

Safety data sheet

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

Printing date 22.03.2025

Version number 40 (replaces version 39)

Revision: 12.03.2025

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

- **1.1 Product identifier**
- **Trade name:** GRF COMBI RAPID BD 24ML*12 NLFR
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Adhesive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
UHU GmbH & Co.KG
Herrmannstraße 7
D-77815 Bühl (Baden)
Tel.:0049-(0)7223-284-0 Fax: 0049-(0)7223-284-245
E-mail: sds@boltonadhesives.com
- **Further information obtainable from:** PSRA
- **1.4 Emergency telephone number:**
Emergency medical information: 8am-10pm (seven days) contact
National Poisons Information Centre, Beaumont Hospital, Dublin 9. Tel 01 8092566

SECTION 2: Hazards identification

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



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2

H315 Causes skin irritation.

Eye Irrit. 2

H319 Causes serious eye irritation.

Skin Sens. 1

H317 May cause an allergic skin reaction.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS07 GHS09

- **Signal word** Warning

- **Hazard-determining components of labelling:**

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

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· **Hazard statements**

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P261 Avoid breathing vapours.
- P280 Wear protective gloves.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P501 Dispose of contents/container in accordance with national regulations.

· **Additional information:**

- EUH205 Contains epoxy constituents. May produce an allergic reaction.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

- **Description:** Adhesive

· **Dangerous components:**

CAS: 1675-54-3	bis-[4-(2,3-epoxipropoxy)phenyl]propane	50-100%
EINECS: 216-823-5	⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317, EUH205	
Index number: 603-073-00-2	Specific concentration limits:	
Reg.nr.: 01-2119456619-26-XXXX	Skin Irrit. 2; H315: C ≥ 5%	
	Eye Irrit. 2; H319: C ≥ 5%	

- **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:** No special measures required.

· **After inhalation:**

- Supply fresh air and to be sure call for a doctor.
- In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:** If symptoms persist consult doctor.

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

- No further relevant information available.

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- **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.
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Storage class:** 10
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

DNELs

1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane

Oral	Consumer, oral, longterm exposition	0.5 mg/kg bw/day (rat)
Dermal	Worker, dermal, shortterm exposition	8.3 mg/kg bw/day
	Worker, dermal, longterm exposition	0.75 mg/kg bw/day (rat)
	Consumer, dermal, longterm exposition	0.0893 mg/kg bw/day (rat)
Inhalative	Worker, inhalative, shortterm exposition	12.3 mg/m ³
	Worker, inhalative, longterm exposition	4.93 mg/m ³ (rat)
	Consumer, inhalative, longterm exposition	0.87 mg/m ³ (rat)

PNECs

1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane

Oral	Secondary Poisoning	11 mg/kg (rat)
	Fresh water	0.006 mg/l (rat)
	Fresh water sediment	0.341 mg/kg dry weight (rat)
	Marine water	0.001 mg/l (rat)
	Marine sediment	0.034 mg/kg dry weight (rat)
	Soil	0.065 mg/kg (rat)
	Sewage treatment plant	10 mg/l (rat)

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:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Respiratory protection: Not required.

Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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

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- **Material of gloves**

Recommended thickness of the material: > 0,12 mm

Hand protection Material : butyl-rubber (e.g. Butoject 898: material thickness 0,7 mm)

Break through time : > 8 h

Material : Ethyl Vinyl Alcohol Laminate (EVAL)

Break through time : > 8 h

glove material for short-term use / splash: (10 min <BTT <480 min): nitrile rubber, neoprene rubber
Nitrile rubber, NBR

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- **Penetration time of glove material**

For the mixture of chemicals mentioned below the penetration time has to be at least 10 minutes (Permeation according to EN 374 Part 3: Level 1).

- **Eye/face protection**



Tightly sealed goggles

Goggles recommended during refilling

SECTION 9: Physical and chemical properties

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

- **General Information**

- **Physical state**

Fluid

- **Colour:**

Colourless

- **Odour:**

Amine-like

- **Odour threshold:**

Not determined.

- **Melting point/freezing point:**

Undetermined.

- **Boiling point or initial boiling point and boiling range**

Undetermined.

