

SAFETY DATA SHEET

GlassCast 10/50 Epoxy Casting Resin

Version 6.0 SDB_GB

Revision Date 12.11.2020

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

1.1 Product identifier

Trade name : GlassCast 10/50 Epoxy Casting Resin

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

Use of the Substance/Mixture : Casting, Electrical Insulation

1.3 Details of the supplier of the safety data sheet

Company name: Easy Composites Ltd

Unit 39, Park Hall Business Village

Longton, Stoke on Trent

Staffordshire

ST3 5XA

United Kingdom

Tel: +44 (0) 1782 454499

Email: sales@easycomposites.co.uk

1.4 Emergency telephone number

+44 (0) 1782 454499

(office hours only)

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 H317 H318 H411	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Toxic to aquatic life with long lasting effects.
Precautionary statements	: Prevention: P261 P273 P280 Response: P305 + P351 + P338 + P310 P333 + P313 P362 + P364	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Avoid release to the environment. Wear protective gloves/ eye protection/ face protection. 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. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse.

Hazardous components which must be listed on the label:

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

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

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

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl Sebacate

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

Chemical nature : Modified epoxy resin

Hazardous components

Chemical name	CAS-No. EC-No./List Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3 216-823-5	Eye Irrit.2; H319 Skin Irrit.2; H315	>= 50 - <= 100

	01-2119456619-26	Skin Sens.1; H317 Aquatic Chronic2; H411	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	- 271-846-8 01-2119485289-22	Skin Irrit.2; H315 Skin Sens.1; H317	>= 10 - < 12,5
1,4-bis(2,3 epoxypropoxy)butane	2425-79-8 219-371-7 01-2119494060-45	Acute Tox.4; H302 Acute Tox.4; H312 Acute Tox.4; H332 Eye Dam.1; H318 Skin Irrit.2; H315 Skin Sens.1; H317 Aquatic Chronic3; H412	>= 5 - < 7
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl Sebacate	1065336-91-5 01-2119491304-40	Skin Sens.1A; H317 Aquatic Acute1; H400 Aquatic Chronic1; H410	>= 0,25 - < 0,5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Keep warm and in a quiet place.
Show this safety data sheet to the doctor in attendance.
Take off all contaminated clothing immediately.
- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
If breathing is irregular or stopped, administer artificial respiration.
- In case of skin contact : Wash off immediately with soap and plenty of water.
Do NOT use solvents or thinners.
If on clothes, remove clothes.
If skin irritation persists, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.
If easy to do, remove contact lens, if worn.
- If swallowed : Keep at rest.
Do not induce vomiting without medical advice.
Keep respiratory tract clear.

If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : irritant effects
Redness
sensitising effects

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Foam
Sand
Carbon dioxide (CO₂)
Water mist

Unsuitable extinguishing media : Water spray jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : The pressure in sealed containers can increase under the influence of heat.
Cool closed containers exposed to fire with water spray.

5.3 Advice for firefighters

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

Further information : In the event of fire and/or explosion do not breathe fumes.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Immediately evacuate personnel to safe areas.
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.
Evacuate personnel to safe areas.
Use personal protective equipment.

Ensure adequate ventilation.
Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
Try to prevent the material from entering drains or water courses.
Local authorities should be advised if significant spillages cannot be contained.

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).
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Pick up and transfer to properly labelled containers.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear personal protective equipment.
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.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Provide adequate ventilation. Wash hands and face before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers.

Advice on common storage : Keep away from oxidizing agents, strongly acid or alkaline materials and amines.
Keep product and empty container away from heat and sources of ignition.
Keep away from food and drink.

Other data : Stable at normal ambient temperature and pressure.

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

bis-[4-(2,3-epoxipropoxy)phenyl]propane	:	End Use: Workers Exposure routes: Skin contact Potential health effects: Acute systemic effects, Long-term systemic effects Value: 8,33 mg/kg End Use: Workers Exposure routes: Inhalation Potential health effects: Acute systemic effects, Long-term local effects Value: 12,25 mg/m ³ End Use: Consumers Exposure routes: Skin contact Potential health effects: Acute systemic effects, Long-term systemic effects Value: 3,571 mg/kg End Use: Consumers Exposure routes: Ingestion Potential health effects: Acute systemic effects, Long-term systemic effects Value: 0,75 mg/kg
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	:	End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 3,9 mg/kg End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 13,8 mg/m ³

