for:**

**PC1:** Adhesives, sealants: DIY - Glue from spray (joint sealants)

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Amount used**

**Amount used per event:** 75 gram

**Frequency and duration of use**

**Duration of the activity:** 45 min

**Frequency of use:** 3 days/year

**Human factors not influenced by risk management**

**Dermal exposure:** 2 cm<sup>2</sup>

**Other given operational conditions affecting consumers exposure**

**Room size:** 10 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently), Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Avoid skin contact area greater than 2 cm<sup>2</sup>, Avoid using at a product

concentration greater than 10%

- 2.9 Contributing scenario controlling consumer exposure for:**  
PC1: Adhesives, sealants: DIY - Assembly sealants

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Amount used**

**Amount used per event:** 390 gram

**Frequency and duration of use**

**Duration of the activity:** < 240 min

**Frequency of use:** 1 days/year

**Human factors not influenced by risk management**

**Dermal exposure:** 43 cm<sup>2</sup>

**Other given operational conditions affecting consumers exposure**

**Room size:** 20 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently), Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Avoid skin contact area greater than 43 cm<sup>2</sup>, Avoid using at a product concentration greater than 14%, Avoid using when windows closed

- 2.10 Contributing scenario controlling consumer exposure for:**  
PC9: Coatings and Paints, Fillers, Putties, Thinners

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Amount used**

**Amount used per event:** 279 gram

**Frequency and duration of use**

**Duration of the activity:** 20 min

**Frequency of use:** 2 days/year

**Other given operational conditions affecting consumers exposure**

**Room size:** 34 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently), Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Spraying away from exposed person, Avoid using at a product concentration greater than 20%

- 2.11 Contributing scenario controlling consumer exposure for:**

PC27: Plant protection products

**Product characteristics**

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

**Amount used**

**Amount used per event:** 14.85 gram

**Frequency and duration of use**

**Duration of the activity:** < 240 min

**Frequency of use:** 90 days/year

**Other given operational conditions affecting consumers exposure**

**Room size:** 58 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently). Assumes use with typical ventilation

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

**Consumer Measures:** Spraying away from exposed person, Avoid using at a product



concentration greater than 20%

## 2.12 Contributing scenario controlling consumer exposure for:

**PC35:** Washing and cleaning products (including solvent-based products)

### Product characteristics

**Physical form (at time of use):** Liquid, vapour pressure > 10 kPa

### Amount used

**Amount used per event:** 27 gram

### Frequency and duration of use

**Duration of the activity:** < 60 min

**Frequency of use:** 1 event/day

**Frequency of use:** 128 days/year

### Human factors not influenced by risk management

**Dermal exposure:** 215 cm<sup>2</sup>

### Other given operational conditions affecting consumers exposure

**Room size:** 15 m<sup>3</sup>

**Remarks:** Assumes activities are at ambient temperature (unless stated differently). Covers use under typical household ventilation

### Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

**Consumer Measures:** Avoid skin contact area greater than 215 cm<sup>2</sup>, Avoid using at a product concentration greater than 20%

## 3 Exposure estimation and reference to its source

### Environment

Contributing Scenario	Exposure Assessment Method	Compartment	Level of Exposure	RCR
ERC8a	EUSES	Freshwater	13 µg/L	0.024
ERC8a	EUSES	Marine water	1.19 µg/L	0.00613
ERC8a	EUSES	Freshwater sediment	23	0.024

ERC8a	EUSES	Marine sediment	2.14	0.00613
ERC8a	EUSES	Soil	8.86	0.017
ERC8a	EUSES	Groundwater	1.84 µg/L	0.00341
ERC8a	EUSES	Sewage treatment plant	80 µg/L	0.00308

### Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	RCR
PC1	Consexpo	DIY - Glues from tube	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Glues from tube	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Glues from tube	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	Use of sealants by rolling	Acute inhalation systemic exposure	0.44
PC1	Consexpo	Use of sealants by rolling	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	Use of sealants by rolling	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Superglue	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Superglue	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Superglue	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Wood parquet glue	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Wood parquet glue	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Wood parquet glue	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Carpet glue	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Carpet glue	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Carpet glue	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Glue from spray	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Glue from spray	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Glue from spray	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Glue from spray (joint sealants)	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Glue from spray (joint sealants)	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Glue from spray (joint sealants)	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Assembly sealants	Acute inhalation systemic exposure	0.44

PC1	Consexpo	DIY - Assembly sealants	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Assembly sealants	Chronic dermal systemic exposure	0.0006
PC9	Consexpo		Acute inhalation systemic exposure	0.44
PC9	Consexpo		Chronic inhalation systemic exposure	0.29
PC9	Consexpo		Chronic dermal systemic exposure	0.0006
PC9	Consexpo		Acute inhalation systemic exposure	0.44
PC9	Consexpo		Chronic inhalation systemic exposure	0.29
PC9	Consexpo		Chronic dermal systemic exposure	0.0006
PC9	Consexpo		Acute inhalation systemic exposure	0.44
PC9	Consexpo		Chronic inhalation systemic exposure	0.29
PC9	Consexpo		Chronic dermal systemic exposure	0.0006

**ERC8a:** Wide dispersive indoor use of processing aids in open systems

**ERC8d:** Wide dispersive outdoor use of processing aids in open systems

**PC1:** Adhesives, sealants

**PC27:** Plant protection products

**PC35:** Washing and cleaning products (including solvent-based products)

**PC9:** Coatings and Paints, Fillers, Putties, Thinners

- 4 Guidance to downstream user to evaluate whether they work inside the boundaries set by the exposure scenario**