Revision: 16 August 2019

SAFETY DATA SHEET

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

1.1 Product identifier

- Product Name: Ultra-Cast XT Resin Component
- Chemical Name: Reaction product: bisphenol-A-(epichlorhydrin); Epoxy resin (number average molecular weight ≤ 700)
- CAS No.: 25068-38-6
- EC No.: 500-033-5
- REACH Registration Number: 01-2119456619-26-XXXX

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

- Use of the substance/mixture: Resin component
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Eli-Chem Resins U.K Ltd
- Address of Supplier: Unit 212 Dunsfold Park
Cranleigh
Surrey
GU6 8GA
United Kingdom
- Telephone: 00 44 (0) 1483 26 66 36 or 37
- Fax: 00 44 (0) 1483 26 66 50
- Email: sales@elichem.co.uk
- Website: www.elichem.co.uk

1.4 Emergency telephone number

- Emergency Telephone: 00 44 (0) 1483 26 66 36 (Office hours only 09:00 - 17:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2, H319; Aquatic Chronic 2, H411
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements

- Signal Word: Warning
- Hazard statements
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.
- Precautionary statements
P273 - Avoid release to the environment.
P280 - Wear protective gloves/eye protection/face protection.
P302+P352+P333+P313 - IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

SECTION 2: Hazards identification (....)

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container to an authorised waste collection point

- Supplemental Hazard information (EU)
  None

2.3 Other hazards

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1 Substances

- Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)
  CAS No.: 25068-38-6
  EC No.: 500-033-5
  Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2, H319; Aquatic Chronic 2, H411
  REACH Registration Number: 01-2119456619-26-XXXX

3.2 Mixtures

SECTION 4: First aid measures

4.1 Description of first aid measures

- Contact with eyes
  If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes
  Remove contact lenses, if present and easy to do. Continue rinsing.
  Irrigate eyes thoroughly whilst lifting eyelids
  If eye irritation persists: Get medical advice/attention.
- Contact with skin
  Remove contaminated clothing immediately and drench affected skin with plenty of water. Then wash with soap and water
  Contaminated clothing should be laundered before reuse
  If skin irritation or rash occurs: Get medical advice/attention.
- Ingestion
  Rinse mouth with water (do not swallow)
  Give plenty of water to drink
  Do NOT induce vomiting.
  IF exposed or concerned: Get medical advice/attention.
- Inhalation
  Remove person to fresh air and keep comfortable for breathing.
  Keep warm and at rest, in a half upright position. Loosen clothing
  If breathing is difficult, oxygen should be given by a trained person
  Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

- Contact with eyes
  Causes redness and irritation
- Contact with skin
  Causes redness and irritation

SECTION 4: First aid measures (....)

May cause an allergic skin reaction.
May cause skin sensitisation. Stop using product if skin sensitisation occurs.

- Ingestion
  May cause stomach pain
  May cause nausea/vomiting

- Inhalation
  May cause respiratory irritation

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media: In case of fire use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide
- Unsuitable extinguishing media: high volume water jet

5.2 Special hazards arising from the substance or mixture

- In a fire or if heated, a pressure increase will occur and the container may burst
- Gives off irritating or toxic fumes (or gases) in a fire.

5.3 Advice for firefighters

- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Rescuers should take suitable precautions to avoid becoming casualties themselves
- No action shall be taken involving any personal risk or without suitable training
- Personal precautions for non-emergency personnel: Wear protective clothing as per section 8; Wash thoroughly after dealing with spillage; Eyewash bottles should be available; Contaminated clothing should be laundered before reuse
- Personal precautions for emergency responders: Wear chemical protection suit; Evacuate the area and keep personnel upwind; Wear self-contained breathing apparatus (SCBA); Wash thoroughly after dealing with spillage

6.2 Environmental precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Stop leak if safe to do so.
- Absorb spillage in earth or sand
- Remove by mechanical means
- Place in appropriate container
- Remove contaminated material to safe location for subsequent disposal

6.4 Reference to other sections

- See section(s): 7,8 & 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Avoid breathing vapours, mist or gas
- Engineering controls should be provided to prevent the need for ventilation
- Do not get in eyes, on skin, or on clothing.
- Wear protective clothing as per section 8
- Contaminated clothing should be laundered before reuse
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Take action to prevent static discharges.
- Use good personal hygiene practices
- Wash thoroughly after handling.
- Eyewash bottles should be available

7.2 Conditions for safe storage, including any incompatibilities

- Store in a dry place. Store in a closed container.
- Store in a well-ventilated place. Keep cool.
- Keep only in original packaging.
- Protect from sunlight.
- Protect from freezing
- Keep away from heat and sources of ignition
- Keep out of reach of children
- Keep away from food, drink and animal feedingstuffs

7.3 Specific end use(s)

Resin component

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- No exposure limits have been set for this substance

8.2 Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential

- Engineering controls
  Engineering controls should be provided to prevent the need for ventilation
  Use local exhaust ventilation and/or enclosures.

