



**Safety data sheet**  
*according to 1907/2006/EC, Article 31*

Printing date 04.03.2021

Version number 1

Revision: 04.03.2021

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

· **1.1 Product identifier**

· **Product name:** 1,4-Bis(2,3-epoxypropyloxy)butane

· **Part number:** DRE-C10651950

· **CAS Number:**

2425-79-8

· **EC number:**

219-371-7

· **Index number:**

603-072-00-7

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

No further relevant information available.

· **Application of the substance / the mixture** Reference material for laboratory use only

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

LGC Limited

Queens Road

Teddington

Middlesex TW11 0LY

UNITED KINGDOM

Tel : +44 (0) 20 8943 7000

Fax : +44 (0) 20 8943 2767

eMail : [gb@lgcstandards.com](mailto:gb@lgcstandards.com)

Web : [www.lgcstandards.com](http://www.lgcstandards.com)

· **Further information obtainable from:**

Product safety department

eMail : [sds-request@lgcgroup.com](mailto:sds-request@lgcgroup.com)

· **1.4 Emergency telephone number:**

For Hazardous Materials or Dangerous Goods Incident

Spill, Leak, Fire Exposure, or Accident

Call CHEMTREC:

USA & Canada 1-800-424-9300

Rest of the world +1 703-741-5970

**SECTION 2: Hazards identification**

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

(Contd. on page 2)



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according to 1907/2006/EC, Article 31

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Revision: 04.03.2021

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(Contd. from page 1)

**· 2.2 Label elements****· Labelling according to Regulation (EC) No 1272/2008**

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

**· Hazard pictograms**

GHS07

**· Signal word** Warning**· Hazard statements**

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

**· Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**· 2.3 Other hazards****· Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

**· 3.1 Chemical characterisation: Substances****· CAS No. Description**

2425-79-8 Diglycidic ether of 1,4 butanediol

· **Identification number(s)** None

· **EC number:** 219-371-7

· **Index number:** 603-072-00-7

· **RTECS:** EJ 5100000

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

GB

(Contd. on page 3)



## Safety data sheet

according to 1907/2006/EC, Article 31

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**Product name: 1,4-Bis(2,3-epoxypropyloxy)butane**

(Contd. from page 2)

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.
- **After inhalation:**  
Supply fresh air and call a doctor.  
In case of unconsciousness place patient in recovery position for transport.  
Seek medical treatment.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
Seek medical treatment.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse mouth. Do not induce vomiting.  
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Mouth respiratory protective device.  
Wear self-contained respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

(Contd. on page 4)



## Safety data sheet

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Version number 1

Revision: 04.03.2021

**Product name: 1,4-Bis(2,3-epoxypropyloxy)butane**

(Contd. from page 3)

*See Section 13 for disposal information.*

### SECTION 7: Handling and storage

**· 7.1 Precautions for safe handling***Ensure good ventilation/extraction at the workplace.**Store in cool, dry place in tightly closed receptacles.***· Information about fire - and explosion protection:** *No special measures required.***· 7.2 Conditions for safe storage, including any incompatibilities****· Storage:****· Requirements to be met by storerooms and receptacles:***Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.**Store only in the original receptacle unless other advice is given on the CoA.**Keep container in a well-ventilated place. Keep away from sources of ignition and heat.***· Information about storage in one common storage facility:** *Store away from foodstuffs.***· Further information about storage conditions:** *Keep container tightly sealed.***· 7.3 Specific end use(s)** *No further relevant information available.*

### SECTION 8: Exposure controls/personal protection

**· 8.1 Control parameters****· Additional information about design of technical facilities:** *No further data; see item 7.***· Ingredients with limit values that require monitoring at the workplace:** *Not required.***· Additional information:** *Lists used were valid at the time of SDS preparation.***· 8.2 Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing**Wash hands before breaks and at the end of work.**Avoid contact with the eyes and skin.***· Respiratory protection:***In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.***· Protection of hands:***The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation**The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374*

Protective gloves

(Contd. on page 5)