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

bis-[4-(2,3-epoxipropoxy)phenyl]propane	:	Fresh water Value: 0,006 mg/l Marine water Value: 0,0006 mg/l Intermittent releases Value: 0,018 mg/l Sewage treatment plant Value: 10 mg/l Fresh water sediment
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	Value: 0,996 mg/kg
	Marine sediment
	Value: 0,0996 mg/kg
	Soil
	Value: 0,196 mg/kg
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	: Sewage treatment plant
	Value: 10 mg/l
	Fresh water
	Value: 0,0072 mg/l
	Marine water
	Value: 0,00072 mg/l
	Fresh water sediment
	Value: 66,77 mg/kg
	Marine sediment
	Value: 6,677 mg/kg
	Soil
	Value: 80,12 mg/kg

8.2 Exposure controls

Engineering measures

Effective exhaust ventilation system
effective ventilation in all processing areas

Personal protective equipment

Eye protection	: Do not wear contact lenses. Safety glasses with side-shields conforming to EN166 Ensure that eyewash stations and safety showers are close to the workstation location.
Hand protection	
Material	: Protective gloves complying with EN 374.
Skin and body protection	: Protective suit
Respiratory protection	: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. In the case of vapour formation use a respirator with an approved filter. Equipment should conform to EN 14387 Apply technical measures to comply with the occupational exposure limits. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
Protective measures	: Avoid contact with skin. Wear suitable protective equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour	: colourless
Odour	: slight
Odour Threshold	: not determined
pH	: 4 - 6, 1 %
Melting point/freezing point	: Not applicable
Boiling point/boiling range	: > 200 °C
Flash point	: 150 °C
Evaporation rate	: not determined
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Vapour pressure	: Not applicable
Relative vapour density	: not determined
Density	: 1,12 g/cm ³ (25 °C)
Bulk density	: not determined
Solubility(ies) Solubility in other solvents	: not determined
Partition coefficient: n- octanol/water	: No data available
Ignition temperature	: Not applicable
Auto-ignition temperature	: Not applicable
Thermal decomposition	: Method: No data available
Viscosity Viscosity, dynamic	: 700 - 1.000 mPa.s (25 °C)
Viscosity, kinematic	: not determined
Explosive properties	: Not applicable
Oxidizing properties	: Not applicable

9.2 Other information

Surface tension	:	not determined
Sublimation point	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Reacts with the following substances: Bases Strong oxidizing agents Avoid amines.
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10.4 Conditions to avoid

Conditions to avoid	:	No decomposition if used as directed.
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10.5 Incompatible materials

Materials to avoid	:	Incompatible with oxidizing agents.
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10.6 Hazardous decomposition products

Hazardous decomposition products	:	This product may release the following: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 2.000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 2.000 mg/kg Method: Calculation method

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg
Method: OECD Test Guideline 420
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: Skin irritation
GLP: yes

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

Product:

Remarks: No data available

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Test Type: Mouse Local Lymph Node assay (LLNA)
Species: Mouse
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact.
GLP: yes

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity

STOT - single exposure

Product:

Remarks: Not applicable

STOT - repeated exposure

Repeated dose toxicity

Product:

Remarks: No data available

Aspiration toxicity

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

No aspiration toxicity classification

Further information

Product:

Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 1,7 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

|| Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl Sebacate:

M-Factor (Short-term (acute) aquatic hazard) : 1

M-Factor (Long-term
(chronic) aquatic hazard) : 1

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

|| bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Partition coefficient: n-
octanol/water : log Pow: 3,242 (25 °C)
pH: 7,1
Method: OECD Test Guideline 117
GLP: yes

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 Other adverse effects

Product:

Additional ecological
information : Remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with local and national regulations.
Container hazardous when empty.

Do not dispose of with domestic refuse.
Do not mix waste streams during collection.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADR/RID/ADN : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR/RID/ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(bis-[4-(2,3-epoxipropoxi)phenyl]propane)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(bis-[4-(2,3-epoxipropoxi)phenyl]propane)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(bis-[4-(2,3-epoxipropoxi)phenyl]propane)

14.3 Transport hazard class(es)

ADR/RID/ADN : 9

IMDG : 9

IATA : 9

14.4 Packing group

ADR/RID/ADN

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Remarks : ADR: These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IMDG

Packing group : III

Labels : 9

EmS Code : F-A, S-F

Remarks : IMDG: Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provisions of this Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class all provisions of this Code relevant to any additional hazards continue to apply.

