

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : TopCoat 2-1 (Resin)

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

Product use : Clear Top Coat and Artwork Sealer

**1.3 Details of the supplier of the safety data sheet**Company name of supplier : Eli-Chem Resins UK Ltd  
212 Dunsfold Park  
Stovolds Hill  
Cranleigh  
GU6 8GA (UK)  
+44 (0) 1483 266636 (09:00-17:00 Mon-Thur / 09:00-16:00 Fri)  
sales@elichem.co.uk**1.4 Emergency telephone number**

Emergency number : +44 (0) 1483 266636 office hours only

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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal word : Danger

Hazard statements	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H318	Causes serious eye damage.
	H411	Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P261 Avoid breathing mist or vapours.

P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
P391 Collect spillage.

**Hazardous components which must be listed on the label:**

bis-[4-(2,3-epoxipropoxy)phenyl]propane  
1,4-bis(2,3 epoxypropoxy)butane  
Pentamethyl piperidylsebacate

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

**Components**

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3 216-823-5 01-2119456619-26-XXXX	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>=80
		specific concentration limit Eye Irrit. 2; H319 >= 5 % Skin Irrit. 2; H315 >= 5 %	

1,4-bis(2,3 epoxypropoxy)butane	2425-79-8 219-371-7 01-2119494060-45-XXXX	Aquatic Chronic 3; H412 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Dam. 1; H318	>= 10 - < 20
Pentamethyl piperidylsebacate Contains: bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5 915-687-0 01-2119491304-40-XXXX	Skin Sens. 1A; H317 Repr. 2; H361f Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0,025 - < 0,1
		M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Keep eye wide open while rinsing.
- If swallowed : Do not induce vomiting without medical advice.  
Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.

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

- Symptoms : Allergic reactions

Excessive lachrymation  
Erythema  
Dermatitis  
See Section 11 for more detailed information on health effects and symptoms.

Risks : irritant effects  
sensitising effects

Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.

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

Treatment : Treat symptomatically.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : In case of fire, use water/water spray/water jet/carbon dioxide/sand/foam/alcohol resistant foam/chemical powder for extinction.

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

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

Hazardous combustion products : No hazardous combustion products are known

**5.3 Advice for firefighters**

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

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.  
Deny access to unprotected persons.

**6.2 Environmental precautions**

Environmental precautions : Do not flush into surface water or sanitary sewer system.

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

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).  
Do not get in eyes, on skin, or on clothing.  
For personal protection see section 8.  
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Follow standard hygiene measures when handling chemical products

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

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

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : Consult most current local Product Data Sheet prior to any use.

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

Contains no substances with occupational exposure limit values.

**8.2 Exposure controls****Engineering measures**

Maintain air concentrations below occupational exposure standards.  
Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

Eye protection : Safety glasses with side-shields conforming to EN166  
Eye wash bottle with pure water

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard must be worn at all times when handling chemical products. Reference number EN 374. Follow manufacturer specifications.

Suitable for short time use or protection against splashes:

Butyl rubber/nitrile rubber gloves (> 0,1 mm)

Contaminated gloves should be removed.

Suitable for permanent exposure:

Viton gloves (0.4 mm),

breakthrough time >30 min.

Skin and body protection : Protective clothing (e.g. Safety shoes acc. to EN ISO 20345, long-sleeved working clothing, long trousers). Rubber aprons and protective boots are additionally recommended for mixing and stirring work.

Respiratory protection : No special measures required.

**Environmental exposure controls**

General advice : Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

Physical state : liquid  
Colour : colourless  
Odour : slight

Melting point/range / Freezing point : No data available

Boiling point/boiling range : No data available

Flammability (solid, gas) : No data available

**Upper/lower flammability or explosive limits**

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : > 110 °C  
Method: closed cup

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : Not applicable  
substance/mixture is non-soluble (in water)**Viscosity**

Viscosity, kinematic : No data available

**Solubility(ies)**

Water solubility : insoluble

Partition coefficient: n-octanol/water : No data available

Vapour pressure : 0,1 hPa  
Density : ca. 1,15 g/cm<sup>3</sup> (20 °C)

Relative vapour density : No data available

Particle characteristics : No data available

**9.2 Other information**

No data available

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

The product is chemically stable.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Stable under recommended storage conditions.

