

# SAFETY DATA SHEET, eSDS

## Nanten Matacryl

Regulation (EU) No 1907/2006, 2020/878

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

#### 1.1 Product identifier

<b>Trade name</b>	<b>Nanten Matacryl</b>
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#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

<b>The uses of the chemical</b>	<p>Paints and coatings, primer. For professional use only.          Product class (EuPCS): PC-CON-5.          For details of the identified uses according to REACH-Regulation (EU) No. 1907/2006 refer to the annex 1 of this safety data sheet.</p>
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#### 1.3 Details of the supplier of the Safety Data Sheet

<b>Street address</b>	<b>Nanten Oy</b> Teollisuustie 6
<b>Postcode and post office</b>	04300 Tuusula, Finland
<b>Telephone number</b>	+358 9 274 7970
<b>E-mail address</b>	nanten@nanten.com www.nanten.com

#### 1.4 Emergency telephone number

##### Poison Information Centres

Finland (Myrkytystietokeskus): 0800 147 111 or (+358) (0)9 471 977, open 24 h/d

Estonia (Mürgistusteabekeskus): 16662 or (+372) 7943 794, www.16662.ee

Emergency Response Centres (Europe): 112

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP):

Flammable liquids – category 2	H225
Skin corrosion/irritation – category 2	H315
Skin sensitization – category 1	H317
Specific target organ toxicity (single exposure) – category 3	H335
Chronic aquatic toxicity – category 3	H412

**2.2 Label elements****Signal word: Danger****Hazard Statements:**

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H335 - May cause respiratory irritation

H225 - Highly flammable liquid and vapour

H412 - Harmful to aquatic life with long lasting effects.

**Precautionary Statements:**

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P243 - Take action to prevent static discharges

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

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

P273 - Avoid release to the environment

**Contains:**

Methyl methacrylate

**2.3 Other hazards**

The product contains no substituents classified as as Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bioaccumulative (vPvB) compounds or substances identified as having endocrine disrupting properties.

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS****3.1 Substances**

This product is a mixture.

**3.2 Mixtures**

Substance name	CAS-, EC- or index number	REACH Registration No.	Weight-%	Classification 1272/2008/EU)
<b>Methyl methacrylate</b>	CAS: 80-62-6 EC: 201-297-1 Ind.: 607-035-00-6	01-2119452498-28	50 – 75	STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317 Flam Liq. 2, H225
<b>Dodecane-1-thiol</b>	CAS: 112-55-0 EC: 203-984-1	01-2119491318-31	< 1	Skin Corr. 1C, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
<b>2-(2H-Benzotriazol-2-yl)-p-cresol</b>	CAS: 2440-22-4 EC: 219-470-5	01-2119583811-34	< 1	Skin Sens. 1, H317 Aquatic Chronic 1, H410
<b>2-Hydroxyethyl methacrylate</b>	CAS: 868-77-9 EC: 212-782-2 Ind.: 607-124-00-X	01-2119490169-29	< 1	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319
<b>Triethylenglycol dimethacrylate</b>	CAS: 109-16-0 EC: 203-652-6	01-2119969287-21	1 – 2,5	Skin Sens. 1, H317
<b>4-Methoxyphenol</b>	CAS: 150-76-5 EY: 205-769-8 Ind.: 604-044-00-7	01-2119541813-40	< 0,1	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412

See Section 16 for full texts of the hazard statements (H phrases).

**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures****General advice:**

Move out of dangerous area. Take off all contaminated clothing immediately.

**Inhalation:**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If unconscious place in recovery position and get medical attention immediately. If not breathing, give artificial respiration.

**Skin contact:**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Continue rinsing for at least 10 minutes. Take off all contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical attention.

**Eye contact:**

Remove contact lenses. Rinse cautiously with water. Continue rinsing for at least 10 minutes. Keep eyelids open. Get medical attention.

**Ingestion:**

Rinse or wipe mouth with water. Do NOT induce vomiting. Get medical attention immediately.

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

No information available.

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

Notes to the doctor: Treat symptomatically.

**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media**

Suitable extinguishing media: dry powder, foam, carbon dioxide (CO<sub>2</sub>), water mist.  
NOT recommended for safety reasons: strong water jet.