IMDG Code segregation group - none

IATA

Packing instruction (cargo aircraft) : 964

Packing instruction (passenger aircraft) : 964

Packing group : III

Labels : 9

Remarks : IATA: These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

14.5 Environmental hazards

ADR/RID/ADN

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA

Environmentally hazardous : yes

14.6 Special precautions for user

Remarks : The transport of dangerous goods, including their loading and unloading, must be done by people who received the necessary training required by Modal Regulations.

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

Not applicable for product as supplied.

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) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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

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	Quantity 1 200 t	Quantity 2 500 t
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15.2 Chemical safety assessment

Not applicable

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.
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
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

Further information

Training advice : Provide adequate information, instruction and training for operators.

SAFETY DATA SHEET

GlassCast 10/50 Epoxy Casting Resin

Version 6.0 SDB_GB

Revision Date 12.11.2020

Print Date 16.11.2020

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

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

1.1 Product identifier

Trade name : GlassCast 10 Epoxy Hardener

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

Use of the Substance/Mixture : Epoxy Hardener

1.3 Details of the supplier of the safety data sheet

Company Easy Composites Ltd
Unit 39, Park Hall Business Village
Longton, Stoke on Trent
Staffordshire
ST3 5XA
United Kingdom

Telephone +44 (0) 1782 454499

E-mail address sales@easycomposites.co.uk

1.4 Emergency telephone number

44 (0) 1782 454499
(office hours only)

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, 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.
Supplemental Hazard Statements	:	EUH071 Corrosive to the respiratory tract.
Precautionary statements	:	Prevention: P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. Response: P303 + P361 + P533 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. 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.

Hazardous components which must be listed on the label:

3-aminomethyl-3,5,5-trimethylcyclohexylamine

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

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

Chemical nature : Cycloaliphatic amine based mixture

Hazardous components

Chemical name	CAS-No. EC-No./List Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
3-aminomethyl-3,5,5-	2855-13-2	Acute Tox.4; H302	>= 30 - < 50

trimethylcyclohexylamine	220-666-8 01-2119514687-32	Acute Tox.4; H312 Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Chronic3; H412	
benzyl alcohol	100-51-6 202-859-9 01-2119492630-38	Acute Tox.4; H302 Acute Tox.4; H332 Eye Irrit.2; H319	>= 20 - < 25
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with trimethylhexane-1,6-diamine	153195-44-9 01-2120781950-47-0001	Skin Corr.1B; H314 Eye Dam.1; H318 Aquatic Chronic1; H400 Aquatic Acute1; H400	>= 12,5 - < 20
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	9046-10-0 01-2119557899-12	Skin Corr.1C; H314 Eye Dam.1; H318 Aquatic Chronic3; H412	>= 10 - < 12,5
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	25513-64-8 247-063-2 01-2119560598-25	Acute Tox.4; H302 Skin Corr.1A; H314 Eye Dam.1; H318 Skin Sens.1A; H317	>= 1 - < 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Show this safety data sheet to the doctor in attendance.
Keep warm and in a quiet place.
Take off all contaminated clothing immediately.
- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
If breathing is irregular or stopped, administer artificial respiration.
- In case of skin contact : Wash off immediately with soap and plenty of water.
Do NOT use solvents or thinners.
If on clothes, remove clothes.
Burns must be treated by a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.
If easy to do, remove contact lens, if worn.

If swallowed : Do NOT induce vomiting.
If a person vomits when lying on his back, place him in the recovery position.
Call a physician immediately.
Give small amounts of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Burn
superficial burning sensation
Redness
Severe irritation

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂)
Foam
Dry powder
Water mist

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : The pressure in sealed containers can increase under the influence of heat.
Cool closed containers exposed to fire with water spray.
Hazardous decomposition products formed under fire conditions.

5.3 Advice for firefighters

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

Further information : In the event of fire and/or explosion do not breathe fumes.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Immediately evacuate personnel to safe areas.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Refer to protective measures listed in sections 7 and 8.
Evacuate personnel to safe areas.
Use personal protective equipment.
Ensure adequate ventilation.
Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

6.2 Environmental precautions

- Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
Try to prevent the material from entering drains or water courses.
Local authorities should be advised if significant spillages cannot be contained.

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).
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Pick up and transfer to properly labelled containers.

6.4 Reference to other sections

- For personal protection see section 8.
-

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours or spray mist.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear personal protective equipment.
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.
- Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.
- Hygiene measures : Provide adequate ventilation. Wash hands and face before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight.
- Further information on storage conditions : Protect from moisture.
- Advice on common storage : Keep away from isocyanates.
Do not store near acids.
Keep away from oxidizing agents.
- Other data : Stable at normal ambient temperature and pressure.

