

**Safety data sheet**  
**according to Regulation (EC) No 1907/2006, Article 31**

Printing date 13.09.2024

Version number 24 (replaces version 23)

Revision: 13.09.2024

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

- **1.1 Product identifier**
- **Creation date version 1** 06.02.2013
  
- **Trade name** NEUKADUR hardener O-Paste blue AF
  
- **Article number:** E1035
  
- **Utilization of the substance of the formulation:** Hardener for epoxy resin
- **EC number:**  
701-266-7
- **Registration number** 01-2119485826-22
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified uses:  
ES1: Formulation: Epoxy Curing Agent - Industrial: PC01; PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC15; ERC02  
ES2: Formulation: Epoxy Curing Agent in Paint - Industrial: PC09a; PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC15; ERC02  
ES3: Formulation: Coatings, Adhesives and Inks - Industrial: PC01, PC09a, PC18; PROC01, PROC02, PROC03, PROC04, PROC05, PROC08b, PROC09; ERC02  
ES4: Use on Industrial Sites: Epoxy Curing Agent - Industrial: PC01; PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15; ERC06a  
ES5: Use on Industrial Sites: Epoxy Curing Agent in Paint - Industrial: PC09a; PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15; ERC06a  
ES6: Use at Industrial Sites: Coatings, Adhesives and Inks - Industrial: PC01, PC09a, PC18; PROC02, PROC05, PROC07, PROC08b, PROC10, PROC13; ERC04  
ES7: Use at Industrial Sites: Use as Laboratory Reagent - Industrial: PC21; PROC15; ERC04
- **Application for the substance / the preparation** hardener for epoxy resin
  
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Suter Kunststoffe AG  
Aefligenstrasse 3  
CH-3312 Fraubrunnen  
Tel. +41 (0)31 763 60 60  
Fax. +41 (0)31 763 60 61  
e-mail: [info@swiss-composite.ch](mailto:info@swiss-composite.ch)
- **Further information obtainable from:** Sales Team
- **1.4 Emergency telephone number:**  
Tox Info Suisse phone : 145  
International: +41 (0)44 251 51 51

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## SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Skin Corr. 1B      H314 Causes severe skin burns and eye damage.  
Eye Dam. 1      H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1      H400 Very toxic to aquatic life.  
Aquatic Chronic 1      H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4      H302 Harmful if swallowed.  
Acute Tox. 4      H312 Harmful in contact with skin.  
Skin Sens. 1      H317 May cause an allergic skin reaction.

- 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008  
The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS05



GHS07



GHS09

- Signal word *Danger*
- Hazard-determining components of labelling:  
Polyethylenpolyamin, Pentaethylenhexaminfraktion

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· **Hazard statements**

H302+H312 Harmful if swallowed or in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P260 Do not breathe dusts or mists.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

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

· **Additional information:**

EUH071 Corrosive to the respiratory tract.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

\*

### SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

Polyethylenpolyamin, Pentaethylenhexaminfraktion

· **Identification number(s)**

· **EC number:** 701-266-7

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Personal protection for the First Aider.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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*In case of unconsciousness place patient stably in side position for transportation.*

· **After skin contact:**

*Immediately wash with water and soap and rinse thoroughly.*

*Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.*

· **After eye contact:**

*Rinse opened eye for several minutes under running water. Then consult a doctor.*

*Protect unharmed eye.*

*Call a doctor immediately.*

· **After swallowing:**

*Do not induce vomiting; call for medical help immediately.*

*If swallowed or vomiting, danger of entering the lungs.*

*Rinse out mouth and then drink plenty of water.*

*A person vomiting while laying on their back should be turned onto their side.*

*Call for a doctor immediately.*

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

*No further relevant information available.*

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

*No further relevant information available.*

### SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

*Use fire extinguishing methods suitable to surrounding conditions.*

*CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray.*

· **For safety reasons unsuitable extinguishing agents:** *Water with full jet*

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

*Formation of toxic gases is possible during heating or in case of fire.*

*In case of fire, the following can be released:*

*Nitrogen oxides (NO<sub>x</sub>)*

*Carbon monoxide (CO)*

*carbon dioxide*

· **5.3 Advice for firefighters**

· **Protective equipment:**

*Wear fully protective suit.*

*Do not inhale explosion gases or combustion gases.*

*Wear self-contained respiratory protective device.*

· **Additional information**

*Cool endangered receptacles with water spray.*

*Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.*

### SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

*Wear protective clothing.*

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*Avoid contact with eyes and skin.**Ensure adequate ventilation**Keep away from ignition sources.**Protective equipment (see section 8).**Provide sufficient ventilation. Keep bystanders away.***· 6.2 Environmental precautions:***Dilute with plenty of water.**Do not allow to enter sewers/ surface or ground water.**Inform respective authorities in case of seepage into water course or sewage system.**Do not allow to penetrate the ground/soil.***· 6.3 Methods and material for containment and cleaning up:***Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).**Use neutralising agent.**Dispose contaminated material as waste according to section 13.**Ensure adequate ventilation.***· 6.4 Reference to other sections***See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***SECTION 7: Handling and storage****· 7.1 Precautions for safe handling***Ensure good ventilation/exhaustion at the workplace.**Keep receptacles tightly sealed.**Ensure that suitable extractors are available on processing machines**Prevent formation of aerosols.***· Information about fire - and explosion protection:***Keep ignition sources away - Do not smoke.**Protect against electrostatic charges.***· 7.2 Conditions for safe storage, including any incompatibilities****· Storage:****· Requirements to be met by storerooms and receptacles:***Keep container tightly closed and dry and storage in a good ventilated room.**Storage temperature: 20 - 25 °C.**Prevent any seepage into the ground.***· Information about storage in one common storage facility:***Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.**Store away from foodstuffs.***· Further information about storage conditions:***Protect from heat and direct sunlight.**Protect from exposure to the light.**Store receptacle in a well ventilated area.**Keep container tightly sealed.***· Storage class: 8 A****· 7.3 Denomination of Origin Made in Germany**

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- **Processing information** Homogenize content before use
- **General remark** For processing instructions see data sheet