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

Hazardous decomposition products formed under fire conditions. Explosive reaction may occur on heating or burning. Burning produces irritant fumes. Flash back possible over considerable distance.

**5.3 Advice for firefighters**

Wear firefighter's suit conforming to standard EN469, including protective helmet, boots and gloves, and a self-contained breathing apparatus. Collect contaminated fire extinguishing water separately. Prevent entry to sewers, surface water and ground water.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures****Personal precautions**

Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing.

**Advice for emergency responders**

Use personal protective equipment.

**6.2 Environmental precautions**

Stop leak if safe to do so. Do not allow to enter sewers, surface water or ground water.

**6.3 Methods and materials for containment and cleaning up**

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, vermiculite). Do not use saw dust. Place in container for disposal according to local /national regulations.

Methods for cleaning up: Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment.

**6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.  
See Section 13 for information on waste treatment.

**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling**

Avoid breathing dust, fume, gas, mist or vapours. Wear protective gloves and eye protection /face protection. Wash hands cautiously after handling. Keep working clothes separately.

Use only outdoors or in well-ventilated areas. Provide exhaust ventilation close to floor level. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Open drum carefully as content may be under pressure. Use only in well-ventilated areas. Vapours may form explosive mixtures with air. Have fire extinguishers ready before opening the drum.

Take measures to prevent the build-up of electrostatic charge. Do not use sparking tools. Use only explosion-proof equipment. Keep away from heat, sparks, open flames and hot surfaces. No smoking. In the event of fire: use dry powder, foam, carbon dioxide (CO<sub>2</sub>) or water mist to extinguish the fire.

#### Advice on good working hygiene

Ensure that eyewash stations and safety showers are close to the workstation location. Keep the work area tidy and well organized. Do not eat, drink or smoke when using the product. Due to the sensitizing properties, avoid contact of contaminated working clothes with skin. Wash hands, skin and clothing after handling the product.

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

Store in original container. Never fill containers more than 80 % because aerial oxygen is necessary for stabilising. When draining the product, attention must be taken to prevent exposure, build-up of electrostatic charge, and formation of explosive mixtures with air.

Store container tightly closed and in upright position. Do not store the product even temporarily in unlabelled vessels. Keep in an area equipped with solvent resistant flooring.

Store in a dry, well-ventilated place, at + 5...+ 25 °C. Store away from food and beverages.

Store the product and empty containers away from sources of heat, ignition and direct sunlight. Observe the possibility of polymerisation reactions (see section 10.3). Do not store together with oxidizing and self-igniting products. Avoid contact with incompatible materials: peroxides and reactive metals, amines, heavy metal compounds, oxidizing agents, reducing agents (section 10.5).

### 7.3 Specific end use(s)

Not defined. Observe instructions for use of the product.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

This list is not exhaustive. Other national /international regulations may concern the monitoring of exposure to the ingredients of this product.

OEL and DNEL values given below apply to work-related exposure.

#### Occupational Exposure Limit Values (OELs)

Country	Substance	TWA (8 h)	STEL (15 min)
Finland (STM 2020)	Methyl methacrylate, CAS 80-62-6	42 mg/m <sup>3</sup> , 10 ppm	210 mg/m <sup>3</sup> , 50 ppm
Estonia	Metüülmetakrülaat, CAS 80-62-6	50 ppm	100 ppm
Latvia	Metilmetakrilāts, CAS 80-62-6	10 mg/m <sup>3</sup>	-

TWA: Time-Weighted Average, STEL: Short-Term Exposure Limit

#### DNEL (Derived No Effect Level)

Methyl methacrylate, dermal: 13,7 mg/kg/d, inhalation: 210 mg/m<sup>3</sup>.

#### PNEC (Predicted No Effect Concentration)

Methyl methacrylate

Compartment	
Fresh water	0,94 mg/l
Marine water	0,94 mg/l
Soil	1,47 mg/kg dry weight

Fresh water sediment	5,74 mg/kg dry weight
Sewage treatment plant	10 mg/l

## 8.2 Exposure controls

### Engineering controls

Ensure adequate ventilation, especially in confined areas. Provide preferably local exhaust ventilation, OR use personal respiratory protection.