**10.4 Conditions to avoid**

Conditions to avoid : No data available

**10.5 Incompatible materials**

Materials to avoid : No data available

**10.6 Hazardous decomposition products**

No decomposition if stored and applied as directed.

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**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Not classified based on available information.

**Components:****bis-[4-(2,3-epoxypropoxy)phenyl]propane:**

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5.000 mg/kg

**1,4-bis(2,3 epoxypropoxy)butane:**

Acute oral toxicity : LD50 Oral (Rat): 1.163 mg/kg

**Pentamethyl piperidylsebacate:**

Acute oral toxicity : LD50 Oral (Rat): 3.230 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.



**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**11.2 Information on other hazards****Endocrine disrupting properties****Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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**SECTION 12: Ecological information****12.1 Toxicity****Components:****bis-[4-(2,3-epoxypropoxy)phenyl]propane:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1,8 mg/l  
aquatic invertebrates Exposure time: 48 h

**Pentamethyl piperidylsebacate:**

Toxicity to fish : LC50 (Fish): 0,97 mg/l  
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

**Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

- Product : The generation of waste should be avoided or minimized wherever possible.  
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.  
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.  
Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- European Waste Catalogue : 20 01 27\* paint, inks, adhesives and resins containing dangerous substances
- Contaminated packaging : 15 01 10\* packaging containing residues of or contaminated by dangerous substances

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**SECTION 14: Transport information****14.1 UN number**

**ADR** : UN 3082  
**IMDG** : UN 3082  
**IATA** : UN 3082

**14.2 UN proper shipping name**

**ADR** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(epoxy resin)  
**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(epoxy resin)  
**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
(epoxy resin)

**14.3 Transport hazard class(es)**

**ADR** : 9  
**IMDG** : 9  
**IATA** : 9

**14.4 Packing group**

**ADR**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)  
Remarks : Transport in accordance with special provision 375

**IMDG**  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Remarks : Transport in accordance with 2.10.2.7 of the IMDG-Code

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 964

Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous  
Remarks : Transport in accordance with special regulation A 197

**IATA (Passenger)**

Packing instruction (passenger aircraft) : 964

Packing instruction (LQ) : Y964

Packing group : III  
Labels : Miscellaneous

#### 14.5 Environmental hazards

**ADR**

Environmentally hazardous : no

**IMDG**

Marine pollutant : no

**IATA (Passenger)**

Environmentally hazardous : no

**IATA (Cargo)**

Environmentally hazardous : no

#### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Not applicable for product as supplied.

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### SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 3

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : None of the components are listed (=> 0.1 %).

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH Information: All substances contained in our Products are  
- registered by our upstream suppliers, and/or  
- registered by us, and/or  
- excluded from the regulation, and/or  
- exempted from the registration.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS

Volatile organic compounds : Law on the incentive tax for volatile organic compounds (VOCV)  
Volatile organic compounds (VOC) content: 0,1% w/w  
no VOC duties

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Volatile organic compounds (VOC) content: 0,1% w/w

Occupational Illnesses (R-461-3, France) : 51

Installations classified for the protection of the environment (Environment Code R511-9) : 4511

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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## SECTION 16: Other information

### Full text of H-Statements

H302 : Harmful if swallowed.  
H312 : Harmful in contact with skin.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H318 : Causes serious eye damage.  
H319 : Causes serious eye irritation.  
H332 : Harmful if inhaled.  
H361f : Suspected of damaging fertility.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.  
H411 : Toxic to aquatic life with long lasting effects.  
H412 : Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Acute : Short-term (acute) aquatic hazard  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Repr. : Reproductive toxicity  
Skin Irrit. : Skin irritation  
Skin Sens. : Skin sensitisation  
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dose (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

**Further information****Classification of the mixture:**

Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Aquatic Chronic 2	H411

**Classification procedure:**

Calculation method
Calculation method
Calculation method
Calculation method

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : TopCoat 2-1 (Hardener)

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

Product use : Clear Top Coat and Artwork Sealer

**1.3 Details of the supplier of the safety data sheet**Company name of supplier : Eli-Chem Resins UK Ltd  
212 Dunsfold Park  
Stovolds Hill  
Cranleigh  
GU6 8GA (UK)  
+44 (0) 1483 266636 (09:00-17:00 Mon-Thur / 09:00-16:00 Fri)  
sales@elichem.co.uk**1.4 Emergency telephone number**

Emergency number : +44 (0) 1483 266636 office hours only

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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**Hazard pictograms : 

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.Precautionary statements : **Prevention:**

P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/  
 eye protection/ face protection.