**SECTION 8: Exposure controls/personal protection**

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNELs**

**Polyethylenpolyamin, Pentaethylenhexaminfraktion**

Oral	DNEL Long-term - systemic effects	0.21 mg/kg bw/day (General population)
Inhalative	DNEL systemic effects - long term exposure	0.14 mg/m <sup>3</sup> (General population) 0.82 mg/m <sup>3</sup> (workers)

· **PNECs**

**Polyethylenpolyamin, Pentaethylenhexaminfraktion**

PNEC STP	4.2 mg/L (sewage plant)
PNEC sediment	1.59 mg/kg (freshwater- sediment) 0.159 mg/kg (seawater - sediment)
PNEC soil	3.4 mg/kg (soil ( Boden))
PNEC	0.005 mg/l (freshwater) 0.0005 mg/l (marine water)

· **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
Use suitable respiratory protective device when aerosol or mist is formed.  
Use suitable respiratory protective device in case of insufficient ventilation.  
Use a properly fitted, air-purifying or air-fed an approved respirator complying if the Risk assessment requires. The selection of respirators must be based on known or anticipated exposure levels, the Hazards of the product and the safe working limits of the Respirator. Recommended: ammonia filter (type K) with filters Ammonia (Type K) and particle.
- **Hand protection**  
When handling chemical products, before chemical resistant, carried impervious gloves complying with an approved standard be if a risk assessment indicates this is necessary.  
Gloves approved to relevant standards as EN 374 (Europe) and F739 (U.S.) tested gloves are used. Suitability and durability of a Glove is dependent on usage, for example frequency and duration of contact,

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chemical resistance of glove material and dexterity Always seek advice from glove suppliers.  
Preventive skin protection (3-point program) required



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

Suitable materials for protective gloves, EN 374-3:

Polychloroprene - CR: thickness > = 0.5 mm, breakthrough time > = 480 min.

NBR - NBR: thickness > = 0,35 mm, Breakthrough time > = 480 min.

Butyl rubber - IIR: thickness > = 0.5 mm, breakthrough time > = 480 min.

Fluorine rubber - FKM: thickness > = 0.4 mm; breakthrough time > = 480 min.

Recommendation: Dispose of contaminated gloves ..

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Not suitable are gloves made of the following materials:**

Leather gloves

Strong material gloves

· **Eye/face protection**

Face protection



Tightly sealed goggles

· **Body protection:**

Impervious protective clothing

Boots

Protective work clothing

### SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Colour:**

Yellowish

· **Odour:**

Ammonia-like

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Undetermined.

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· <b>Boiling point or initial boiling point and boiling range</b>	ca. 230 °C
· <b>Flammability</b>	Not applicable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	174 °C
· <b>Auto-ignition temperature:</b>	ca.360 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH at 20 °C</b>	12
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not determined.
· <b>Dynamic at 20 °C:</b>	200 mPas
· <b>Solubility</b>	
· <b>water:</b>	Insoluble.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	< 1 hPa
· <b>Density and/or relative density</b>	
· <b>Density at 20 °C:</b>	1 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.

· <b>9.2 Other information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Fluid
· <b>Important information on protection of health and environment, and on safety.</b>	
· <b>Ignition temperature:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	0.1 %
· <b>VOC (EC)</b>	0.0 g/l
· <b>Change in condition</b>	
· <b>Evaporation rate</b>	Not determined.

· <b>Information with regard to physical hazard classes</b>	
· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Void
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	Void
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void

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- |  |      |
|--|------|
| · <b>Self-heating substances and mixtures</b>                                      | Void |
| · <b>Substances and mixtures, which emit flammable gases in contact with water</b> | Void |
| · <b>Oxidising liquids</b>   | Void |
| · <b>Oxidising solids</b>  | Void |
| · <b>Organic peroxides</b>   | Void |
| · <b>Corrosive to metals</b>   | Void |
| · <b>Desensitised explosives</b>   | Void |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Exothermic polymerisation.  
Reacts with acids, alkalis and oxidising agents.  
Reaction with epoxies and isocyanates
- **10.4 Conditions to avoid**  
Moisture. Heat, open flames and other ignition sources. With contaminated pipes and tanks or corroded or rusty containers may lead to increased formation of hydrogen. Detail in section 7.
- **10.5 Incompatible materials:** Incompatible with oxidizers, acids
- **10.6 Hazardous decomposition products:** if handled accordingly no products of decomposition.

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
Harmful if swallowed or in contact with skin.

· **LD/LC50 values relevant for classification:**

**Polyethylenpolyamin, Pentaethylenhexaminfraktion**

Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	1,465.4 mg/kg (rat) (OECD 402 Acute Dermal Toxicity)

- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

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- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
According to current knowledge, no known CMR effects
- **11.2 Information on other hazards**

· **Endocrine disrupting properties**

Substance is not listed.

## SECTION 12: Ecological information

### · 12.1 Toxicity

· **Aquatic toxicity:**

**Polyethylenpolyamin, Pentaethylenhexaminfraktion**

LC50 (96 h) 180 mg/l (Guppy (*Poecilia reticulata*))

EC50 (48 h) 17.5 mg/l (*Daphnia Magna*)

EC50 (72 h) 0.7 mg/l (*Pseudokirchnerella Subcapitata*) (OECD 201 Alga, Growth Inhibition Test)

NOEC/72h 0.25 mg/l (*Pseudokirchnerella Subcapitata*) (OECD 201 Alga, Growth Inhibition Test)

NOEC / 21d 0.8 mg/l (*Daphnia Magna*) (OECD 202 *Daphnia* sp. Acute Immobilisation Test)

· **12.2 Persistence and degradability** No further relevant information available.

· **Other information:** Elimination by adsorption onto activated sludge

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**

· **Remark:** Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

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WGK 3 stark wassergefährdend

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## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste disposal key:**

The waste code according to the Waste Catalogue (AVV) depends on the waste producer and can therefore be different for a product. The waste code is to identify them separately from each waste producer.

· **European waste catalogue**

Allocation of a waste code number, according to the European Waste Catalogue (EWC) is carried out in agreement with the regional waste disposal.