### Eye and face protection

Wear tight chemical splash goggles. Wear face shield when appropriate. The goggles should have a CE-marking and comply with standard EN 166.

### Hand protection

Wear chemical-resistant gloves complying with standard EN 374. Recommended materials: Multilayer gloves 4H /Silver Shield /Barrier, breakthrough time  $\geq$  240 min. Gloves intended for short-term use do not provide adequate protection against acrylates.

Check during use that the gloves retain their protective properties. Breakthrough times given by manufacturers are only informative. Breakthrough times cannot be accurately estimated for mixtures of chemical substances.

### Skin protection

Wear protective clothing. Antistatic clothing, at least such as EN13034/EN 13034+A1 certified clothing that provides a limited protection towards small quantities and splashes of liquid chemicals.

### Respiratory protection

Wear personal respiratory protection if ventilation is insufficient to prevent exposure. Wear respiratory protection with a gas filter or an air-fed respirator. Recommended filter type: A/P2. Compliance with standard EN 529.

### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate surface water or ground water system.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	pigmented, yellowish
Odour	acrylic-like, pungent
Odour threshold	0,05 ppm, 0,21 mg/m <sup>3</sup> (methyl methacrylate)
Melting point /freezing point	methyl methacrylate: -48 °C
Initial boiling point and boiling range	methyl methacrylate: 101 °C
Flash point	methyl methacrylate: 12 °C
Evaporation rate	not available
Flammability (solid, gas)	not applicable
Lower flammability or explosive limit	2,1 vol-% (methyl methacrylate)
Upper flammability or explosive limit	12.5 vol-% (methyl methacrylate)
Autoignition temperature	not available
pH	not available (not soluble in water)
Viscosity	300 – 700 mPa·s (25 °C, kinematic)

Solubility(ies)	in water: 15,3 g/l (methyl methacrylate, 20 °C)
Partition coefficient: n-octanol/water	log P <sub>OW</sub> 1,38 (methyl methacrylate)
Vapour pressure	38.7 hPa (methyl methacrylate)
Density	1,23 g/cm <sup>3</sup> (25 °C)
Vapour density	not available

**9.2 Other information**

No information available.

**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity**

The product is stable when stored according to provisions.

**10.2 Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3 Possibility of hazardous reactions**

Polymerisation occurs when exposed to white light, ultraviolet light or heat. Polymerisation is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.

Polymerisation occurs when mixed with the catalyst (acrylic hardener) used in floor coating applications. The reaction is heat-releasing (exothermic). No hazardous reactions identified when handled and stored according to provisions.

**10.4 Conditions to avoid**

Heat, flames and sparks. Exposure to sunlight.

**10.5 Incompatible materials**

Avoid contact with:  
 Radical-forming starting agents, peroxides and reactive metals  
 Amines  
 Heavy metal compound  
 Oxidizing agents, reducing agents

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****Acute toxicity**

Product Information:

Inhalation:	Irritating to mucous membranes. May cause respiratory irritation.
Eye contact:	No data available.
Skin contact:	Causes skin irritation. May cause an allergic skin reaction.
Ingestion:	No data available.

< 1 % of the mixture consists of ingredient(s) of unknown acute toxicity.

Substances:

	Test/meter	Dose/concentration	Species
<b>Methyl methacrylate</b>			
Oral	LC50	> 5 000 mg/kg	Rat
Inhalation	LC50	29,8 mg/l	Rat
Dermal	LD50	> 5 000 mg/kg	Rabbit

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation**

No information available.

**Respiratory or skin sensitisation**

May cause allergic skin reaction. May cause respiratory irritation.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

No information available.

**Reproductive toxicity**

No information available.

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure**

No information available.

**Aspiration hazard**

No information available.

**11.2 Information on other hazards**

No information available.