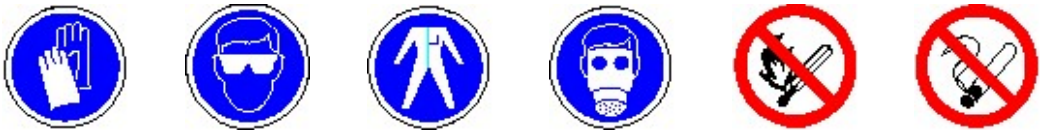
- Respiratory protection
  In case of insufficient ventilation, wear suitable respiratory equipment

- Skin protection
  Wear suitable protective clothing
  Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
  The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.

- Eye/face protection
  Wear goggles giving complete eye protection approved to standard EN 166.

- Hygiene measures
  Use good personal hygiene practices
  Do not eat, drink or smoke when using this product.
  Wash thoroughly after handling.
  Contaminated work clothing should not be allowed out of the workplace.
  Ensure eyewash stations and safety showers are nearby

SECTION 8: Exposure controls/personal protection (....)



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Liquid, white to yellow
- Odour: Perceptible odour
- Odour threshold: Not applicable
- pH: No information available
- Melting point/freezing point: -16 °C
- Initial boiling point and boiling range: > 200 °C @ 760 mm Hg
- Flashpoint: > 150 °C
- Evaporation Rate: No information available
- Flammability (solid,gas): No information available
- Upper/lower flammability or explosive limits: No information available
- Vapour Pressure: No information available
- Vapour Density: No information available
- Relative Density: 1.16 g/cm^3 @ 20° C
- Solubility(ies): 3 mg/L @ 20 °C and pH 7
- Partition Coefficient (n-Octanol/Water): Log Pow 3.242
- Autoignition Temperature: No information available
- Decomposition temperature: No information available
- Viscosity: 12000 - 15000 cps @ 25° C
- Explosive Properties: No information available
- Oxidising Properties: Not oxidising

9.2 Other information

- No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

- No information available

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- No hazardous reactions known if used for its intended purpose
- Hazardous polymerisation will not occur under normal conditions of storage and use

10.4 Conditions to avoid

- Keep away from heat and light
- Keep away from static electricity
- Avoid freezing

10.5 Incompatible materials

- Incompatible with oxidizing substances
- Incompatible with strong acids
- Incompatible with alkalis (strong bases)
- Incompatible with amines

10.6 Hazardous decomposition products

SECTION 10: Stability and reactivity (....)

- Decomposition products may include carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity
  Based on available data, the classification criteria are not met
  LD50 (oral, rat): > 5 000 mg/kg
  LD50 (dermal, rabbit) > 20 000 mg/kg bw
  LC0 (inhalation, rat) : 0.00001 ppm/5 h
- Skin corrosion/irritation
  Causes skin irritation.
- Serious eye damage/irritation
  Causes serious eye irritation.
- Respiratory or skin sensitisation
  May cause an allergic skin reaction.
- Germ cell mutagenicity
  No evidence of mutagenic effects
- Carcinogenicity
  No evidence of carcinogenic effects
- Reproductive toxicity
  No evidence of reproductive effects
- Specific target organ toxicity (STOT) - single exposure
  Based on available data, the classification criteria are not met
- Specific target organ toxicity (STOT) - repeated exposure
  Based on available data, the classification criteria are not met
- Aspiration hazard
  Based on available data, the classification criteria are not met
- Contact with eyes
  Causes redness and irritation
- Contact with skin
  Causes redness and irritation
  May cause an allergic skin reaction.
  May cause skin sensitisation
- Ingestion
  May cause stomach pain
  May cause nausea/vomiting
  May cause gastro-intestinal irritation
- Inhalation
  May cause respiratory irritation

SECTION 12: Ecological information

12.1 Toxicity

- Toxic to aquatic life with long lasting effects.
- LC50 (fish) 3.1 mg/l (4 days)
- EC50 (Daphnia magna): 1.4 - 1.7 mg/l (48 hr)
- EC50 (aquatic invertebrates) 2 mg/l (48 hr)
- EC50 (aquatic algae) 9 mg/l (48 hr)

12.2 Persistence and degradability

SECTION 12: Ecological information (....)