7.3 Specific end use(s)

- Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.
-

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

- benzyl alcohol : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
Value: 450 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term exposure, Systemic effects
Value: 90 mg/m³
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 47 mg/kg
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 9,5 mg/kg
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Short-term exposure, Systemic effects
Value: 25 mg/kg
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term exposure, Systemic effects
Value: 5 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
-

Value: 40,55 mg/m³
 End Use: Consumers
 Exposure routes: Inhalation
 Potential health effects: Long-term exposure, Systemic effects
 Value: 8,11 mg/m³
 End Use: Consumers
 Exposure routes: Skin contact
 Potential health effects: Short-term exposure, Systemic effects
 Value: 28,5 mg/kg
 End Use: Consumers
 Exposure routes: Skin contact
 Potential health effects: Long-term exposure, Systemic effects
 Value: 5,7 mg/kg
 End Use: Workers
 Exposure routes: Skin contact
 Potential health effects: Long-term systemic effects
 Value: 2,5 mg/kg
 End Use: Workers
 Exposure routes: Skin contact
 Potential health effects: Long-term local effects
 Value: 0,623 mg/cm²
 End Use: Consumers
 Exposure routes: Skin contact
 Potential health effects: Long-term systemic effects
 Value: 1,25 mg/kg
 End Use: Consumers
 Exposure routes: Skin contact
 Potential health effects: Long-term local effects
 Value: 0,311 mg/cm²
 End Use: Consumers
 Exposure routes: Ingestion
 Potential health effects: Long-term systemic effects
 Value: 0,04 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

3-aminomethyl-3,5,5-trimethylcyclohexylamine : Fresh water
 Value: 0,06 mg/l
 Marine water
 Value: 0,006 mg/l
 Intermittent releases
 Value: 0,23 mg/l
 Fresh water sediment
 Value: 5,784 mg/kg
 Marine sediment
 Value: 0,578 mg/kg
 Sewage treatment plant
 Value: 3,18 mg/l
 Soil
 Value: 1,121 mg/kg
 benzyl alcohol : Fresh water
 Value: 1 mg/l
 Marine water
 Value: 0,1 mg/l
 Fresh water sediment

Value: 5,27 mg/kg
 Marine sediment
 Value: 0,527 mg/kg
 Soil
 Value: 0,456 mg/kg
 Sewage treatment plant
 Value: 39 mg/l
 Intermittent releases
 Value: 2,3 mg/l
 : Fresh water
 Value: 0,015 mg/l
 Marine water
 Value: 0,0143 mg/l
 Fresh water sediment
 Value: 0,132 mg/kg
 Marine sediment
 Value: 0,125 mg/kg
 Soil
 Value: 0,0176 mg/kg
 Intermittent releases
 Value: 0,15 mg/l
 Sewage treatment plant
 Value: 7,5 mg/l

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-

8.2 Exposure controls

Engineering measures

Effective exhaust ventilation system
 effective ventilation in all processing areas

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166
 Do not wear contact lenses.
 Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Material	: Protective gloves complying with EN 374.
Remarks	: Nitrile rubber

Skin and body protection	: Protective suit Recommended preventive skin protection
Respiratory protection	: Use respirator when performing operations involving potential exposure to vapour of the product. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Recommended Filter type: ABEK-filter Equipment should conform to EN 14387

|| **Protective measures** : Avoid contact with skin.
Wear suitable protective equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : light yellow

Odour : ammoniacal

Odour Threshold : not determined

pH : 11, 1 %

Melting point/freezing point : Not applicable

Boiling point/boiling range : > 200 °C

Flash point : 150 °C

Evaporation rate : not determined

Upper explosion limit : Not applicable

Lower explosion limit : Not applicable

Vapour pressure : Not applicable

Relative vapour density : not determined

Density : 1 g/cm³ (25 °C)

Bulk density : not determined

Solubility(ies)
Solubility in other solvents : not determined

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

Ignition temperature : Not applicable

Auto-ignition temperature : Not applicable

Thermal decomposition : Method: No data available

Viscosity
Viscosity, dynamic : 150 - 250 mPa.s (25 °C)

Viscosity, kinematic : not determined

Explosive properties : Not applicable

Oxidizing properties : Not applicable

9.2 Other information

Surface tension : not determined

Sublimation point : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with the following substances:
Acids
Strong oxidizing agents