- **Flammability**

Not applicable.

- **Lower and upper explosion limit**

- **Lower:**

Not determined.

- **Upper:**

Not determined.

- **Flash point:**

>150 °C

- **Decomposition temperature:**

Not determined.

- **pH at 20 °C**

6

- **Viscosity:**

- **Kinematic viscosity**

Not determined.

- **Dynamic at 20 °C:**

40000 mPas

- **Solubility**

- **water:**

Not miscible or difficult to mix.

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<ul style="list-style-type: none"> · Partition coefficient n-octanol/water (log value) 	Not determined.
<ul style="list-style-type: none"> · Vapour pressure: 	Not determined.
<ul style="list-style-type: none"> · Density and/or relative density 	
<ul style="list-style-type: none"> · Density at 20 °C: 	1.16 g/cm ³
<ul style="list-style-type: none"> · Relative density 	Not determined.
<ul style="list-style-type: none"> · Vapour density 	Not determined.
<ul style="list-style-type: none"> · 9.2 Other information 	All relevant physical data were determined for the mixture. All non-determined data are not measurable or not relevant for the characterization of the mixture.
<ul style="list-style-type: none"> · Appearance: 	
<ul style="list-style-type: none"> · Form: 	Fluid
<ul style="list-style-type: none"> · Important information on protection of health and environment, and on safety. 	
<ul style="list-style-type: none"> · Ignition temperature: 	Product is not selfigniting.
<ul style="list-style-type: none"> · Explosive properties: 	Product does not present an explosion hazard.
<ul style="list-style-type: none"> · Solvent content: 	
<ul style="list-style-type: none"> · Solids content: 	100.0 %
<ul style="list-style-type: none"> · Molecular weight 	340.23 g/mol
<ul style="list-style-type: none"> · Change in condition 	
<ul style="list-style-type: none"> · Evaporation rate 	Not determined.
<ul style="list-style-type: none"> · Information with regard to physical hazard classes 	
<ul style="list-style-type: none"> · Explosives 	Void
<ul style="list-style-type: none"> · Flammable gases 	Void
<ul style="list-style-type: none"> · Aerosols 	Void
<ul style="list-style-type: none"> · Oxidising gases 	Void
<ul style="list-style-type: none"> · Gases under pressure 	Void
<ul style="list-style-type: none"> · Flammable liquids 	Void
<ul style="list-style-type: none"> · Flammable solids 	Void
<ul style="list-style-type: none"> · Self-reactive substances and mixtures 	Void
<ul style="list-style-type: none"> · Pyrophoric liquids 	Void
<ul style="list-style-type: none"> · Pyrophoric solids 	Void
<ul style="list-style-type: none"> · Self-heating substances and mixtures 	Void
<ul style="list-style-type: none"> · Substances and mixtures, which emit flammable gases in contact with water 	Void
<ul style="list-style-type: none"> · Oxidising liquids 	Void
<ul style="list-style-type: none"> · Oxidising solids 	Void
<ul style="list-style-type: none"> · Organic peroxides 	Void
<ul style="list-style-type: none"> · Corrosive to metals 	Void
<ul style="list-style-type: none"> · Desensitised explosives 	Void

SECTION 10: Stability and reactivity

- 10.1 Reactivity No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

1675-54-3 bis-[4-(2,3-epoxipropoxy)phenyl]propane

Oral LD50 >2000 mg/kg (rat)

Dermal LD50 >2000 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** May cause an allergic skin reaction.
- **Germ cell mutagenicity**
Not applicable.
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.
- **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:**
- **Acute effects (acute toxicity, irritation and corrosivity)** Not applicable.
- **Sensitisation** Not applicable.
- **Repeated dose toxicity** Not applicable.
- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **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.