- Not readily biodegradable

12.3 Bioaccumulative potential

- Potential bioaccumulation
- Partition coefficient : n-Octanol/water 3.242

12.4 Mobility in soil

- Insoluble in water

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Dispose of contents/container to an authorised waste collection point
- This material and its container must be disposed of as hazardous waste
- Do not discharge into drains or the environment, dispose to an authorised waste collection point

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Hazardous Property Code(s): HP 4 Irritant; HP 13 Sensitising; HP 14 Ecotoxic

SECTION 14: Transport information

14.1 UN number

- UN No.: 3082

14.2 UN proper shipping name

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Bisphenol-A Epoxy Resin)

14.3 Transport hazard class(es)

- Hazard Class: 9

14.4 Packing group

- Packing Group: III

14.5 Environmental hazards

- Marine pollutant

14.6 Special precautions for user

- No information available

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

- Not applicable

14.8 Road/Rail (ADR/RID)

SECTION 14: Transport information (....)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Bisphenol-A Epoxy Resin)
- ADR UN No.: 3082
- ADR Hazard Class: 9
- ADR Packing Group: III
- Tunnel Code: Not applicable

14.9 Sea (IMDG)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Bisphenol-A Epoxy Resin)
- IMDG UN No.: 3082
- IMDG Hazard Class: 9
- IMDG Pack Group.: III

14.10 Air (ICAO/IATA)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Bisphenol-A Epoxy Resin)
- ICAO UN No.: 3082
- ICAO Hazard Class: 9
- ICAO Packing Group: III

SECTION 15: Regulatory information

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

15.2 Chemical safety assessment

- A REACH chemical safety assessment has been carried out

SECTION 16: Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Sources of data: Information from published literature and supplier safety data sheets

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

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

Acronyms

- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC50: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC50: Lethal Concentration, 50%

SECTION 16: Other information (....)

- LD50: Lethal Dose, 50%
- NOEC: No observed effect concentration
- NOAEL: No observed adverse effect level
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- STOT RE: Specific Target Organ Toxicity Repeated Exposure
- STOT SE: Specific Target Organ Toxicity Single Exposure
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---

Revision: 16 August 2019

SAFETY DATA SHEET

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

1.1 Product identifier

- Product Name: Ultra-Cast XT Hardener Component
- Contains 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane and oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

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

- Use of the substance/mixture: Hardener component
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Eli-Chem Resins U.K Ltd
- Address of Supplier: Unit 212 Dunsfold Park
  Cranleigh
  Surrey
  GU6 8GA
  United Kingdom
- Telephone: 00 44 (0) 1483 26 66 36 or 37
- Fax: 00 44 (0) 1483 26 66 50
- Email: sales@elichem.co.uk
- Website: www.elichem.co.uk

1.4 Emergency telephone number

- Emergency Telephone: 00 44 (0) 1483 26 66 36 (Office hours only 09:00 - 17:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2, H319; Aquatic Chronic 2, H411
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements

- Signal Word: Warning

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

- Precautionary statements
  P264 - Wash thoroughly after handling.
  P273 - Avoid release to the environment.
  P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  P302+P352+P333+P313 - IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
  P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P337+P313 - If eye irritation persists: Get medical advice/attention.

SECTION 2: Hazards identification (....)

P501 - Dispose of contents/container to an authorised waste collection point

- Supplemental Hazard information (EU)
  None

2.3 Other hazards

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1 Substances

3.2 Mixtures

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	REACH Registration Number	WEL /OEL
4,4'-Isopropylidene dicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	90 - 100%	30583-72-3	500-070-7	Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2, H319; Aquatic Chronic 2, H411	-	None
Oxirane, mono [(C12-14-alkyloxy) methyl] derivs.	5 - 10%	68609-97-2	271-846-8	Skin Irrit. 2, H315; Skin Sens. 1, H317	-	None