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : This product may release the following:
Nitrogen oxides (NOx)
Carbon monoxide
Carbon dioxide (CO2)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : 715,82 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Acute toxicity estimate : > 2.000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : Remarks: No data available

Components:

benzyl alcohol:

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.178 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Acute oral toxicity : LD50 (Rat, male and female): 2.885,3 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): 2.979,7 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

benzyl alcohol:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with trimethylhexane-1,6:

Species: human skin
Assessment: Causes burns.
Method: OECD Test Guideline 431
Result: Corrosive to skin
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive

Serious eye damage/eye irritation

Product:

Remarks: No data available

Components:

benzyl alcohol:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Eye irritation

GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Method: OECD Test Guideline 405

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Remarks: No data available

Germ cell mutagenicity

Carcinogenicity

Product:

Remarks: No data available

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Remarks: No data available

Effects on foetal development : Remarks: No data available
Remarks: No data available

STOT - single exposure

STOT - repeated exposure

Repeated dose toxicity

Product:

Remarks: No data available

Aspiration toxicity

Components:

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

No aspiration toxicity classification

Further information

Product:

Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Components:

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

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 110 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: Directive 67/548/EEC, Annex V, C.1.
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : ErC50 (Scenedesmus capricornutum (fresh water algae)): > 50 mg/l
Exposure time: 72 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.3.
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
GLP: yes

benzyl alcohol:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 230 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with trimethylhexane-1,6:

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 0,64 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 0,96 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Short-term (acute) aquatic hazard) : 1

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 15 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 80 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 0,32 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

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

Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
Method: Directive 67/548/EEC Annex V, C.4.A.
GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with trimethylhexane-1,6:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-:

Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
Method: OECD Test Guideline 301B
GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

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

Partition coefficient: n- : log Pow: 0,99
octanol/water Method: OECD Test Guideline 107
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-:

Partition coefficient: n- : log Pow: 1,34 (25 °C)
octanol/water Method: OECD Test Guideline 117
GLP: yes

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 Other adverse effects

Product:

Additional ecological information : Remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with local and national regulations.
Container hazardous when empty.
Do not dispose of with domestic refuse.
Do not mix waste streams during collection.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADR/RID/ADN : UN 2735

IMDG : UN 2735

IATA : UN 2735

14.2 UN proper shipping name

ADR/RID/ADN : AMINES, LIQUID, CORROSIVE, N.O.S.
(Isophorone diamine)

IMDG : AMINES, LIQUID, CORROSIVE, N.O.S.
(ISOPHORONEDIAMINE)

IATA : Amines, liquid, corrosive, n.o.s.
(Isophorone diamine)

14.3 Transport hazard class(es)

ADR/RID/ADN : 8

IMDG : 8

IATA : 8

14.4 Packing group

ADR/RID/ADN
Packing group : III
Classification Code : C7
Hazard Identification Number : 80
Labels : 8
Tunnel restriction code : E
Remarks :

IMDG
Packing group : III

Labels : 8
 EmS Code : F-A, S-B
 Remarks : IMDG Code segregation group 18 - Alkalis

IATA

Packing instruction (cargo aircraft) : 856
 Packing instruction (passenger aircraft) : 852
 Packing group : III
 Labels : 8

14.5 Environmental hazards

ADR/RID/ADN

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA

Environmentally hazardous : yes

14.6 Special precautions for user

Remarks : The transport of dangerous goods, including their loading and unloading, must be done by people who received the necessary training required by Modal Regulations.

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

Not applicable for product as supplied.

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) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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

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

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	Quantity 1 200 t	Quantity 2 500 t
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Other regulations : For the product composition, we do not add any of the substances listed in the European Directive 2011/65/EU (RoHS 2, RoHS 3, and China RoHS).
The product is thus in line with those directives.
We do not add Conflict minerals to the product.

15.2 Chemical safety assessment

Not applicable

SECTION 16: Other information

Items where relevant changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H400	: Very toxic to aquatic life.
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
Skin Corr.	: Skin corrosion
Skin Sens.	: Skin sensitisation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International

Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Training advice : Provide adequate information, instruction and training for operators.

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 herein is based on the present state of our knowledge and does therefore not guarantee certain properties.