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- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

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.
Disposal must be made according to official regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---------------------------------------|---|
| · 14.1 UN number or ID number | |
| · ADR/ADN, IMDG, IATA | UN3082
- |
| · 14.2 UN proper shipping name | |
| · ADR/ADN | 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)) |
| · IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)), MARINE POLLUTANT |
| · IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)) |

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· **14.3 Transport hazard class(es)**

· **ADR/ADN**



· **Class** 9 (M6) Miscellaneous dangerous substances and articles.
· **Label** 9

· **IMDG, IATA**



· **Class** 9 Miscellaneous dangerous substances and articles.
· **Label** 9

· **14.4 Packing group**

· **ADR/ADN, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** Symbol (fish and tree)
· **Special marking (ADR/ADN):** Symbol (fish and tree)
· **Special marking (IATA):** Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.
· **Hazard identification number (Kemler code):** 90
· **EMS Number:** F-A,S-F
· **Stowage Category** A

· **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

· **Transport/Additional information:**

· **ADR/ADN**

· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
· **Transport category** 3
· **Tunnel restriction code** (-)

· **IMDG**

· **Limited quantities (LQ)** 5L

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- | | |
|-----------------------------------|--|
| · Excepted quantities (EQ) | Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL - A - (EPICHLORHYDRIN); EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT \leq 700)), 9, III |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **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**
None of the ingredients is listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.
- **Regulation (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not 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.

- **Relevant phrases**
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

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H411 Toxic to aquatic life with long lasting effects.

EUH205 Contains epoxy constituents. May produce an allergic reaction.

Classification according to Regulation (EC) No 1272/2008

Skin corrosion/irritation

Serious eye damage/irritation

Skin sensitisation

Hazardous to the aquatic environment - long-term (chronic) aquatic hazard

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Department issuing SDS: PSRA**Contact:** PSRA**Date of previous version:** 17.05.2022**Version number of previous version:** 39**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

ELINCS: European List of Notified Chemical Substances

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

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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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

- **1.1 Product identifier**
- **Trade name:** GRF COMBI RAPID BD 24ML*12 NLFR
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Adhesive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
UHU GmbH & Co.KG
Herrmannstraße 7
D-77815 Bühl (Baden)
Tel.:0049-(0)7223-284-0
E-mail: sds@boltonadhesives.com
Fax: 0049-(0)7223-284-245
- **Further information obtainable from:** PSRA
- **1.4 Emergency telephone number:**
Emergency medical information: 8am-10pm (seven days) contact
National Poisons Information Centre, Beaumont Hospital, Dublin 9. Tel 01 8092566

SECTION 2: Hazards identification

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



Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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



- **Signal word** Warning
- **Hazard-determining components of labelling:**
mercaptan polymer
- **Hazard statements**
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P280 Wear protective gloves.
P302+P352 IF ON SKIN: Wash with plenty of water.

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- P501 Dispose of contents/container in accordance with national regulations.
- **2.3 Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Adhesive

- **Dangerous components:**

EC number: 701-196-7 Reg.nr.: 01-2120118957-46-XXXX	Reaction products of pentaerythritol, propoxylated and 1-chloro-2,3-epoxypropane with hydrogen sulfide ⚠ Skin Sens. 1B, H317; Aquatic Chronic 3, H412	50-100%
CAS: 90-72-2 EINECS: 202-013-9 Index number: 603-069-00-0 Reg.nr.: 01-2119560597-27-XXXX	2,4,6-tris(dimethylaminomethyl)phenol ⚠ Skin Corr. 1C, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	≥3-<5%

- **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:** No special measures required.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **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.
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **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** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Storage class:** 10
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· DNELs

Reaction products of pentaerythritol, propoxylated and 1-chloro-2,3-epoxypropane with hydrogen sulfide

Oral	Consumer, oral, longterm exposition	1.9 mg/kg bw/day (rat)
Dermal	Worker, dermal, longterm exposition	2.7 mg/kg bw/day (rat)
	Consumer, dermal, longterm exposition	1.61 mg/kg bw/day (rat)
Inhalative	Worker, inhalative, longterm exposition	22 mg/m ³ (rat)
	Consumer, inhalative, longterm exposition	6.52 mg/m ³ (rat)

90-72-2 2,4,6-tris(dimethylaminomethyl)phenol

Oral	Consumer, oral, longterm exposition	0.075 mg/kg bw/day
Dermal	Worker, dermal, shortterm exposition	0.6 mg/kg bw/day
	Worker, dermal, longterm exposition	0.15 mg/kg bw/day
	Consumer, dermal, shortterm exposition	0.075 mg/kg bw/day