· **Uncleaned packaging:**

· **Recommendation:**

Waste and its container must be disposed of in a safe way. Be careful when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid the spread of spilled material and runoff and contact with soil, waterways, drains and sewers.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR, IMDG, IATA**

UN2735

· **14.2 UN proper shipping name**

· **ADR**

2735 AMINES, LIQUID, CORROSIVE, N.O.S.  
(Polyethylenpolyamin,  
Pentaethylenhexaminfraktion),  
ENVIRONMENTALLY HAZARDOUS

· **IMDG, IATA**

AMINES, LIQUID, CORROSIVE, N.O.S.  
(Polyethylenpolyamin,  
Pentaethylenhexaminfraktion)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

8 (C7) Corrosive substances.

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· <b>Label</b>	8
· <b>IMDG</b>	
	
· <b>Class</b>	8 Corrosive substances.
· <b>Label</b>	8
· <b>IATA</b>	
	
· <b>Class</b>	8 Corrosive substances.
· <b>Label</b>	8
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	Symbol (fish and tree)
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>14.6 Special precautions for user</b>	Warning: Corrosive substances.
· <b>Hazard identification number (Kemler code):</b>	80
· <b>EMS Number:</b>	F-A, S-B
· <b>Segregation groups</b>	(SGG18) Alkalis
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>Transport category</b>	3
· <b>Tunnel restriction code</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml

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	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (POLYETHYLENPOLYAMIN, PENTAETHYLENHEXAMINFRAKTION), 8, III, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to Regulation (EC) No 1272/2008  
The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS05 GHS07 GHS09

- Signal word *Danger*
- Hazard-determining components of labelling:  
Polyethylenpolyamin, Pentaethylenhexaminfraktion
- Hazard statements
  - H302+H312 Harmful if swallowed or in contact with skin.
  - H314 Causes severe skin burns and eye damage.
  - H317 May cause an allergic skin reaction.
  - H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements
  - P260 Do not breathe dusts or mists.
  - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P310 Immediately call a POISON CENTER/doctor.
  - P321 Specific treatment (see on this label).
  - P362+P364 Take off contaminated clothing and wash it before reuse.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.
- Seveso category E1 Hazardous to the Aquatic Environment
- Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

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· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

Substance is not listed.

· **REGULATION (EU) 2019/1148**· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

Substance is not listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

Substance is not listed.

· **Regulation (EC) No 273/2004 on drug precursors**

Substance is not listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

Substance is not listed.

· **National regulations:**· **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

\*

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Recommended restriction of use**

The information in this safety data sheet corresponds to the best of our knowledge at the time of the revision. The information should give you clues for the safe handling of the product mentioned in this safety data sheet during storage, processing, transport and disposal. The details are not transferable to other products. Insofar as the product mentioned in this safety data sheet is mixed with other materials, mixed or processed, or subjected to processing, the information in this safety data sheet, unless expressly stated otherwise, can not be transferred to the new material produced in this way.

· **Department issuing SDS:** environment protection department· **Contact:** Herr Ottensmann Tel. +49 (0)2056-25863-7· **Date of previous version:** 12.09.2024· **Version number of previous version:** 23· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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VOC: Volatile Organic Compounds (USA, EU)  
 DNEL: Derived No-Effect Level (REACH)  
 PNEC: Predicted No-Effect Concentration (REACH)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1  
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1  
 · **\* Data compared to the previous version altered.**

### **Annex: Exposure scenario 1**

· **Short title of the exposure scenario**

ES1: Formulation: Epoxy Curing Agent; Adhesives, Sealants (PC01)

· **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category PC1 Adhesives, sealants**

· **Process category**

PROC3 Use in closed batch process (synthesis or formulation)

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging / discharging) from / to vessels / large containers at specially provided for only one product systems

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

PROC15 Use as laboratory reagent

· **Environmental release category ERC2 Formulation of preparations**

· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**

· **Duration and frequency** ≤8 hours / day

· **Environment**

Amounts used :

Annual amount at site: 14.1 tons/year.

Daily amount per site: 0.047 tons/day.

Frequency and duration of use: Emission days: ≥300 days per year.

· **Physical parameters**

· **Physical state** Fluid

· **Concentration of the substance in the mixture**

Concentration of the substance in a mixture or Product:

Applies to concentrations up to 100%.

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- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**  
*Other conditions that may affect environmental exposure:*  
*Flow of receiving surface water  $\geq 18000 \text{ m}^3/\text{day}$ .*  
*Release factor after on-site risk management:*  
*Water: 0% (Estimated Emission Factor).*  
*Local release rate: 0 kg/day.*  
*Air: 0.00001% (Estimated Emission Factor).*  
*Local release rate: 0.00000471 kg/day.*  
*Ground: 0% (Estimated Emission Factor).*
- **Other operational conditions affecting worker exposure**  
*Indoor use.*  
*Temperature:  $\leq 40^\circ\text{C}$ .*
- **Other operational conditions affecting consumer exposure** *No special measures required.*
- **Other operational conditions affecting consumer exposure during the use of the product**  
*Not applicable.*
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
  - Any measure to eliminate exposure should be considered.
  - A very high level of containment is required, except for short-term Exposures such as for sampling.
  - Design a closed system that allows easy maintenance.
  - If possible, keep devices under negative pressure.
  - Control of employee access to the work area.
  - Ensure all equipment is well maintained.
  - Work permit for maintenance work.
  - Regular cleaning of equipment and work area.
  - On-site management/monitoring to ensure correct application of existing risk management measures (RMMs) and compliance with Operating Conditions (OCs).
  - Employee training in good practice.
  - Procedures and training for emergency decontamination and disposal.
  - Good standard of personal hygiene.
  - Recording of any "near" occurrences.
  - Sensitizers - Without prejudice to relevant national regulations Legislation, health check-ups and more appropriate health monitoring.
- **Technical protective measures**  
*Provide a basic standard of general ventilation (1 to 3 air changes per Hour).*
- **Personal protective measures**  
*Wear chemical resistant gloves (tested to EN374) and give 'basic' instruction. Dermal - minimum efficiency of 90%.*
  - All skin and mucous membranes with potential exposure with appropriate PPE (personal protective equipment).
  - Gloves appropriate to the substance/task.
  - Skin covering with suitable barrier materials regarding possible contact with chemicals.
  - Respiratory protection appropriate to substance/task.

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- Optional face shield.

- Eye protection.

Do not inhale gases / fumes / aerosols.

