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
Fax: +44 (0) 1782 596868
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.
Chronic aquatic toxicity, 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 dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.

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

Hazardous components which must be listed on the label:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700)
oxirane, mono[(C12-14-alkyloxy)methyl]derivs
1,4-bis(2,3-epoxypropoxy)butane
bis(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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =&lt; 700)</td>
<td>25068-38-6</td>
<td>01-2119456619-26</td>
<td>Eye Irrit.2; H319 Skin Irrit.2; H315 Skin Sens.1; H317 Aquatic Chronic2; H411</td>
<td>&gt;= 50 - &lt;= 100</td>
<td></td>
</tr>
<tr>
<td>oxirane, mono[(C12-14-alkyloxy)methyl]derivs</td>
<td>Not Assigned</td>
<td>271-846-8</td>
<td>01-2119485289-22</td>
<td>Skin Irrit.2; H315 Skin Sens.1; H317</td>
<td>&gt;= 10 - &lt; 12,5</td>
</tr>
<tr>
<td>1,4-bis(2,3-epoxypropoxy)butane</td>
<td>2425-79-8</td>
<td></td>
<td></td>
<td>Acute Tox.4; H332</td>
<td>&gt;= 5 - &lt; 7</td>
</tr>
</tbody>
</table>
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
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:

- **reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)**
  - **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/m³

- **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:** 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

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

- **reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)**
  - **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**
    - **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**
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 : Chemical resistant gloves made of butyl rubber or nitrile
rubber category III according to 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.
Respirator with a vapour filter (EN 141)
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 : not determined
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/cm³ (25 °C)
Bulk density: not determined
Solubility(ies):
  Solubility in other solvents: not determined
Partition coefficient: n-octanol/water: No data available
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.

10.4 Conditions to avoid
Conditions to avoid: No decomposition if used as directed.

10.5 Incompatible materials
Materials to avoid: Incompatible with oxidizing agents.

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:
Acute oral toxicity: Remarks: No data available
Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

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

Components:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700):
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:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700):
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:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700):
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:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700):
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:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700):
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

12.2 Persistence and degradability

Product:
Biodegradability : Remarks: No data available

Components:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight =< 700):
Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

12.3 Bioaccumulative potential

Product:
Bioaccumulation : Remarks: No data available
Components:
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \(\leq 700\)):

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

<table>
<thead>
<tr>
<th>ADR/RID/ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 3082</td>
<td>UN 3082</td>
<td>UN 3082</td>
</tr>
</tbody>
</table>

14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>ADR/RID/ADN</th>
<th>IMDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
GlassCast 10/50 Epoxy Casting Resin

N.O.S. (Epoxy resin)
IATA: Environmentally hazardous substance, liquid, n.o.s. (Epoxy resin)

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.

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

14.6 Special precautions for user
Not applicable

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


<table>
<thead>
<tr>
<th>E2</th>
<th>ENVIRONMENTAL HAZARDS</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>200 t</td>
<td>500 t</td>
</tr>
</tbody>
</table>

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.
SAFETY DATA SHEET
GlassCast 10/50 Epoxy Casting Resin

Revision Date 26.02.2016 Print Date 27.02.2016

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 : Acute aquatic toxicity
Aquatic Chronic : Chronic aquatic toxicity
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.

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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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 name: Easy Composites Ltd

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

Tel: +44 (0) 1782 454499
Fax: +44 (0) 1782 596868
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)

Acute toxicity, Category 4

H302: Harmful if swallowed.

Skin corrosion, Category 1B

H314: Causes severe skin burns and eye damage.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Chronic aquatic toxicity, 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:

H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
SAFETY DATA SHEET
GlassCast 10 Epoxy Hardener

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 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.
Rinse skin with water/ shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.