GB / EN

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

1.1 Product identifier

Trade name : GlassCast 50 Epoxy Hardener

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

Use of the Substance/Mixture : Epoxy Hardener

1.3 Details of the supplier of the safety data sheet

Company : Easy Composites Ltd
Unit 39, Park Hall Business Village
Longton, Stoke on Trent
Staffordshire
ST3 5XA
United Kingdom

Telephone : +44 (0) 1782 454499

E-mail address : sales@easycomposites.co.uk

1.4 Emergency telephone number

+44 (0) 1782 454499 (office hours only)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, 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 3 H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements	:	H314 H317 H412	Causes severe skin burns and eye damage. May cause an allergic skin reaction. Harmful to aquatic life with long lasting effects.
Precautionary statements	:	Prevention: P261 P273 P280	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Avoid release to the environment. 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/ shower.
		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.

Hazardous components which must be listed on the label:

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

3-aminomethyl-3,5,5-trimethylcyclohexylamine

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

Chemical nature : Aliphatic Amine

Hazardous components

Chemical name	CAS-No. EC-No./List Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-	9046-10-0	Skin Corr.1C; H314 Eye Dam.1; H318	>= 50 - <= 100

aminomethylethoxy)-	01-2119557899-12	Aquatic Chronic3; H412	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1- chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5- trimethylcyclohexylamine	38294-64-3 01-2119965165-33- 0011	Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Chronic3; H412	>= 20 - < 25
benzyl alcohol	100-51-6 202-859-9 01-2119492630-38	Acute Tox.4; H302 Acute Tox.4; H332 Eye Irrit.2; H319	>= 10 - < 12,5
3-aminomethyl-3,5,5- trimethylcyclohexylamine	2855-13-2 220-666-8 01-2119514687-32	Acute Tox.4; H302 Acute Tox.4; H312 Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Chronic3; H412	>= 7 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Show this safety data sheet to the doctor in attendance.
Keep warm and in a quiet place.
Take off all contaminated clothing immediately.
- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
If breathing is irregular or stopped, administer artificial respiration.
- In case of skin contact : Wash off immediately with soap and plenty of water.
Do NOT use solvents or thinners.
If on clothes, remove clothes.
Burns must be treated by a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
If eye irritation persists, consult a specialist.
If easy to do, remove contact lens, if worn.
- If swallowed : Do NOT induce vomiting.
If a person vomits when lying on his back, place him in the recovery position.
Call a physician immediately.
Give small amounts of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Burn
superficial burning sensation
Redness
Severe irritation

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂)
Foam
Dry powder
Water mist

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : The pressure in sealed containers can increase under the influence of heat.
Cool closed containers exposed to fire with water spray.
Hazardous decomposition products formed under fire conditions.

5.3 Advice for firefighters

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

Further information : In the event of fire and/or explosion do not breathe fumes.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Immediately evacuate personnel to safe areas.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.
Evacuate personnel to safe areas.
Use personal protective equipment.
Ensure adequate ventilation.

Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
Try to prevent the material from entering drains or water courses.
Local authorities should be advised if significant spillages cannot be contained.

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).
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Pick up and transfer to properly labelled containers.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours or spray mist.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear personal protective equipment.
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.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Provide adequate ventilation. Wash hands and face before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions : Protect from moisture.

Advice on common storage : Keep away from isocyanates.

Do not store near acids.
Keep away from oxidizing agents.

Other data : Stable at normal ambient temperature and pressure.

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-	: End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 2,5 mg/kg End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term local effects Value: 0,623 mg/cm ² End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 1,25 mg/kg End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term local effects Value: 0,311 mg/cm ² End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 0,04 mg/kg
benzyl alcohol	: End Use: Workers Exposure routes: Inhalation Potential health effects: Short-term exposure, Systemic effects Value: 450 mg/m ³ End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term exposure, Systemic effects Value: 90 mg/m ³ End Use: Workers Exposure routes: Skin contact Potential health effects: Short-term exposure, Systemic effects Value: 47 mg/kg End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term exposure, Systemic effects Value: 9,5 mg/kg