**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

< 1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Substances:

	Test	Meter	Result	Exposure time
<b>Methyl methacrylate</b>				
Fish, <i>Oncorhynchus mykiss</i>	Static	LC50	79 mg/l	96 h
Fish, <i>Oncorhynchus mykiss</i>	Flow-through	LC50	79 mg/l	96 h
Fish, <i>Poecilia reticulata</i>	Static	LC50	326 - 427 mg/l	96 h
Fish, <i>Pimephales promelas</i>	Static	LC50	126 - 191 mg/l	96 h
Fish, <i>Pimephales promelas</i>	Flow-through	LC50	243 - 275 mg/l	96 h
Fish, <i>Lepomis macrochirus</i>	Static	LC50	154 - 342 mg/l	96 h
Fish, <i>Lepomis macrochirus</i>	Flow-through	LC50	170 -206 mg/l	96 h
Invertebrates, <i>Daphnia magna</i>	Static	EC50	69 mg/l	48 h



<b>2-Hydroxyethyl methacrylate</b>				
Fish, <i>Pimephales promelas</i>	Flow-through	LC50	213 - 242 mg/l	96 h
Fish, <i>Pimephales promelas</i>	Static	LC50	227 mg/l	96 h
<b>4-Methoxyphenol</b>				
Fish, <i>Pimephales promelas</i>	Flow-through	LC50	84,3 mg/l	96 h
Fish, <i>Oncorhynchus mykiss</i>	Flow-through	LC50	28,5 mg/l	96 h

**12.2 Persistence and degradability**

Partially biodegradable.

**12.3 Bioaccumulative potential**

Octanol-water partition coefficient, methyl methacrylate: log Pow 1,38.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Methyl methacrylate: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB). No information available on the other substances.

**12.6 Endocrine disrupting properties**

No information available.

**12.7 Other adverse effects**

No information available.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

Dispose of contents and container according to Waste Framework Directive (EC) N:o 98/2008, national waste and environmental regulations and local regulations. Eliminate or reduce waste generation when possible. Dispose of via licenced waste management contractor.

Liquid residues must be disposed of as hazardous waste. Classify and label waste containers appropriately. Use, for example, European Waste Catalogue (EWC) n:o 080111\*, waste paint and varnish containing organic solvents or other hazardous substances.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not burn, or use a cutting torch on, the empty drum. EWC n:o 150110\* - packaging containing residues of or contaminated by dangerous substances.

**SECTION 14: TRANSPORT INFORMATION****14.1 UN number**

ADR / RID: 1866  
 IMDG: 1866  
 ICAO-TI: 1866

**14.2 UN proper shipping name**

ADR / RID: UN 1866 – Resin solution  
 IMDG: UN 1866 – Resin solution

ICAO-TI: UN 1866 – Resin solution

#### 14.3 Transport hazard class(es)

ADR / RID: 3  
IMDG: 3  
ICAO-TI: 3

#### 14.4 Packing group

ADR / RID: II, tunnel restriction code D/E, hazard identification code 33, limited quantity 5 L.  
IMDG: II, EmS F-E, S-E  
ICAO-TI: II

#### 14.5 Environmental hazards

IMDG marine pollutant: No.

#### 14.6 Special precautions for user

Transport in sealed containers, in upright position and tightly fastened. Make sure that persons transporting the chemical have been trained for emergency and spillage situations.

#### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

### SECTION 15: REGULATORY INFORMATION

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

This product does not contain substances subject to authorisation according to REACH [(EU) N:o 1907/2006], Annex XIV.  
This product does not contain restricted substances according to to REACH [(EU) N:o 1907/2006], Annex XVII.  
Content of Volatile Organic Compounds (VOC) complies with directive 2004/42/CE. Maximum content of VOCs < 500 g/l, category A/j.

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for the following substances: Methyl methacrylate.

### SECTION 16: OTHER INFORMATION

#### Changes to previous version (version 2.0, in Finnish)

No changes to classification.

Safety instructions have been updated (Sections 4-8).

Exposure scenario (Annex 1) has been added.