· **Measures for consumer protection** Ensure adequate labelling.· **Environmental protection measures**· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

· **Disposal measures** Ensure that waste is collected and contained.· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging· **Exposure estimation**· **Worker (inhalation)**

Exposure estimation and reference to its source - Workers: All Contributing Scenarios

ECETOC TRA workers v3

Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.

Risk Characterization Ratio: 0.791.

Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR &lt; 1).

· **Environment**

Exposure estimation (environment): EUSES 2.1.2.

Exposure estimation : Fresh water: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Freshwater sediment: 0.00212 mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

Sea water: 0.000000645 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Seawater sediment: 0.000206 mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

Sewage treatment plant: 0 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Soil: 0.00000449 mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR &lt; 1).

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- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users**  
The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.

### Annex: Exposure scenario 2

- **Short title of the exposure scenario** ES2: Formulation: Epoxy Curing Agent in Paint - Industrial
- **Sector of Use**  
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC9a Coatings and paints, thinners, paint removes
- **Process category**  
PROC3 Use in closed batch process (synthesis or formulation)  
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)  
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  
PROC8b Transfer of substance or preparation (charging / discharging) from / to vessels / large containers at specially provided for only one product systems  
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
PROC15 Use as laboratory reagent
- **Environmental release category** ERC2 Formulation of preparations
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** ≤8 hours / day
- **Environment**  
Amounts used :  
Annual volume at site: 35.3 tons/year.  
Daily amount per site: 0.12 tons/day.  
Emission days: ≥300 days per year.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture**  
Concentration of the substance in a mixture or Product:  
Applies to concentrations up to 100%.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**  
Other conditions that may affect environmental exposure:  
Flow of receiving surface water ≥18000 m<sup>3</sup>/day.  
Release factor after on-site risk management:  
Water: 0% (Estimated Emission Factor).  
Local release rate: 0 kg/day.

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*Air: 0.00001% (Estimated Emission Factor).**Local release rate: 0.0000118 kg/day.**Ground: 0% (Estimated Emission Factor).*· **Other operational conditions affecting worker exposure***Indoor use.**Temperature: ≤ 40°C.*· **Other operational conditions affecting consumer exposure** *No special measures required.*· **Other operational conditions affecting consumer exposure during the use of the product**  
*Not applicable.*· **Risk management measures**· **Worker protection**· **Organisational protective measures***- Any measure to eliminate exposure should be considered.**- A very high level of containment is required, except for short-term**Exposures such as for sampling.**- Design a closed system that allows easy maintenance.**- If possible, keep devices under negative pressure.**- Control of employee access to the work area.**- Ensure all equipment is well maintained.**- Work permit for maintenance work.**- Regular cleaning of equipment and work area.**- On-site management/monitoring to ensure correct application**of existing risk management measures (RMMs) and compliance with*  
*Operating Conditions (OCs).**- Employee training in good practice.**- Procedures and training for emergency decontamination and disposal.**- Good standard of personal hygiene.**- Recording of any "near" occurrences.**- Sensitizers - Without prejudice to relevant national regulations**Legislation, health check-ups and more appropriate*  
*health monitoring.*· **Technical protective measures***Provide a basic standard of general ventilation (1 to 3 air changes per Hour).*· **Personal protective measures***Wear chemical resistant gloves (tested to EN374) and**give 'basic' instruction. Dermal - minimum efficiency of 90%.**- All skin and mucous membranes with potential exposure with appropriate PPE*  
*(personal protective equipment).**- Gloves appropriate to the substance/task.**- Skin covering with suitable barrier materials regarding possible contact*  
*with chemicals.**- Respiratory protection appropriate to substance/task.**- Optional face shield.**- Eye protection.**Do not inhale gases / fumes / aerosols.*· **Measures for consumer protection** *Ensure adequate labelling.*

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· **Environmental protection measures**· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

· **Disposal measures** Ensure that waste is collected and contained.· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging· **Exposure estimation**· **Worker (inhalation)**

Exposure estimation and reference to its source - Workers: All Contributing Scenarios

ECETOC TRA workers v3

Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.791.

Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR < 1).

· **Environment**

EUSES 2.1.2.

Exposure assessment :

Fresh water: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Freshwater sediment: 0.00212 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Sea water: 0.00000645 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Seawater sediment: 0.000206 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Sewage treatment plant: 0 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Soil: 0.00000458 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR < 1).

· **Consumer** Not relevant for this Exposure Scenario.

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· **Guidance for downstream users**

The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.

### Annex: Exposure scenario 3

· **Short title of the exposure scenario** ES3: Formulation: Coatings, Adhesives and Inks - Industrial· **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category**

PC1 Adhesives, sealants

PC9a Coatings and paints, thinners, paint removes

PC18

· **Process category**

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

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8b Transfer of substance or preparation (charging / discharging) from / to vessels / large containers at specially provided for only one product systems

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

· **Environmental release category** ERC2 Formulation of preparations· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**· **Duration and frequency** ≤8 hours / day· **Environment**

Amounts used :

Annual volume at site: 372 tons/year.

Daily amount per site: 0.001 tons/day.

Emission days: ≥365 days per year.

· **Physical parameters**· **Physical state** Fluid· **Concentration of the substance in the mixture**

Concentration of the substance in a mixture or Product:

Applies to concentrations up to 100%.

· **Other operational conditions**· **Other operational conditions affecting environmental exposure**

Other conditions that may affect environmental exposure:

Flow of receiving surface water ≥18000 m<sup>3</sup>/day.

Release factor after on-site risk management:

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Water: 0% (Estimated Emission Factor).

Local release rate: 0kg/day.

Air: 0.00001% (Estimated Emission Factor).

Local release rate: 0.000000102kg/day.

Ground: 0% (Estimated Emission Factor).

· **Other operational conditions affecting worker exposure**

Indoor use.

Temperature: ≤ 40°C.

· **Other operational conditions affecting consumer exposure** No special measures required.

· **Other operational conditions affecting consumer exposure during the use of the product**  
Not applicable.

· **Risk management measures**

· **Worker protection**

· **Organisational protective measures**

- Any measure to eliminate exposure should be considered.

- A very high level of containment is required, except for short-term

Exposures such as for sampling.

- Design a closed system that allows easy maintenance.