Hazardous components which must be listed on the label:
3-aminomethyl-3,5,5-trimethylcyclohexylamine

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

(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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>2855-13-2</td>
<td>220-666-8</td>
<td>01-2119514687-32</td>
<td>Acute Tox.4; H312 Acute Tox.4; H302 Skin Corr.1B; H314 Skin Sens.1; H317 Aquatic Chronic3; H412</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>100-51-6</td>
<td>202-859-9</td>
<td></td>
<td>Acute Tox.4; H302 Acute Tox.4; H332</td>
<td>&gt;= 20 - &lt; 25</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
GlassCast 10 Epoxy Hardener

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: corrosive effects
Burn

For explanation of abbreviations see section 16.
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.
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
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

**Poly[oxy(methyl-1,2-ethanediyl)]-alpha-(2-aminomethylethyl)-omega-(2-aminomethylthoxy)-**:  
- **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:**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Fresh water</th>
<th>Marine water</th>
<th>Intermittent releases</th>
<th>Fresh water sediment</th>
<th>Marine sediment</th>
<th>Sewage treatment plant</th>
<th>Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>Value: 0.06 mg/l</td>
<td>Value: 0.006 mg/l</td>
<td>Value: 0.23 mg/l</td>
<td>Value: 5.784 mg/kg</td>
<td>Value: 0.578 mg/kg</td>
<td>Value: 3.18 mg/l</td>
<td>Value: 1.121 mg/kg</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>Value: 1 mg/l</td>
<td>Value: 0.1 mg/l</td>
<td>Value: 5.27 mg/kg</td>
<td>Value: 0.527 mg/kg</td>
<td>Value: 0.456 mg/kg</td>
<td>Value: 39 mg/l</td>
<td>Value: 0.456 mg/kg</td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)}.-omega.-{(2-aminomethylethoxy)}-</td>
<td>Value: 0.015 mg/l</td>
<td>Value: 0.0143 mg/l</td>
<td>Value: 0.132 mg/kg</td>
<td>Value: 0.125 mg/kg</td>
<td>Value: 0.0176 mg/kg</td>
<td>Value: 39 mg/l</td>
<td>Value: 0.0176 mg/kg</td>
</tr>
</tbody>
</table>
Intermittent releases
Value: 0.15 mg/l
Sewage treatment plant
Value: 7.5 mg/l

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 : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to 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.
Respirator with a vapour filter (EN 141)

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 : not determined
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
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
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: 568.18 mg/kg
Method: Calculation method

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

Components:
3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Acute oral toxicity: Acute toxicity estimate: 500 mg/kg
Method: Converted acute toxicity point estimate

Acute dermal toxicity: Acute toxicity estimate: 1.100 mg/kg
Method: Converted acute toxicity point estimate

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)], .alpha.-{2-aminomethylethyl}-omega.-{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
Skin corrosion/irritation

**Product:**
Remarks: Acute dermal irritation/corrosion

**Components:**
- benzyl alcohol:
  Species: Rabbit
  Method: OECD Test Guideline 404
  Result: No skin irritation
  GLP: yes

- Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:
  Species: Rabbit
  Method: OECD Test Guideline 404
  Result: Corrosive

Serious eye damage/eye irritation

**Product:**
Remarks: Severe eye irritation

**Components:**
- benzyl alcohol:
  Species: Rabbit
  Method: OECD Test Guideline 405
  Result: Eye irritation
  GLP: yes

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

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)}-.omega.-{2-aminomethylethoxy)\n:  
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

Components:  
3-aminomethyl-3,5,5-trimethylcyclohexylamine:  
Biodegradability : Test Type: aerobic  
Result: Not readily biodegradable.
GLP: yes

**Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{2-aminomethylethyl}-.omega.-{2-aminomethyleneoxy}:-**

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

**trimethylhexane-1,6-diamine**:

- **Biodegradability**:  
  Test Type: aerobic  
  Result: Not readily biodegradable.  
  GLP: yes

### 12.3 Bioaccumulative potential

**Product:**

- **Bioaccumulation**: Remarks: No data available

**Components:**

- **3-aminomethyl-3,5,5-trimethylcyclohexylamine**:
  - Partition coefficient: n-octanol/water: log Pow: 0.99  
  - Method: OECD Test Guideline 107  
  - GLP: yes