SECTION 4: First aid measures

4.1 Description of first aid measures

- Contact with eyes
  If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes
  Remove contact lenses, if present and easy to do. Continue rinsing.
  Irrigate eyes thoroughly whilst lifting eyelids
  If eye irritation persists: Get medical advice/attention.
- Contact with skin
  Remove contaminated clothing immediately and drench affected skin with plenty of water. Then wash with soap and water
  Contaminated clothing should be laundered before reuse
  If skin irritation or rash occurs: Get medical advice/attention.
- Ingestion
  Rinse mouth with water (do not swallow)
  Give plenty of water to drink
  Do NOT induce vomiting.
  IF exposed or concerned: Get medical advice/attention.
- Inhalation
  Remove person to fresh air and keep comfortable for breathing.
  Keep warm and at rest, in a half upright position. Loosen clothing
  If breathing is difficult, oxygen should be given by a trained person
  Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

- Contact with eyes
  Causes redness and irritation

SECTION 4: First aid measures (....)

- Contact with skin
  Causes redness and irritation
  May cause an allergic skin reaction.
  May cause skin sensitisation. Stop using product if skin sensitisation occurs.
- Ingestion
  May cause nausea/vomiting
- Inhalation
  May cause respiratory irritation

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media: In case of fire use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide
- Unsuitable extinguishing media: high volume water jet

5.2 Special hazards arising from the substance or mixture

- In a fire or if heated, a pressure increase will occur and the container may burst
- In confined spaces, sewers, etc., the vapours may collect to form explosive mixtures with air
- Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback
- Gives off irritating or toxic fumes (or gases) in a fire.

5.3 Advice for firefighters

- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Rescuers should take suitable precautions to avoid becoming casualties themselves
- No action shall be taken involving any personal risk or without suitable training
- Personal precautions for non-emergency personnel: Do not touch or walk through spilt material; Wear protective clothing as per section 8; Wash thoroughly after dealing with spillage; Eyewash bottles should be available; Contaminated clothing should be laundered before reuse
- Personal precautions for emergency responders: Wear chemical protection suit; Evacuate the area and keep personnel upwind; Wear self-contained breathing apparatus (SCBA); Wash thoroughly after dealing with spillage

6.2 Environmental precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Stop leak if safe to do so.
- Absorb spillage in earth or sand
- Remove by mechanical means
- Place in appropriate container
- Remove contaminated material to safe location for subsequent disposal

SECTION 6: Accidental release measures (....)

6.4 Reference to other sections

- See section(s): 7,8 & 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Avoid breathing vapours, mist or gas
- Engineering controls should be provided to prevent the need for ventilation
- Do not get in eyes, on skin, or on clothing.
- Wear protective clothing as per section 8
- Contaminated clothing should be laundered before reuse
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Take action to prevent static discharges.
- Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback
- In confined spaces, sewers, etc., the vapours may collect to form explosive mixtures with air
- Use good personal hygiene practices
- Wash thoroughly after handling.
- Eyewash bottles should be available

7.2 Conditions for safe storage, including any incompatibilities

- Store in a dry place. Store in a closed container.
- Store in a well-ventilated place. Keep cool.
- Store at < 35 °C
- Keep only in original packaging.
- Protect from sunlight.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep out of reach of children
- Keep away from food, drink and animal feedingstuffs

7.3 Specific end use(s)

Resin Hardener

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane
  DNEL (inhalational) 3.25 mg/m^3 Industry, Long Term, Systemic Effects
  DNEL (inhalational) 3.52 mg/m^3 Industry, Acute/Short Term, Systemic Effects
  DNEL (dermal) 1 mg/kg (bw/day) Industry, Long Term, Systemic Effects
  DNEL (dermal) 1 mg/kg (bw/day) Industry, Acute/Short Term, Systemic Effects
  DNEL (dermal) 21 ug/cm^2 Industry, Long Term, Local Effects
  DNEL (dermal) 230 ug/cm^2 Industry, Acute/Short Term, Local Effects
  DNEL (inhalational) 1.76 mg/m^3 Consumer, Long Term, Systemic Effects
  DNEL (inhalational) 1.76 mg/m^3 Consumer, Acute/Short Term, Systemic Effects
  DNEL (dermal) 500 ug/kg (bw/day) Consumer, Long Term, Systemic Effects
  DNEL (dermal) 500 ug/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects
  DNEL (dermal) 21 ug/cm^2 Consumer, Long Term, Local Effects
  DNEL (dermal) 21 ug/cm^2 Consumer, Acute/Short Term, Local Effects
  DNEL (oral) 500 ug/kg (bw/day) Consumer, Long Term, Systemic Effects
  PNEC aqua (freshwater) 11.5 ug/l
  PNEC aqua (intermittent releases, freshwater) 11.5 ug/l
  PNEC aqua (marine water) 1.15 ug/l
  PNEC (STP) 100 mg/l
  PNEC sediment (freshwater) 229 ug/kg
  PNEC sediment (marine water) 22.9 ug/kg
  PNEC terrestrial (soil) 99 ug/kg

SECTION 8: Exposure controls/personal protection (....)

- Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
  DNEL (inhalational) 3.6 mg/m^3 Industry, Long Term, Systemic Effects
  DNEL (dermal) 1 mg/kg (bw/day) Industry, Long Term, Systemic Effects
  DNEL (inhalational) 870 ug/m^3 Consumer, Long Term, Systemic Effects
  DNEL (dermal) 500 ug/kg (bw/day) Consumer, Long Term, Systemic Effects
  DNEL (oral) 500 ug/kg (bw/day) Consumer, Long Term, Systemic Effects
  PNEC aqua (freshwater) 105.8 ug/l
  PNEC aqua (intermittent releases, freshwater) 72 ug/l
  PNEC aqua (marine water) 10.58 ug/l
  PNEC (STP) 10 mg/l
  PNEC sediment (freshwater) 307.16 mg/kg
  PNEC sediment (marine water) 30.72 mg/kg
  PNEC terrestrial (soil) 1.234 mg/kg

8.2 Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
  Engineering controls should be provided to prevent the need for ventilation
  Use local exhaust ventilation and/or enclosures.
- Respiratory protection
  In case of insufficient ventilation, wear suitable respiratory equipment
  Where a reusable half mask respirator is required, use EN 140, with gas/vapour filter EN 14387 type ABEK, or EN 405; EN 1827
- Skin protection
  Wear suitable protective clothing
  Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
  The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
- Eye/face protection
  Wear goggles giving complete eye protection approved to standard EN 166.
- Hygiene measures
  Use good personal hygiene practices
  Do not eat, drink or smoke when using this product.
  Wash thoroughly after handling.
  Contaminated work clothing should not be allowed out of the workplace.
  Ensure eyewash stations and safety showers are nearby

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Liquid
- Odour: None
- Odour threshold: Not applicable
- pH: No information available
- Melting point/freezing point: -12.9 °C (4,4'-Isopropylidenedicyclohexanol)
- Initial boiling point and boiling range: > 37.78 °C (4,4'-Isopropylidenedicyclohexanol)

SECTION 9: Physical and chemical properties (....)

- Flashpoint: 227.4 °C @ 40.13 hPa (4,4'-Isopropylidenedicyclohexanol)
- Evaporation Rate: 0 (butyl acetate = 1)
- Flammability (solid,gas): No information available
- Upper/lower flammability or explosive limits: No information available
- Vapour Pressure: 0 kPa (0 mm Hg) [room temperature] (4,4'-Isopropylidenedicyclohexanol)
- Vapour Density: No information available
- Relative Density: 1.09 (4,4'-Isopropylidenedicyclohexanol)
- Solubility(ies): Insoluble in water
- Partition Coefficient (n-Octanol/Water): Log Pow 3.84 @ 20 °C (4,4'-Isopropylidenedicyclohexanol)
- Autoignition Temperature: No information available
- Decomposition temperature: No information available
- Viscosity: Kinematic (40°C (104°F)): >0.21 cm2/s (>21 cSt) (4,4'-Isopropylidenedicyclohexanol)
- Explosive Properties: No information available
- Oxidising Properties: Not oxidising

9.2 Other information

- No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

- No information available

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- No hazardous reactions known if used for its intended purpose

10.4 Conditions to avoid

- Keep away from heat and light
- Keep away from static electricity

10.5 Incompatible materials

- Incompatible with oxidizing substances
- Incompatible with strong acids
- Incompatible with alkalis (strong bases)

10.6 Hazardous decomposition products

- Decomposition products may include nitrogen and carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity
  Based on available data, the classification criteria are not met

SECTION 11: Toxicological information (....)