- If possible, keep devices under negative pressure.

- Control of employee access to the work area.

- Ensure all equipment is well maintained.

- Work permit for maintenance work.

- Regular cleaning of equipment and work area.

- On-site management/monitoring to ensure correct application

of existing risk management measures (RMMs) and compliance with  
Operating Conditions (OCs).

- Employee training in good practice.

- Procedures and training for emergency decontamination and disposal.

- Good standard of personal hygiene.

- Recording of any "near" occurrences.

- Sensitizers - Without prejudice to relevant national regulations

Legislation, health check-ups and more appropriate

health monitoring.

· **Technical protective measures**

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

· **Personal protective measures**

Wear chemical resistant gloves (tested to EN374) and

give 'basic' instruction. Dermal - minimum efficiency of 90%.

- All skin and mucous membranes with potential exposure with appropriate PPE  
(personal protective equipment).

- Gloves appropriate to the substance/task.

- Skin covering with suitable barrier materials regarding possible contact  
with chemicals.

- Respiratory protection appropriate to substance/task.

- Optional face shield.

- Eye protection.

Do not inhale gases / fumes / aerosols.

· **Measures for consumer protection** Ensure adequate labelling.

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· **Environmental protection measures**· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

· **Disposal measures** Ensure that waste is collected and contained.· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging· **Exposure estimation**· **Worker (inhalation)**

Exposure estimation and reference to its source - Workers: All Contributing Scenarios

ECETOC TRA workers v3

Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.791.

Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR < 1).

PROC01:

Workers - inhalative, long-term - systemic: 0.107 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.131.

Remark : Based on the risk management measures applied, the hazard to the people adequately controlled (RCR < 1)

· **Environment**

EUSES 2.1.2.

Exposure assessment:

Freshwater: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Freshwater sediment: 0.00212 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Seawater: 0.00000645 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Seawater sediment: 0.000206 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

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Wastewater treatment plant: 0 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Soil: 0.0000061mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR < 1).

- **Consumer** Not relevant for this Exposure Scenario.

- **Guidance for downstream users**

The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.

#### Annex: Exposure scenario 4

- **Short title of the exposure scenario** ES4: Use at industrial sites: Epoxy Curing Agent - Industrial

- **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

- **Product category** PC1 Adhesives, sealants

- **Process category**

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 specially provided for only one product systems

PROC15 Use as laboratory reagent

- **Environmental release category**

ERC6a Industrial use resulting in manufacture of another substance (use of Intermediates)

- **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

- **Conditions of use**

- **Duration and frequency** ≤8 hours / day

- **Environment**

Amounts used :

Annual volume at site: 14.1 tons/year.

Daily amount per site: 0.047 tons/day.

Emission days: ≥300 days per year.

- **Physical parameters**

- **Physical state** Fluid

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- **Concentration of the substance in the mixture**  
 Concentration of the substance in a mixture or Product:  
 Applies to concentrations up to 100%.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**  
 Other conditions that may affect environmental exposure:  
 Flow of receiving surface water  $\geq 18000 \text{ m}^3/\text{day}$ .  
 Release factor after on-site risk management:  
 Water: 0% (Estimated Emission Factor).  
 Local release rate: 0kg/day.  
 Air: 0.00001% (Estimated Emission Factor).  
 Local release rate: 0.0000047kg/day.  
 Ground: 0% (Estimated Emission Factor).
- **Other operational conditions affecting worker exposure**  
 Indoor use.  
 Temperature:  $\leq 40^\circ\text{C}$ .
- **Other operational conditions affecting consumer exposure** No special measures required.
- **Other operational conditions affecting consumer exposure during the use of the product**  
 Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
  - Any measure to eliminate exposure should be considered.
  - A very high level of containment is required, except for short-term Exposures such as for sampling.
  - Design a closed system that allows easy maintenance.
  - If possible, keep devices under negative pressure.
  - Control of employee access to the work area.
  - Ensure all equipment is well maintained.
  - Work permit for maintenance work.
  - Regular cleaning of equipment and work area.
  - On-site management/monitoring to ensure correct application of existing risk management measures (RMMs) and compliance with Operating Conditions (OCs).
  - Employee training in good practice.
  - Procedures and training for emergency decontamination and disposal.
  - Good standard of personal hygiene.
  - Recording of any "near" occurrences.
  - Sensitizers - Without prejudice to relevant national regulations Legislation, health check-ups and more appropriate health monitoring.
- **Technical protective measures**  
 Provide a basic standard of general ventilation (1 to 3 air changes per Hour).
- **Personal protective measures**  
 Wear chemical resistant gloves (tested to EN374) and give 'basic' instruction. Dermal - minimum efficiency of 90%.
  - All skin and mucous membranes with potential exposure with appropriate PPE (personal protective equipment).
  - Gloves appropriate to the substance/task.

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- Skin covering with suitable barrier materials regarding possible contact with chemicals.

- Respiratory protection appropriate to substance/task.

- Optional face shield.

- Eye protection.

Do not inhale gases / fumes / aerosols.

· **Measures for consumer protection** Ensure adequate labelling.

· **Environmental protection measures**

· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

· **Disposal measures** Ensure that waste is collected and contained.

· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Worker (inhalation)**

Exposure estimation and reference to its source - Workers: All Contributing Scenarios

ECETOC TRA workers v3

Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.791.

Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR < 1).

PROC01:

Workers - inhalative, long-term - systemic: 0.107 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.131.

Remark : Based on the risk management measures applied, the hazard to the people adequately controlled (RCR < 1)

· **Environment**

EUSES 2.1.2.

Exposure assessment:

Freshwater: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

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*Freshwater sediment: 0.00212 mg/kg dwt.**Risk Ratio (PEC/PNEC): <0.01.**Seawater: 0.000000645 mg/l.**Risk Ratio (PEC/PNEC): <0.01.**Seawater sediment: 0.000206 mg/kg dwt.**Risk Ratio (PEC/PNEC): <0.01.**Wastewater treatment plant: 0 mg/l.**Risk Ratio (PEC/PNEC): <0.01.**Soil: 0.00000449mg/kg dwt.**Risk Ratio (PEC/PNEC): <0.01.*

*Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR < 1).*

- **Consumer** Not relevant for this Exposure Scenario.