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Inhalative	Consumer, dermal, longterm exposition	0.075 mg/kg bw/day
	Worker, inhalative, shortterm exposition	2.1 mg/m ³
	Worker, inhalative, longterm exposition	0.53 mg/m ³
	Consumer DNEL, acute inhalation	0.13 mg/m ³
	Consumer, inhalative, longterm exposition	0.13 mg/m ³

· PNECs
Reaction products of pentaerythritol, propoxylated and 1-chloro-2,3-epoxypropane with hydrogen sulfide

Fresh water	0.07 mg/l (rat)
Fresh water sediment	0.322 mg/kg dry weight (rat)
Marine water	0.007 mg/l (rat)
Marine sediment	0.032 mg/kg dry weight (rat)
Soil	0.023 mg/kg (rat)
Sewage treatment plant	10 mg/l (rat)

90-72-2 2,4,6-tris(dimethylaminomethyl)phenol

Fresh water	0.046 mg/l
Fresh water sediment	0.262 mg/kg dry weight
Marine water	0.005 mg/l
Marine sediment	0.026 mg/kg dry weight
Soil	0.025 mg/kg
Sewage treatment plant	0.2 mg/l

· 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:

The usual precautionary measures are to be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· Respiratory protection: Not required.

· Recommended filter device for short term use: Combination filter A-P1

· Hand protection


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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

· Material of gloves

Recommended thickness of the material: > 0,12 mm

glove material for short-term use / splash: (10 min <BTT <480 min): nitrile rubber, neoprene rubber

Nitrile rubber, NBR

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- **Penetration time of glove material**
For the mixture of chemicals mentioned below the penetration time has to be at least 10 minutes (Permeation according to EN 374 Part 3: Level 1).
- **Eye/face protection** Goggles recommended during refilling

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

· Physical state	Fluid
· Colour:	Colourless
· Odour:	Amine-like
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	Undetermined.
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	>100 °C
· Decomposition temperature:	Not determined.
· pH at 20 °C	5-7
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 20 °C:	12500 mPas
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C:	1.142 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

9.2 Other information

All relevant physical data were determined for the mixture. All non-determined data are not measurable or not relevant for the characterization of the mixture.

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· Solids content:	0.0 %

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- **Change in condition**
- **Evaporation rate** Not determined.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** 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** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

Reaction products of pentaerythritol, propoxylated and 1-chloro-2,3-epoxypropane with hydrogen sulfide

Oral	LD50	2600 mg/kg (rat)
Dermal	LD50	>10200 mg/kg (rabbit)

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Oral	LD50	500 mg/kg (rat)
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- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** May cause an allergic skin reaction.
- **Germ cell mutagenicity**
Not applicable.
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.
- **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:**
- **Acute effects (acute toxicity, irritation and corrosivity)** Not applicable.
- **Sensitisation** Not applicable.
- **Repeated dose toxicity** Not applicable.
- **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **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:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms

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.
Disposal must be made according to official regulations.

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|--|
| · 14.1 UN number or ID number
· ADR/ADN, IMDG, IATA | not regulated
- |
| · ADN | not regulated |
| · 14.2 UN proper shipping name
· ADR/ADN, ADN, IMDG, IATA | not regulated |
| · 14.3 Transport hazard class(es)
· ADR/ADN, ADN, IMDG, IATA
· Class | not regulated |
| · 14.4 Packing group
· ADR/ADN, IMDG, IATA | not regulated |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | not regulated |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Directive 2012/18/EU**
 - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
 - **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**
None of the ingredients is listed.
 - **REGULATION (EU) 2019/1148**
 - **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.
 - **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.

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Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

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

None of the ingredients is listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not 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.

Relevant phrases

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Classification according to Regulation (EC) No 1272/2008

Skin sensitisation

Hazardous to the aquatic environment - long-term (chronic) aquatic hazard

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Department issuing SDS: PSRA**Contact:** PSRA**Date of previous version:** 14.05.2022**Version number of previous version:** 29**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

ELINCS: European List of Notified Chemical Substances

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

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. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation – Category 1B

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

IE