#### Full text of H-Statements referred to under section 3

H302 - Haitallista nieltynä

H314 - Voimakkaasti ihoa syövyttävää ja silmiä vaurioittavaa

H315 - Ärsyttää ihoa

H317 - Voi aiheuttaa allergisen ihoreaktion

H319 - Ärsyttää voimakkaasti silmiä

H335 - Saattaa aiheuttaa hengitysteiden ärsytystä

H225 - Helposti syttyvä neste ja höyry

H400 - Erittäin myrkyllistä vesielioille

H410 - Erittäin myrkyllistä vesielioille, pitkäaikaisia haittavaikutuksia

H412 - Haitallista vesielioille, pitkäaikaisia haittavaikutuksia

**Training advice for workers**

It is recommended that persons handling this product should have at least a basic level training on occupational risk prevention, to facilitate comprehension and interpretation of this safety data sheet.

**NOTE**

The information provided in this safety data sheet is correct to the best of knowledge of Nanten, or it is based on sources that are considered to be reliable. However, it is the responsibility of the user to be aware of and to take into account all other information with relevance to the safe use of this product and to take the required measures to ensure safety and compliance with current regulations in handling, storing, using and disposing of this product.

## Annex 1: EXPOSURE SCENARIO

The operational conditions and the implementation of Risk Management Measures (RMM) are dependent on the following priority-/lead substances for the respective exposure routes:

Indicator substance, environment: Methyl methacrylate

Indicator substance, health: Methyl methacrylate

### 1. Short title of the exposure scenario: **Professional end use in formulations**

#### Contributing environmental scenarios

Scenario	Environmental release category	Indoor /outdoor use
2.1	ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix	Indoor use
	ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix	Outdoor use

#### Contributing worker scenarios

Scenario	Process category	Indoor /outdoor use
2.2	PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	Indoor use
2.3	PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	Indoor use
2.4	PROC10: Roller application or brushing	Indoor use
2.5	PROC10: Roller application or brushing	Outdoor use
2.6	PROC19: Hand-mixing with intimate contact and only personal protective equipment available	Indoor use
2.7	PROC19: Hand-mixing with intimate contact and only personal protective equipment available	Outdoor use

### 2.1 Contributing exposure scenario controlling environmental exposure

Physical state of the mixture	liquid
Amount used	0,216 tons per site per year
Maximum allowable site tonnage (Msafe)	2500 kg/d (for wide disperse uses)
Flow rate of receiving surface water	18.000 m <sup>3</sup> /d
Local freshwater dilution factor	10
Local marine water dilution factor	100
Emission type	continuous
Emission days	300 d
Emission factors	
- air	5 %
- soil	0,5 %
- water	1 %

### Risk Management Measures (RMM)

#### Technical conditions and measures at process level (source) to prevent release

Prevent product from entering drains, surface water or ground water.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Air: Prevent environmental discharge consistent with regulatory requirements.

Soil: Contain and dispose of waste according to local regulations.

Water: Clear up spills immediately and dispose of waste safely.

**Conditions and measures related to sewage treatment plant**

Type of sewage treatment plant: Municipal Sewage Treatment Plant

Discharge rate: 2000 m<sup>3</sup>/d.

**Conditions and measures related to external treatment of waste for disposal**

Suitable waste treatment: External treatment and disposal of waste should comply with applicable local and/or national regulations.

Suitable recovery operations: External recovery and recycling of waste should comply with applicable local and/or national regulations.

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

Concentration of the substance in a mixture ≤ 100 %

Physical form of the product Liquid, vapour pressure 0,5 – 10 kPa (at STP, 101 kPa, 0 °C)

Frequency and duration of use ≤ 8 h/d

Area of use Indoor use

Risk Management Measures (RMM)

**Technical conditions and measures at process level (source) to prevent release**

Procedures for release control and monitoring, workplace measurements.

**Technical conditions and measures to control dispersion from source towards the worker**

Route of exposure: Inhalation.

Protective measures: Use local exhaust ventilation (LEV) or engineering equipment implying comparable efficiency.

Effectiveness: 80 %.

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

Route of exposure: Dermal.

Protective measures: Assumes a good basic standard of occupational hygiene is implemented.

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

Route of exposure: Dermal.

Protective measures: For personal protection see section 8 of SDS. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Effectiveness: 90 %.

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

Concentration of the substance in a mixture ≤ 100 %

Physical form of the product Liquid, vapour pressure 0,5 – 10 kPa (at STP, 101 kPa, 0 °C)

Frequency and duration of use ≤ 8 h/d

Area of use Indoor use

### Risk Management Measures (RMM)

#### Technical conditions and measures at process level (source) to prevent release

Procedures for release control and monitoring, workplace measurements.