- **Guidance for downstream users**

*The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.*

### Annex: Exposure scenario 5

- **Short title of the exposure scenario**

*ES5: Industrial Site Use: Epoxy Curing Agent in Paint - Industrial*

- **Sector of Use**

*SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites*

- **Product category** PC9a Coatings and paints, thinners, paint removes

- **Process category**

*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 specially provided for only one product systems*

*PROC15 Use as laboratory reagent*

- **Environmental release category**

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

- **Description of the activities / processes covered in the Exposure Scenario**

*See section 1 of the annex to the Safety Data Sheet.*

- **Conditions of use**

- **Duration and frequency** ≤8 hours / day

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- **Environment**

Amounts used :

Annual volume at site: 35.3 tons/year.

Daily amount per site: 0.12 tons/day.

Emission days:  $\geq 300$  days per year.

- **Physical parameters**

- **Physical state** Fluid

- **Concentration of the substance in the mixture**

Concentration of the substance in a mixture or Product:

Applies to concentrations up to 100%.

- **Other operational conditions**

- **Other operational conditions affecting environmental exposure**

Other conditions that may affect environmental exposure:

Flow of receiving surface water  $\geq 18000$  m<sup>3</sup>/day.

Release factor after on-site risk management:

Water: 0% (Estimated Emission Factor).

Local release rate: 0kg/day.

Air: 0.00001% (Estimated Emission Factor).

Local release rate: 0.0000118kg/day.

Ground: 0% (Estimated Emission Factor).

- **Other operational conditions affecting worker exposure**

Indoor use.

Temperature:  $\leq 40^{\circ}\text{C}$ .

- **Other operational conditions affecting consumer exposure** No special measures required.

- **Other operational conditions affecting consumer exposure during the use of the product**

Not applicable.

- **Risk management measures**

- **Worker protection**

- **Organisational protective measures**

- Any measure to eliminate exposure should be considered.

- A very high level of containment is required, except for short-term

Exposures such as for sampling.

- Design a closed system that allows easy maintenance.

- If possible, keep devices under negative pressure.

- Control of employee access to the work area.

- Ensure all equipment is well maintained.

- Work permit for maintenance work.

- Regular cleaning of equipment and work area.

- On-site management/monitoring to ensure correct application

of existing risk management measures (RMMs) and compliance with

Operating Conditions (OCs).

- Employee training in good practice.

- Procedures and training for emergency decontamination and disposal.

- Good standard of personal hygiene.

- Recording of any "near" occurrences.

- Sensitizers - Without prejudice to relevant national regulations

Legislation, health check-ups and more appropriate

health monitoring.

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· **Technical protective measures**

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

· **Personal protective measures**

Wear chemical resistant gloves (tested to EN374) and

give 'basic' instruction. Dermal - minimum efficiency of 90%.

- All skin and mucous membranes with potential exposure with appropriate PPE (personal protective equipment).

- Gloves appropriate to the substance/task.

- Skin covering with suitable barrier materials regarding possible contact with chemicals.

- Respiratory protection appropriate to substance/task.

- Optional face shield.

- Eye protection.

Do not inhale gases / fumes / aerosols.

· **Measures for consumer protection** Ensure adequate labelling.

· **Environmental protection measures**

· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

· **Disposal measures** Ensure that waste is collected and contained.

· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Worker (inhalation)**

Exposure estimation and reference to its source - Workers: All Contributing Scenarios

ECETOC TRA workers v3

Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.791.

Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR < 1).

PROC01:

Workers - inhalative, long-term - systemic: 0.107 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.131.

Remark : Based on the risk management measures applied, the hazard to the

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people adequately controlled (RCR < 1)

- **Environment**

EUSES 2.1.2.

Exposure assessment:

Freshwater: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Freshwater sediment: 0.00212 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Seawater: 0.00000645 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Seawater sediment: 0.000206 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Wastewater treatment plant: 0 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

Soil: 0.00000458 mg/kg dwt.

Risk Ratio (PEC/PNEC): <0.01.

Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR < 1).

- **Consumer** Not relevant for this Exposure Scenario.

- **Guidance for downstream users**

The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.

### Annex: Exposure scenario 6

- **Short title of the exposure scenario**

ES6: Use at industrial sites: Coatings, Adhesives and Inks - Industrial

- **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

- **Product category**

PC1 Adhesives, sealants

PC9a Coatings and paints, thinners, paint removers

PC18

- **Process category**

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC7: Industrial spraying

PROC8b Transfer of substance or preparation (charging / discharging) from / to vessels / large containers at specially provided for only one product systems

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring

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- **Environmental release category**  
*ERC4 Industrial use of processing aids, which are not part of articles, in processes and products*
- **Description of the activities / processes covered in the Exposure Scenario**  
*See section 1 of the annex to the Safety Data Sheet.*
- **Conditions of use**
- **Duration and frequency**  
*≤8 hours / day*  
*Contributing scenario controlling worker exposure for Industrial spraying (PROC7)*  
*Duration of exposure per day: ≤4 hours.*  
*Frequency: 4-5 days per week.*  
*Contributing scenario controlling worker exposure for Application by roller or Cancel (PROC10)*  
*Duration of exposure per day: ≤4 hours.*  
*Frequency: 4-5 days per week.*
- **Environment**  
*Amounts used :*  
*Annual volume at site: 372 tons/year.*  
*Daily amount per site: 0.001 tons/day.*  
*Emission days: ≥365 days per year.*
- **Physical parameters**
- **Physical state** *Fluid*
- **Concentration of the substance in the mixture**  
*Concentration of the substance in a mixture or Product:*  
*Applies to concentrations up to 100%.*  
*Contributing scenario controlling worker exposure for Mixing in batch processes (PROC5)*  
*Applies to concentrations up to 25%.*  
*Contributing scenario controlling worker exposure for Industrial spraying (PROC7)*  
*Applies to concentrations up to 25%.*  
*Contributing scenario controlling worker exposure for Transfer of fabrics or Mixtures (filling and emptying) in plants dedicated to one product only (PROC8b)*  
*Applies to concentrations up to 25%.*  
*Contributing scenario controlling worker exposure for Application by roller or Cancel (PROC10)*  
*Applies to concentrations up to 25%.*  
*Contributing scenario controlling worker exposure for treatment of products by dipping and pouring (PROC13)*  
*Applies to concentrations up to 25%.*
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**  
*Other conditions that may affect environmental exposure:*  
*Flow of receiving surface water ≥18000 m<sup>3</sup>/day.*  
*Release factor after on-site risk management:*  
*Water: 0% (Estimated Emission Factor).*  
*Local release rate: 0kg/day.*  
*Air: 0.00001% (Estimated Emission Factor).*  
*Local release rate: 0.000000102kg/day.*  
*Ground: 0% (Estimated Emission Factor).*