Chemical Name	LD50 (oral, rat)	LC50 (inhalation, rat)	LD50 (dermal, rabbit)
4,4'-Isopropylidene dicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	> 2 000 mg/kg	No data available	2 000 mg/kg (rat)
Oxirane, mono [(C12-14-alkyloxy) methyl] derivs.	30.1 ml/kg	LC0 (7 h) 150 mg/m³ air	LD0 4.5 mL/kg bw

- Skin corrosion/irritation
  Causes skin irritation.
  Classification based on calculation and concentration thresholds
- Serious eye damage/irritation
  Causes serious eye irritation.
  Classification based on calculation and concentration thresholds
- Respiratory or skin sensitisation
  May cause an allergic skin reaction.
  Classification based on calculation and concentration thresholds
- Germ cell mutagenicity
  No evidence of mutagenic effects
- Carcinogenicity
  No evidence of carcinogenic effects
- Reproductive toxicity
  No evidence of reproductive effects
- Specific target organ toxicity (STOT) - single exposure
  Based on available data, the classification criteria are not met
- Specific target organ toxicity (STOT) - repeated exposure
  Based on available data, the classification criteria are not met

Chemical Name	NOAEL (oral, rat)	NOAEL (dermal, rat)
4,4'-Isopropylidenedicyclohexanol oligomeric reaction products with 1-chloro-2,3-epoxypropane	100 mg/kg bw/day	No data available
Oxirane, mono[(C12-14-alkyloxy) methyl] derivs.	100 - 300 mg/kg bw/day	100 mg/kg bw/day

- Aspiration hazard
  Based on available data, the classification criteria are not met
- Contact with eyes
  Causes redness and irritation
- Contact with skin
  Causes redness and irritation
  May cause an allergic skin reaction.
  May cause skin sensitisation
- Ingestion
  May cause nausea/vomiting
  May cause gastro-intestinal irritation
- Inhalation
  May cause respiratory irritation

SECTION 11: Toxicological information (....)

SECTION 12: Ecological information

12.1 Toxicity

- Toxic to aquatic life with long lasting effects.
- Classification based on calculation and concentration thresholds

- 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane
  LC50 (fish) 100 mg/l (4 days)
  EC50 (aquatic algae) 100 mg/l (72 hr)

- Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
  LC50 (fish) 100 mg/l (4 days)
  EL50 (aquatic invertebrates) 7.2 mg/l (48 hr)
  IC50 (algae): 843.75 mg/l (72 hr)

12.2 Persistence and degradability

- Not readily biodegradable

12.3 Bioaccumulative potential

- No information available

12.4 Mobility in soil

- No information available

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Dispose of contents/container to an authorised waste collection point
- This material and its container must be disposed of as hazardous waste
- Do not discharge into drains or the environment, dispose to an authorised waste collection point

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Hazardous Property Code(s): HP 4 Irritant; HP 13 Sensitising; HP 14 Ecotoxic

SECTION 14: Transport information

14.1 UN number

- UN No.: 3082

14.2 UN proper shipping name

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Epoxy resin)

SECTION 14: Transport information (....)

14.3 Transport hazard class(es)

- Hazard Class: 9

14.4 Packing group

- Packing Group: III

14.5 Environmental hazards

- Marine pollutant

14.6 Special precautions for user

- No information available

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

- Not applicable

14.8 Road/Rail (ADR/RID)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Epoxy resin)
- ADR UN No.: 3082
- ADR Hazard Class: 9
- ADR Packing Group: III
- Tunnel Code: Not applicable

14.9 Sea (IMDG)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Epoxy resin)
- IMDG UN No.: 3082
- IMDG Hazard Class: 9
- IMDG Pack Group.: III

14.10 Air (ICAO/IATA)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Epoxy resin)
- ICAO UN No.: 3082
- ICAO Hazard Class: 9
- ICAO Packing Group: III

SECTION 15: Regulatory information

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

15.2 Chemical safety assessment

- A REACH chemical safety assessment has not been carried out

SECTION 16: Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SECTION 16: Other information (....)

Sources of data: Information from published literature and supplier safety data sheets

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit. 2, H315:	Classification based on calculation and concentration thresholds
Skin Sens. 1, H317:	Classification based on calculation and concentration thresholds
Eye Irrit. 2, H319:	Classification based on calculation and concentration thresholds
Aquatic Chronic 2, H411:	Classification based on calculation and concentration thresholds

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

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

Acronyms

- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC50: Effective Concentration, 50%
- EL50: Effective Loading Rate resulting in 50% effect.
- GHS: Globally Harmonised System
- IC50: Half-maximal inhibitory concentration
- LC50: Lethal Concentration, 50%
- LD50: Lethal Dose, 50%
- NOEC: No observed effect concentration
- NOAEL: No observed adverse effect level
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- STOT RE: Specific Target Organ Toxicity Repeated Exposure
- STOT SE: Specific Target Organ Toxicity Single Exposure
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---