#### Technical conditions and measures to control dispersion from source towards the worker

Route of exposure: Inhalation.

Protective measures: Use local exhaust ventilation (LEV) or engineering equipment implying comparable efficiency.

Effectiveness: 80 %.

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

Route of exposure: Dermal.

Protective measures: Assumes a good basic standard of occupational hygiene is implemented.

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

Route of exposure: Dermal.

Protective measures: For personal protection see section 8 of SDS. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Effectiveness: 90 %.

### 2.4 Contributing exposure scenario controlling worker exposure: **PROC10** - Roller application or brushing, **Indoor use**

Concentration of the substance in a mixture  $\leq 100$  %

Physical form of the product                      Liquid, vapour pressure 0,5 – 10 kPa (at STP, 101 kPa, 0 °C)

Frequency and duration of use                       $\leq 8$  h/d

Area of use    Indoor use

### Risk Management Measures (RMM)

#### Technical conditions and measures at process level (source) to prevent release

Procedures for release control and monitoring, workplace measurements.

#### Technical conditions and measures to control dispersion from source towards the worker

Route of exposure: Inhalation.

Protective measures: Provide a good standard of controlled ventilation (5 to 10 air changes per hour).

Effectiveness: 70 %.

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

Route of exposure: Dermal.

Protective measures: Assumes a good basic standard of occupational hygiene is implemented.

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

Route of exposure: Dermal.

Protective measures: For personal protection see section 8 of SDS. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Effectiveness: 90 %.

### 2.5 Contributing exposure scenario controlling worker exposure: **PROC10** - Roller application or brushing, **Outdoor use**

Concentration of the substance in a mixture  $\leq 100$  %

Physical form of the product                      Liquid, vapour pressure 0,5 – 10 kPa (at STP, 101 kPa, 0 °C)

Frequency and duration of use                      Avoid carrying out activities involving exposure for more than 4 hours per day.

Area of use Outdoor use

#### Risk Management Measures (RMM)

#### Technical conditions and measures at process level (source) to prevent release

Procedures for release control and monitoring, workplace measurements.

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

Route of exposure: Dermal.

Protective measures: Assumes a good basic standard of occupational hygiene is implemented.

Route of exposure: Inhalation.

Protective measures: Ensure operation is undertaken outdoors.

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

Route of exposure: Dermal.

Protective measures: For personal protection see section 8 of SDS. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Effectiveness: 90 %.

#### 2.6 Contributing exposure scenario controlling worker exposure: **PROC19**: Hand-mixing with intimate contact and only personal protective equipment available, **Indoor use**

Concentration of the substance in a mixture  $\leq 100$  %

Physical form of the product Liquid, vapour pressure 0,5 – 10 kPa (at STP, 101 kPa, 0 °C)

Frequency and duration of use Avoid carrying out activities involving exposure for more than 1 hour per day.

Area of use Indoor use

#### Risk Management Measures (RMM)

#### Technical conditions and measures at process level (source) to prevent release

Procedures for release control and monitoring, workplace measurements.

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

Route of exposure: Dermal.

Protective measures: Assumes a good basic standard of occupational hygiene is implemented.

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

Route of exposure: Dermal.

Protective measures: For personal protection see section 8 of SDS. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Effectiveness: 90 %.

#### 2.7 Contributing exposure scenario controlling worker exposure: **PROC19**: Hand-mixing with intimate contact and only personal protective equipment available, **Outdoor use**

Concentration of the substance in a mixture  $\leq 100$  %

Physical form of the product Liquid, vapour pressure 0,5 – 10 kPa (at STP, 101 kPa, 0 °C)

Frequency and duration of use Avoid carrying out activities involving exposure for more than 1 hour per day.

Area of use Outdoor use

## Risk Management Measures (RMM)

**Technical conditions and measures at process level (source) to prevent release**

Procedures for release control and monitoring, workplace measurements.

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

Route of exposure: Dermal.

Protective measures: Assumes a good basic standard of occupational hygiene is implemented.

Route of exposure: Inhalation.