GB



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Printing date 04.03.2021

Version number 1

Revision: 04.03.2021

**Product name: 1,4-Bis(2,3-epoxypropyloxy)butane**

(Contd. from page 4)

**· Material of gloves**

Fluorocarbon rubber (Viton)

Butyl rubber, BR

**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**· Eye protection:**

Tightly sealed goggles

**SECTION 9: Physical and chemical properties****· 9.1 Information on basic physical and chemical properties****· General Information****· Appearance:****Form:** Viscous**Colour:** Colourless**· Odour:** Odourless**· Odour threshold:** Not determined.**· pH-value:** Not determined.**· Change in condition****Melting point/freezing point:** -21.5 °C**Initial boiling point and boiling range:** 294 °C**· Flash point:** 140 °C**· Flammability (solid, gas):** Not determined.**· Ignition temperature:** 260 °C**· Decomposition temperature:** Not determined.**· Auto-ignition temperature:** Not determined.**· Explosive properties:** Not determined.**· Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**· Vapour pressure at 20 °C:** 0.0025 hPa**· Density at 20 °C:** 1.097 g/cm<sup>3</sup>**· Relative density** Not determined.**· Vapour density** Not determined.**· Evaporation rate** Not determined.

(Contd. on page 6)



## Safety data sheet

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Version number 1

Revision: 04.03.2021

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(Contd. from page 5)

- |   |  |
|---|--|
| · <b>Solubility in / Miscibility with water at 20 °C:</b> | 55.6 g/l                                   |
| · <b>Partition coefficient: n-octanol/water:</b>          | -0.27 Log Pow                              |
| · <b>Viscosity:</b>                                       |  |
| <b>Dynamic:</b>   | Not determined.                            |
| <b>Kinematic:</b>   | Not determined.                            |
| · <b>9.2 Other information</b>                            | No further relevant information available. |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**  
Stable under normal conditions.  
No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**  
Formation of toxic gases is possible during heating or in case of fire.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Heat.
- **10.5 Incompatible materials:** Strong oxidizing agents.
- **10.6 Hazardous decomposition products:**  
Formation of toxic gases is possible during heating or in case of fire.  
Carbon monoxide  
Carbon dioxide

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Harmful if swallowed, in contact with skin or if inhaled.
- **LD/LC50 values relevant for classification:**

Oral	LD50	1,134 mg/kg (rat)
Dermal	LD50	1,130 mg/kg (rabbit)
- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

(Contd. on page 7)



## Safety data sheet

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Revision: 04.03.2021

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(Contd. from page 6)

- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

EC50/72h	160 mg/l (Algae)
EC50/24h	75 mg/L (daphnia)
LC50/96 h	19.8 mg/l (fish)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow undiluted product to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**  
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
- **Uncleaned packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.

### SECTION 14: Transport information

- |                          |                |
|--------------------------|----------------|
| · <b>14.1 UN-Number</b>  |                |
| · <b>ADR, IMDG, IATA</b> | Not applicable |
| · <b>ADR, IMDG, IATA</b> | Not applicable |

(Contd. on page 8)

GB





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(Contd. from page 7)

- |  |                 |
|--|-----------------|
| · <b>14.3 Transport hazard class(es)</b>   |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | Not applicable  |
| · <b>14.4 Packing group</b>  |                 |
| · <b>ADR, IMDG, IATA</b>   | Not applicable  |
| · <b>14.5 Environmental hazards:</b>   | Not applicable. |
| · <b>14.6 Special precautions for user</b>                                       | Not applicable. |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | Not applicable  |

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** Substance is not listed.
  - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
  - **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

#### · Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

(Contd. on page 9)





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(Contd. from page 8)

*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*Acute Tox. 4: Acute toxicity - oral – Category 4*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Eye Irrit. 2: Serious eye damage/eye irritation – Category 2*  
*Skin Sens. 1: Skin sensitisation – Category 1*

· **Sources**

*Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.*

· **Data compared to the previous version altered.** All sections have been updated.

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