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· **Other operational conditions affecting worker exposure**

*Indoor use.*

*Temperature: ≤ 40°C.*

*Contributing scenario controlling worker exposure for Industrial spraying (PROC7)*

*Indoor use.*

*Temperature ≤ 40°C.*

*Distance of the worker from the source: <1 m (emission source in the worker's breathing zone)*

*After the activity there follows a period of evaporation, drying or hardening.*

*Ensure that the task is not performed by multiple workers at the same time.*

*Room size: 100-1000 m<sup>3</sup>.*

*Contributing scenario controlling worker exposure for Application by roller or Cancel (PROC10)*

*Distance of the worker from the source: <1 m (emission source in the worker's breathing zone)*

*After the activity there follows a period of evaporation, drying or hardening.*

*Ensure that the task is not performed by multiple workers at the same time.*

*Room size: 100-1000 m<sup>3</sup>.*

· **Other operational conditions affecting consumer exposure** *No special measures required.*

· **Other operational conditions affecting consumer exposure during the use of the product**

*Not applicable.*

· **Risk management measures**

· **Worker protection**

· **Organisational protective measures**

*- Any measure to eliminate exposure should be considered.*

*- A very high level of containment is required, except for short-term*

*Exposures such as for sampling.*

*- Design a closed system that allows easy maintenance.*

*- If possible, keep devices under negative pressure.*

*- Control of employee access to the work area.*

*- Ensure all equipment is well maintained.*

*- Work permit for maintenance work.*

*- Regular cleaning of equipment and work area.*

*- On-site management/monitoring to ensure correct application*

*of existing risk management measures (RMMs) and compliance with*

*Operating Conditions (OCs).*

*- Employee training in good practice.*

*- Procedures and training for emergency decontamination and disposal.*

*- Good standard of personal hygiene.*

*- Recording of any "near" occurrences.*

*- Sensitizers - Without prejudice to relevant national regulations*

*Legislation, health check-ups and more appropriate*

*health monitoring.*

· **Technical protective measures**

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

*Contributing scenario controlling worker exposure for Industrial spraying (PROC7)*

*General ventilation: Mechanical ventilation: Inhalation - minimum efficiency of 44%.*

*Contributing scenario controlling worker exposure for Application by roller or Cancel (PROC10)*

*General ventilation: Mechanical ventilation: Inhalation - minimum efficiency of 44%.*

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· **Personal protective measures**

Wear chemical resistant gloves (tested to EN374) and

give 'basic' instruction. Dermal - minimum efficiency of 90%.

- All skin and mucous membranes with potential exposure with appropriate PPE (personal protective equipment).

- Gloves appropriate to the substance/task.

- Skin covering with suitable barrier materials regarding possible contact with chemicals.

- Respiratory protection appropriate to substance/task.

- Optional face shield.

- Eye protection.

Contributing scenario controlling worker exposure for Industrial spraying (PROC7)

personal protection:

Wear chemical resistant gloves (tested to EN374) and provide 'basic' training. Dermal - minimum efficiency of 90%.

respiratory protection:

wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for Transfer of fabrics or Mixtures (filling and emptying) in plants dedicated to one product only (PROC8b)

Personal protection:

Wear chemical resistant gloves (tested to EN374) and provide 'basic' training. Dermal - minimum efficiency of 90%.

Respiratory protection:

wear respiratory protection. Inhalation - minimum efficiency of 90%.

Contributing scenario controlling worker exposure for Application by roller or Cancel (PROC10)

Personal protection:

Wear chemical resistant gloves (tested to EN374) and provide 'basic' training. Dermal - minimum efficiency of 90%.

Respiratory protection:

wear respiratory protection. Inhalation - minimum efficiency of 90%.

Do not inhale gases / fumes / aerosols.

· **Measures for consumer protection** Ensure adequate labelling.

· **Environmental protection measures**

· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

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- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Worker (inhalation)**  
Exposure estimation and reference to its source - Workers: All Contributing Scenarios  
ECETOC TRA workers v3  
Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.  
Risk Characterization Quotient: 0.791.
  
- Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR < 1).*  
Exposure estimation and reference to its source - Workers: Mixing in batch processes (PROC5)  
ECETOC TRA workers v3  
Workers - inhalative, long-term - systemic: 0.645 mg/m<sup>3</sup>.  
Risk Characterization Ratio: 0.787.  
Comment:  
Due to the applied risk management measures, the danger for the adequately controlled in humans (RCR < 1).  
Exposure estimation and reference to its source - Workers: Industrial spraying (PROC7)  
Stoffenmanager v7.5  
Workers - inhalative, long-term - systemic: 0.35 mg/m<sup>3</sup>.  
Risk Characterization Ratio: 0.427.  
Comment:  
Due to the risk management measures applied, the hazard to humans is adequately controlled (RCR < 1).  
Exposure estimation and reference to its source - Workers: Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8B)  
ECETOC TRA workers v3  
Workers - inhalative, long-term - systemic: 0.645 mg/m<sup>3</sup>.  
Risk Characterization Ratio: 0.787.  
Comment:  
Due to the applied risk management measures, the danger for the adequately controlled in humans (RCR < 1).  
Exposure estimation and reference to its source - Workers: Roller or brush application (PROC10)  
Stoffenmanager v7.5  
Workers - inhalative, long-term - systemic: 0.16 mg/m<sup>3</sup>.  
Risk Characterization Ratio: 0.195.  
Comment:  
Due to the risk management measures applied, the hazard to humans is adequately controlled (RCR < 1).  
Exposure estimation and reference to its source - Workers: Treatment of articles by dipping and pouring (PROC13)  
ECETOC TRA workers v3  
Workers - inhalative, long-term - systemic: 0.645 mg/m<sup>3</sup>.  
Risk Characterization Ratio: 0.787.