<p>4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5</p>	<p>:</p>	<p>End Use: Consumers Exposure routes: Ingestion Potential health effects: Short-term exposure, Systemic effects Value: 25 mg/kg End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term exposure, Systemic effects Value: 5 mg/kg End Use: Consumers Exposure routes: Inhalation Potential health effects: Short-term exposure, Systemic effects Value: 40,55 mg/m3 End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term exposure, Systemic effects Value: 8,11 mg/m3 End Use: Consumers Exposure routes: Skin contact Potential health effects: Short-term exposure, Systemic effects Value: 28,5 mg/kg End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term exposure, Systemic effects Value: 5,7 mg/kg End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 0,493 mg/m3 End Use: Workers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 0,14 mg/kg End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 0,074 mg/m3 End Use: Consumers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 0,05 mg/m3 End Use: Consumers Exposure routes: Oral Potential health effects: Long-term systemic effects Value: 0,05 mg/m3</p>
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Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<p>Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-</p>	<p>:</p>	<p>Fresh water Value: 0,015 mg/l Marine water Value: 0,0143 mg/l</p>
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	<p>Fresh water sediment Value: 0,132 mg/kg Marine sediment Value: 0,125 mg/kg Soil Value: 0,0176 mg/kg Intermittent releases Value: 0,15 mg/l Sewage treatment plant Value: 7,5 mg/l</p>
benzyl alcohol	<p>: Fresh water Value: 1 mg/l Marine water Value: 0,1 mg/l Fresh water sediment Value: 5,27 mg/kg Marine sediment Value: 0,527 mg/kg Soil Value: 0,456 mg/kg Sewage treatment plant Value: 39 mg/l Intermittent releases Value: 2,3 mg/l</p>
3-aminomethyl-3,5,5-trimethylcyclohexylamine	<p>: Fresh water Value: 0,06 mg/l Marine water Value: 0,006 mg/l Intermittent releases Value: 0,23 mg/l Fresh water sediment Value: 5,784 mg/kg Marine sediment Value: 0,578 mg/kg Sewage treatment plant Value: 3,18 mg/l Soil Value: 1,121 mg/kg</p>
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5	<p>: Fresh water Value: 0,011 mg/l</p> <p>Marine water Value: 0,001 mg/l Sewage treatment plant Value: 10 mg/l Fresh water sediment Value: 4320 mg/kg Marine sediment Value: 432 mg/kg Soil Value: 864 mg/kg</p>

8.2 Exposure controls

Engineering measures

Effective exhaust ventilation system
effective ventilation in all processing areas

Personal protective equipment

- Eye protection : Safety glasses with side-shields conforming to EN166
Do not wear contact lenses.
Ensure that eyewash stations and safety showers are close to the workstation location.
- Hand protection
Material : Protective gloves complying with EN 374.
- Skin and body protection : Protective suit
- Respiratory protection : Use respirator when performing operations involving potential exposure to vapour of the product.
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Equipment should conform to EN 14387
- Protective measures : Avoid contact with skin.
Wear suitable protective equipment.
-

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : liquid
- Colour : light yellow
- Odour : ammoniacal
- Odour Threshold : not determined
- pH : 11, 1 %
- Melting point/freezing point : Not applicable
- Boiling point/boiling range : > 200 °C
- Flash point : 100 °C
- Evaporation rate : not determined
- Upper explosion limit : Not applicable

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Lower explosion limit	: Not applicable
Vapour pressure	: Not applicable
Relative vapour density	: not determined
Density	: 1 g/cm ³ (25 °C)
Bulk density	: not determined
Solubility(ies) Solubility in other solvents	: not determined
Partition coefficient: n- octanol/water	: No data available
Ignition temperature	: Not applicable
Auto-ignition temperature	: Not applicable
Thermal decomposition	: Method: No data available
Viscosity Viscosity, dynamic	: 180 - 300 mPa.s (25 °C)
Viscosity, kinematic	: not determined
Explosive properties	: Not applicable
Oxidizing properties	: Not applicable

9.2 Other information

Surface tension	: not determined
Sublimation point	: Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	: Reacts with the following substances: Acids Strong oxidizing agents
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10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : This product may release the following:
Nitrogen oxides (NO_x)
Carbon monoxide
Carbon dioxide (CO₂)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : > 2.000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Acute toxicity estimate : > 2.000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-:

Acute oral toxicity : LD50 (Rat, male and female): 2.885,3 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): 2.979,7 mg/kg
Method: OECD Test Guideline 402
GLP: yes

benzyl alcohol:

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.178 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Species: human skin

Assessment: Causes burns.

Method: OECD Test Guideline 431

Result: Causes burns.