- **Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{2-aminomethylethyl}-.omega.-{2-aminomethyleneoxy}:-**:
  - Partition coefficient: n-octanol/water: log Pow: 1.34 (25 °C)  
  - 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. (Isophorone diamine)
IATA: Amïnes, 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
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 : 8
EmS Code : F-A, S-B
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 18 - Alkalis

IATA
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852
Packing group : III
Labels : 8
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 : no

IMDG
Marine pollutant : no

14.6 Special precautions for user
Not applicable

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
SAFETY DATA SHEET
GlassCast 10 Epoxy Hardener

Revision Date 26.02.2016 Print Date 27.02.2016

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

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.
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 : Chronic aquatic toxicity
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.

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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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 name: Easy Composites Ltd
   Unit 39, Park Hall Business Village
   Longton, Stoke on Trent
   Staffordshire
   ST3 5XA
   United Kingdom
   Tel: +44 (0) 1782 454499
   Fax: +44 (0) 1782 596868
   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)
   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.
   Chronic aquatic toxicity , Category 3 H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms :
   ![Hazard pictograms]
   Signal word : Danger
   Hazard statements : H302 Harmful if swallowed.
SAFETY DATA SHEET
GlassCast 50 Epoxy Hardener

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

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 + 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)], .alpha.-{2-aminomethylethyl}-.omega.-{(2-aminomethylethoxy)}->

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

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No. EC-No. Registration number</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)}-.omega.-{(2-aminomethylethoxy)}-</td>
<td>9046-10-0</td>
<td>Skin Corr.1C; H314 Eye Dam.1; H318 Aquatic Chronic3;</td>
<td>&gt;= 50 - &lt;= 100</td>
</tr>
</tbody>
</table>
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

For explanation of abbreviations see section 16.
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/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

**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
SAFETY DATA SHEET
GlassCast 50 Epoxy Hardener

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

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

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

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

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
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 : Chemical resistant gloves made of butyl rubber or nitrile
rubber category III according to 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.
Respirator with a vapour filter (EN 141)

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 : not determined

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
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
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

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: 1.250 mg/kg
Method: Calculation method

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

Components:
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)-.omega.-{(2-amino
dimethylaminoethoxy)-
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

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Acute oral toxicity: Acute toxicity estimate: 500 mg/kg
   Method: Converted acute toxicity point estimate

Acute dermal toxicity: Acute toxicity estimate: 1.100 mg/kg
   Method: Converted acute toxicity point estimate

Skin corrosion/irritation

**Product:**
Remarks: Acute dermal irritation/corrosion

**Components:**
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)}-omega.-{(2-
aminomethylethoxy)}-:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive

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

Serious eye damage/eye irritation

**Product:**
Remarks: Severe eye irritation

**Components:**
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)}-omega.-{(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
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
STOT - single exposure
STOT - repeated exposure
Aspiration toxicity

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

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[poly(methyl-1,2-ethanediyl)], .alpha.-({2-aminomethylenelethyl})-omega.-({2-aminomethylenelethoxy})-:
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

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
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
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
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

Components:
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-omega.-(2-aminomethylethoxy)-:
Biodegradability: Test Type: aerobic
Result: Not readily biodegradable.
Method: OECD Test Guideline 301B
GLP: yes

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Biodegradability: Test Type: aerobic
Result: Not readily biodegradable.
GLP: yes
12.3 Bioaccumulative potential

Product:
Bioaccumulation : Remarks: No data available

Components:
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)}-omega.-{(2-aminomethylethoxy)}-:
Partition coefficient: n-octanol/water : log Pow: 1.34 (25 °C)
Method: OECD Test Guideline 117
GLP: yes

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Partition coefficient: n-octanol/water : log Pow: 0.99
Method: OECD Test Guideline 107
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
SAFETY DATA SHEET
GlassCast 50 Epoxy Hardener

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

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

14.6 Special precautions for user
Not applicable

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


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 : Chronic aquatic toxicity
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.

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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other
materials or in any process, unless specified in the text.