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**Comment:**

*Due to the risk management measures applied, the hazard to humans is adequately controlled (RCR < 1).*

· **Environment**

EUSES 2.1.2.

**Exposure assessment:**

Freshwater: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Freshwater sediment: 0.00212 mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

Seawater: 0.00000645 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Seawater sediment: 0.000206 mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

Wastewater treatment plant: 0 mg/l.

Risk Ratio (PEC/PNEC): &lt;0.01.

Soil: 0.0000061mg/kg dwt.

Risk Ratio (PEC/PNEC): &lt;0.01.

*Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR < 1).*

· **Consumer** Not relevant for this Exposure Scenario.· **Guidance for downstream users**

*The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.*

### Annex: Exposure scenario 7

· **Short title of the exposure scenario**

ES7: Use at Industrial Sites: Use as a laboratory reagent - Industrial

· **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category** PC21 Laboratory chemicals· **Process category** PROC15 Use as laboratory reagent· **Environmental release category**

ERC4 Industrial use of processing aids, which are not part of articles, in processes and products

· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**· **Duration and frequency** ≤8 hours / day· **Environment**

Amounts used :

Annual volume at site: 1 tons/year.

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Daily amount per site: 0.0027 tons/day.

Emission days:  $\geq 365$  days per year.

· **Physical parameters**

· **Physical state** Fluid

· **Concentration of the substance in the mixture**

Concentration of the substance in a mixture or Product:

Applies to concentrations up to 100%.

· **Other operational conditions**

· **Other operational conditions affecting environmental exposure**

Other conditions that may affect environmental exposure:

Flow of receiving surface water  $\geq 18000$  m<sup>3</sup>/day.

Release factor after on-site risk management:

Water: 0% (Estimated Emission Factor).

Local release rate: 0kg/day.

Air: 0.00001% (Estimated Emission Factor).

Local release rate: 0.00000027kg/day.

Ground: 0% (Estimated Emission Factor).

· **Other operational conditions affecting worker exposure**

Indoor use.

Temperature:  $\leq 40^{\circ}\text{C}$ .

· **Other operational conditions affecting consumer exposure** No special measures required.

· **Other operational conditions affecting consumer exposure during the use of the product**

Not applicable.

· **Risk management measures**

· **Worker protection**

· **Organisational protective measures**

- Any measure to eliminate exposure should be considered.

- A very high level of containment is required, except for short-term

Exposures such as for sampling.

- Design a closed system that allows easy maintenance.

- If possible, keep devices under negative pressure.

- Control of employee access to the work area.

- Ensure all equipment is well maintained.

- Work permit for maintenance work.

- Regular cleaning of equipment and work area.

- On-site management/monitoring to ensure correct application

of existing risk management measures (RMMs) and compliance with

Operating Conditions (OCs).

- Employee training in good practice.

- Procedures and training for emergency decontamination and disposal.

- Good standard of personal hygiene.

- Recording of any "near" occurrences.

- Sensitizers - Without prejudice to relevant national regulations

Legislation, health check-ups and more appropriate

health monitoring.

· **Technical protective measures**

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

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· **Personal protective measures**

Wear chemical resistant gloves (tested to EN374) and

give 'basic' instruction. Dermal - minimum efficiency of 90%.

- All skin and mucous membranes with potential exposure with appropriate PPE (personal protective equipment).

- Gloves appropriate to the substance/task.

- Skin covering with suitable barrier materials regarding possible contact with chemicals.

- Respiratory protection appropriate to substance/task.

- Optional face shield.

- Eye protection.

Respiratory protection: Wear respiratory protection. Inhalation - minimum efficiency of 90%.

Do not inhale gases / fumes / aerosols.

· **Measures for consumer protection** Ensure adequate labelling.

· **Environmental protection measures**

· **Water**

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Purify effluents on-site (prior to initiating water discharge) to achieve the required purification efficiency of  $\geq 27.7\%$ .

Organizational measures to prevent/limit releases from site :

Do not discharge undissolved substance into operational waste water or otherwise recover it from the waste water.

Conditions and measures related to sewage treatment plant:

Wastewater treatment plant: Yes. (Efficacy of at least 27.71%)

Assumed course of sewage treatment plants for domestic sewage 2000 m<sup>3</sup>/day.

Application of sewage treatment plant sludge to agricultural land: Yes.

· **Disposal measures** Ensure that waste is collected and contained.

· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Worker (inhalation)**

Exposure estimation and reference to its source - Workers: All Contributing Scenarios

ECETOC TRA workers v3

Workers - inhalative, long-term - systemic: 0.649 mg/m<sup>3</sup>.

Risk Characterization Quotient: 0.791.

Remark : Based on the risk management measures applied, the hazard to the adequately controlled in humans (RCR < 1).

· **Environment**

EUSES 2.1.2.

Exposure assessment:

Freshwater: 0.00000663 mg/l.

Risk Ratio (PEC/PNEC): <0.01.

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**according to Regulation (EC) No 1907/2006, Article 31**

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**Trade name NEUKADUR hardener O-Paste blue AF**

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*Freshwater sediment: 0.00212 mg/kg dwt.*

*Risk Ratio (PEC/PNEC): <0.01.*

*Seawater: 0.00000645 mg/l.*

*Risk Ratio (PEC/PNEC): <0.01.*

*Seawater sediment: 0.000206 mg/kg dwt.*

*Risk Ratio (PEC/PNEC): <0.01.*

*Wastewater treatment plant: 0 mg/l.*

*Risk Ratio (PEC/PNEC): <0.01.*

*Soil: 0.00000443mg/kg dwt.*

*Risk Ratio (PEC/PNEC): <0.01.*

*Remark : Based on the risk management measures applied, the hazard to the Environment adequately controlled (RCR < 1).*

· **Consumer** Not relevant for this Exposure Scenario.

· **Guidance for downstream users**

*The downstream user must assess whether the exposure scenario conditions of use and risk minimization measures described correspond to its use. In the case of deviating VB/RMM, the user must ensure that the risks are at least equally controlled. For one possible comparison, the methods/tools mentioned in section 3 can be used risk assessment.*

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