Protective measures: Ensure operation is undertaken outdoors.

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

Route of exposure: Dermal.

Protective measures: For personal protection see section 8 of SDS. Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Effectiveness: 90 %.

## 3. Exposure estimation and reference to its source

**Environment**

Professional end use in formulations

release categories: ERC8c, ERC8f

method: EUSES v.2.1

Compartment	Predicted Environmental Concentration (PEC)	Risk Characterisation Ratio (RCR)
Air	0,21 µg/m <sup>3</sup>	0,000003
Fresh water	0,263 µg/l	0,00029
Fresh water sediment	0,638 µg/kg (wet weight)	0,00029
Soil	0,0369 µg/kg (wet weight)	0,000028

Based on the applied RMMs the risk towards environment is sufficiently controlled (RCR ≤ 1)  
(RCR = exposure level /PNEC)

**Health (workers)**

Professional end use in formulations

Contributing scenario	Route of exposure	Specific condition	Exposure level	Risk Characterisation Ratio (RCR)
<b>1.1 PROC5</b>	inhalative, short-term, local and systemic	Short-term exposure, with local exhaust ventilation	8 ppm	0,08 (method: ECETOC TRA)
	dermal, long-term, systemic	Long-term exposure, using gloves	1,37 mg/kg bw/day	0,10 (method: ECETOC TRA)
	inhalative, long-term, systemic	With local exhaust ventilation	20 ppm	0,40
	combined, long-term, systemic			0,50
<b>1.2 PROC8a</b>	inhalative, short-term, local and systemic	Short-term exposure, with local exhaust ventilation	8 ppm	0,08 (method: ECETOC TRA)
	dermal, long-term, systemic	Long-term exposure, using gloves	1,37 mg/kg bw/day	0,10 (method: ECETOC TRA)
	inhalative, long-term, systemic	With local exhaust ventilation	20 ppm	0,40
	combined, long-term, systemic			0,50



<b>1.3 PROC10</b>	inhalative, short-term, local and systemic	Short-term exposure, indoor, Technical ventilation of workplace	12 ppm	0,12 (method: ECETOC TRA)
	dermal, long-term, systemic	Long-term exposure, indoor, using gloves	2,74 mg/kg bw/day	0,20 (method: ECETOC TRA)
	inhalative, long-term, systemic	Technical ventilation of workplace	30 ppm	0,60
	combined, long-term, systemic			0,80
<b>1.4 PROC10</b>	inhalative, short-term, local and systemic	Short-term exposure, outdoor	28 ppm	0,28 (method: ECETOC TRA)
	dermal, long-term, systemic	Long-term exposure, outdoor, using gloves	1,65 mg/kg bw/day	0,12 (method: ECETOC TRA)
	inhalative, long-term, systemic		42 ppm	0,84
	combined, long-term, systemic			0,96
<b>1.5 PROC19</b>	inhalative, short-term, local and systemic	Short-term exposure, indoor	40 ppm	0,40 (method: ECETOC TRA)
	dermal, long-term, systemic	Long-term exposure, indoor, using gloves	2,83 mg/kg bw/day	0,21 (method: ECETOC TRA)
	inhalative, long-term, systemic		20 ppm	0,40
	combined, long-term, systemic			0,61
<b>1.6 PROC19</b>	inhalative, short-term, local and systemic	Short-term exposure, outdoor	28 ppm	0,28 (method: ECETOC TRA)
	dermal, long-term, systemic	Long-term exposure, outdoor, using gloves	2,83 mg/kg bw/day	0,21 (method: ECETOC TRA)
	inhalative, long-term, systemic		14 ppm	0,28
	combined, long-term, systemic			0,49
mg/kg bw/day: milligram per kilogram of body weight per day				

Based on the applied RMMs the risk towards health is sufficiently controlled ( $RCR \leq 1$ )  
( $RCR = \text{exposure level} / \text{DNEL}$ )

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

The risk management measures given in this exposure scenario apply to the specified substance in a concentration as indicated in the scenario. The concentration of the substance in the product may differ. A downstream user should evaluate if the risk management measures may be adapted accordingly.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Measured data could be used to confirm exposure levels are within the boundaries of the exposure scenario.