GLP: yes

benzyl alcohol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

GLP: yes

Serious eye damage/eye irritation

Product:

Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-:

Method: OECD Test Guideline 405

Result: Risk of serious damage to eyes.

benzyl alcohol:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Eye irritation

GLP: yes

Respiratory or skin sensitisation

Product:

Remarks: No data available

Components:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Assessment: May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Genotoxicity in vitro : Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Carcinogenicity

Product:

Remarks: No data available

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Remarks: No data available

Effects on foetal development : Remarks: No data available
Remarks: No data available

Components:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Effects on foetal development : Test Type: Pre-natal
Species: Rat
Strain: Sprague-Dawley
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 100 mg/kg body weight
Teratogenicity: No observed adverse effect level: 250 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: 250 mg/kg body weight
Embryo-foetal toxicity: No observed adverse effect level: 250 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

STOT - single exposure

STOT - repeated exposure

Repeated dose toxicity

Product:

Remarks: No data available

Components:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Species: Rat, male and female
NOAEL: 10 mg/kg
LOAEL: 100 mg/kg
Application Route: Oral
Exposure time: 90 d
Method: OECD Test Guideline 408
GLP: yes

Species: Rat, male and female
NOAEL: 30 mg/kg
Application Route: Oral
Exposure time: 28 d
Method: OECD Test Guideline 407
GLP: yes

Aspiration toxicity

Components:

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
No aspiration toxicity classification

Further information

Product:

Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 15 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 80 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 0,32 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 70,7 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 11,1 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 79,4 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Toxicity to bacteria : (activated sludge): > 1.000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209
GLP: yes

benzyl alcohol:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 230 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

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

Toxicity to fish	: LC50 (Leuciscus idus (Golden orfe)): 110 mg/l Exposure time: 96 h Test Type: semi-static test Method: Directive 67/548/EEC, Annex V, C.1. GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 23 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae	: ErC50 (Scenedesmus capricornutum (fresh water algae)): > 50 mg/l Exposure time: 72 h Test Type: static test Method: Directive 67/548/EEC, Annex V, C.3. GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 3 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test GLP: yes

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
Method: OECD Test Guideline 301B
GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Not biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

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

Biodegradability : Test Type: aerobic

Result: Not readily biodegradable.
Method: Directive 67/548/EEC Annex V, C.4.A.
GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-:

Partition coefficient: n- : log Pow: 1,34 (25 °C)
octanol/water : Method: OECD Test Guideline 117
GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 5,13
Method: estimated

Partition coefficient: n- : log Pow: 3,6 (25 °C)
octanol/water : pH: 7
Method: Regulation (EC) No. 440/2008, Annex, A.8
GLP: no

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

Partition coefficient: n- : log Pow: 0,99
octanol/water : Method: OECD Test Guideline 107
GLP: yes

12.4 Mobility in soil

Components:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5:

Distribution among : log Koc: > 5,16
environmental compartments : Method: OECD Test Guideline 121

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 Other adverse effects

Product:

Additional ecological : Remarks: An environmental hazard cannot be excluded in the

information

event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : In accordance with local and national regulations.
Container hazardous when empty.
Do not dispose of with domestic refuse.
Do not mix waste streams during collection.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
-

SECTION 14: Transport information

14.1 UN number

- ADR/RID/ADN : UN 2735
IMDG : UN 2735
IATA : UN 2735

14.2 UN proper shipping name

- ADR/RID/ADN : AMINES, LIQUID, CORROSIVE, N.O.S.
(Polyoxypropylene Diamine)
IMDG : AMINES, LIQUID, CORROSIVE, N.O.S.
(Polyoxypropylene Diamine)
IATA : Amines, liquid, corrosive, n.o.s.
(Polyoxypropylene Diamine)

14.3 Transport hazard class(es)

- ADR/RID/ADN : 8
IMDG : 8
IATA : 8

14.4 Packing group

- ADR/RID/ADN
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
-

Remarks : IMDG Code segregation group 18 - Alkalis

IATA

Packing instruction (cargo aircraft) : 856

Packing instruction (passenger aircraft) : 852

Packing group : III

Labels : 8

14.5 Environmental hazards

ADR/RID/ADN

Environmentally hazardous : no

IMDG

Marine pollutant : no

IATA

Environmentally hazardous : no

14.6 Special precautions for user

Remarks : The transport of dangerous goods, including their loading and unloading, must be done by people who received the necessary training required by Modal Regulations.

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

Not applicable for product as supplied.

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) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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

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

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

Not applicable

15.2 Chemical safety assessment

Not applicable

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.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
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
Eye Irrit.	: Eye irritation
Skin Corr.	: Skin corrosion
Skin Sens.	: Skin sensitisation

Further information

Training advice	: Provide adequate information, instruction and training for operators.
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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.