**Response:**

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

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P391 Collect spillage.

**Hazardous components which must be listed on the label:**

Polyoxypropylentriamine  
 3-aminomethyl-3,5,5-trimethylcyclohexylamine  
 Adduct IA (epoxy amine adduct)

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

**Components**

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Polyoxypropylentriamine	39423-51-3 500-105-6 01-2119556886-20-XXXX	Acute Tox. 4; H302 Acute Tox. 4; H312 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 25 - < 40
3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2 220-666-8 01-2119514687-32-XXXX	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1A; H317 Aquatic Chronic 3; H412 Eye Dam. 1; H318	>= 25 - < 40



Adduct IA (epoxy amine adduct)	68609-08-5 614-657-1 01-2120106013-80-XXXX	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 5 - < 10
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For explanation of abbreviations see section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Keep eye wide open while rinsing.
- If swallowed : Do not induce vomiting without medical advice.  
Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.

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

- Symptoms : Gastrointestinal discomfort  
Allergic reactions  
Dermatitis  
See Section 11 for more detailed information on health effects and symptoms.
- Risks : Health injuries may be delayed.  
corrosive effects  
sensitising effects
- Harmful if swallowed.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Causes severe burns.

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

Treatment : Treat symptomatically.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : In case of fire, use water/water spray/water jet/carbon dioxide/sand/foam/alcohol resistant foam/chemical powder for extinction.

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

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

Hazardous combustion products : No hazardous combustion products are known

**5.3 Advice for firefighters**

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

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.  
Deny access to unprotected persons.

**6.2 Environmental precautions**

Environmental precautions : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

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

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For personal protection see section 8.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

- Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).  
Do not get in eyes, on skin, or on clothing.  
For personal protection see section 8.  
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Follow standard hygiene measures when handling chemical products
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

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

- Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.
- Further information on storage stability : No decomposition if stored and applied as directed.

**7.3 Specific end use(s)**

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

Contains no substances with occupational exposure limit values.

**8.2 Exposure controls****Personal protective equipment**

- Eye protection : Safety glasses with side-shields conforming to EN166  
Eye wash bottle with pure water  
Wear eye/face protection.
- Hand protection : Chemical-resistant, impervious gloves complying with an approved standard must be worn at all times when handling chemical products. Reference number EN 374. Follow manufacturer specifications.

Suitable for short time use or protection against splashes:

	Butyl rubber/nitrile rubber gloves (> 0,1 mm) Contaminated gloves should be removed. Suitable for permanent exposure: Viton gloves (0.4 mm), breakthrough time >30 min.
Skin and body protection	: Protective clothing (e.g. Safety shoes acc. to EN ISO 20345, long-sleeved working clothing, long trousers). Rubber aprons and protective boots are additionally recommended for mixing and stirring work.
Respiratory protection	: No special measures required.
<b>Environmental exposure controls</b>	
General advice	: Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

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

Physical state	: liquid
Colour	: amber
Odour	: amine-like
Odour Threshold	: No data available
pH	: Not applicable
Melting point/range / Freezing point	: No data available
Boiling point/boiling range	: No data available
Flash point	: > 100 °C Method: closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: 0,02 hPa
Relative vapour density	: No data available
Density	: 1,00 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	
Water solubility	: No data available

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Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

**9.2 Other information**

No data available

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

The product is chemically stable.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Stable under recommended storage conditions.

**10.4 Conditions to avoid**

Conditions to avoid : No data available

**10.5 Incompatible materials**

Materials to avoid : No data available

**10.6 Hazardous decomposition products**

No decomposition if stored and applied as directed.

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**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Harmful if swallowed.

**Components:****Polyoxypropylentriamine:**

Acute oral toxicity : LD50 Oral (Rat): &gt; 550 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): &gt; 1.001 mg/kg

**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

Acute oral toxicity : LD50 Oral (Rat): 1.030 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5,01 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rabbit): &gt; 2.000 mg/kg

**Adduct IA (epoxy amine adduct):**Acute oral toxicity : LD50 Oral (Rat, female): 300 - 2.000 mg/kg  
Method: OECD Test Guideline 423**Skin corrosion/irritation**

Causes severe burns.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

## 11.2 Information on other hazards

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### **3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l  
Exposure time: 72 h

#### **Adduct IA (epoxy amine adduct):**

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (algae)): 3,13 mg/l  
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : LC50: 1,62 mg/l  
Exposure time: 96 h  
Species: Danio rerio (zebra fish)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 1,75 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

#### Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

- Product : The generation of waste should be avoided or minimized wherever possible.  
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.  
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.  
Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- European Waste Catalogue : 20 01 27\* paint, inks, adhesives and resins containing dangerous substances
- Contaminated packaging : 15 01 10\* packaging containing residues of or contaminated by dangerous substances

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**SECTION 14: Transport information****14.1 UN number**

- ADR : UN 2735  
IMDG : UN 2735  
IATA : UN 2735

**14.2 UN proper shipping name**

- ADR : POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
(3-aminomethyl-3,5,5-trimethylcyclohexylamine)  
IMDG : POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
(3-aminomethyl-3,5,5-trimethylcyclohexylamine)  
IATA : Polyamines, liquid, corrosive, n.o.s.  
(3-aminomethyl-3,5,5-trimethylcyclohexylamine)

**14.3 Transport hazard class(es)**

- ADR : 8  
IMDG : 8  
IATA : 8

**14.4 Packing group**



**ADR**

Packing group : III  
Classification Code : C7  
Hazard Identification Number : 80  
Labels : 8  
Tunnel restriction code : (E)

**IMDG**

Packing group : III  
Labels : 8  
EmS Code : F-A, S-B

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 856

Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

**IATA (Passenger)**

Packing instruction (passenger aircraft) : 852

Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

**14.5 Environmental hazards****ADR**

Environmentally hazardous : yes

**IMDG**

Marine pollutant : yes

**IATA (Passenger)**

Environmentally hazardous : yes

**IATA (Cargo)**

Environmentally hazardous : yes

**14.6 Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable for product as supplied.

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**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 3

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International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	: Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	: Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: None of the components are listed (= > 0.1 %).
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable

REACH Information: All substances contained in our Products are  
- registered by our upstream suppliers, and/or  
- registered by us, and/or  
- excluded from the regulation, and/or  
- exempted from the registration.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS

Volatile organic compounds : Law on the incentive tax for volatile organic compounds (VOCV)  
no VOC duties

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

Occupational Illnesses (R-461-3, France) : 49 bis, 49

Installations classified for the protection of the environment (Environment Code R511-9) : 4511

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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## SECTION 16: Other information

### Full text of H-Statements

H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H314	: Causes severe skin burns and eye damage.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.

H411 : Toxic to aquatic life with long lasting effects.  
H412 : Harmful to aquatic life with long lasting effects.

**Full text of other abbreviations**

Acute Tox. : Acute toxicity  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Eye Dam. : Serious eye damage  
Skin Corr. : Skin corrosion  
Skin Sens. : Skin sensitisation  
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road  
  
CAS : Chemical Abstracts Service  
DNEL : Derived no-effect level  
EC50 : Half maximal effective concentration  
GHS : Globally Harmonized System  
IATA : International Air Transport Association  
IMDG : International Maritime Code for Dangerous Goods  
LD50 : Median lethal dosis (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)  
  
LC50 : Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)  
  
MARPOL : International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978  
  
OEL : Occupational Exposure Limit  
PBT : Persistent, bioaccumulative and toxic  
PNEC : Predicted no effect concentration  
REACH : Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency  
  
SVHC : Substances of Very High Concern  
vPvB : Very persistent and very bioaccumulative

**Further information****Classification of the mixture:**

Acute Tox. 4 H302  
Skin Corr. 1B H314  
Eye Dam. 1 H318  
Skin Sens. 1 H317  
Aquatic Chronic 2 H411

**Classification procedure:**

Calculation method  
Calculation method  
Calculation method  
Calculation method  
Calculation method

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.