



Safety Data Sheet

According to Regulation (EC) 1907/2006, 2020/878

Active diluent EPD-BD (130135-X)

Revision date: 10.09.2024

Product code: 130135

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

1.1. Product identifier

Active diluent EPD-BD (130135-X)

Substance name: 1,4-bis(2,3 epoxypropoxy)butane
CAS No: 2425-79-8
Index No: 603-072-00-7
EC No: 219-371-7

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

Use of the substance/mixture

epoxy resin systems, reactive diluent

1.3. Details of the supplier of the safety data sheet

Company name: R&G Faserverbundwerkstoffe GmbH
Composite Technology
Street: Im Meißel 7 - 13
Place: D-71111 Waldenbuch
Post-office box: 1145
D-71107 Waldenbuch
Telephone: +49 (0)7157 5304-60
Telefax: +49 (0)7157 5304-70
E-mail: info@r-g.de
Contact person: Michael Groß
Internet: www.r-g.de
Responsible Department: Management

1.4. Emergency telephone number: Vergiftungs-Informations-Zentrale Freiburg
Tel: +49 (0)761 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Acute Tox. 4; H332
Acute Tox. 4; H312
Acute Tox. 4; H302
Skin Irrit. 2; H315
Eye Dam. 1; H318
Skin Sens. 1; H317
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

1,4-bis(2,3 epoxypropoxy)butane; butanedioldiglycidyl ether

Signal word: Danger

Pictograms:



Hazard statements

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



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H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P310	Immediately call a POISON CENTER/doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container to Dispose of waste according to applicable legislation.

Additional advice on labelling

The product is classified and labelled under the EC Directives/hazardous substances laws (GefStoffV).

2.3. Other hazards

Constituents contain epoxy. Observe the manufacturer's instructions.

The residual content of epichlorohydrin complies with the APME recommendations for modified epoxy resins. < 20 ppm (0,002%)

SECTION 3: Composition/information on ingredients

3.1. Substances

Relevant ingredients

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane			100 %
	219-371-7	603-072-00-7		
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H332 H312 H302 H315 H318 H317 H412			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity	
	Specific Conc. Limits, M-factors and ATE			
2425-79-8	219-371-7	1,4-bis(2,3 epoxypropoxy)butane	100 %	
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg; oral: ATE = 500 mg/kg			

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from the danger area and lay down. Remove contaminated, saturated clothing immediately. Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

After inhalation

Following inhalation: Move victim to fresh air. Consult physician. If victim is at risk of losing consciousness, position and transport on their side.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, seek medical treatment.



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After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Seek medical advice immediately.

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 media

Carbon dioxide (CO₂).
Extinguishing powder.
Water spray.
Fight major fires with a water spray jet or alcohol-resistant foam.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

When heating up or in the fire case formation of poisonous gasses.

5.3. Advice for firefighters

Wear breathing apparatus without recirculating air and suitable protective clothing.

Additional information

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Wear personal protection equipment. Keep unprotected persons at a safe distance.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter groundwater. Do not allow to enter the soil or subsoil.

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).
Formation of toxic gases is possible during heating or in case of fire.

6.4. Reference to other sections

Carefully cleaning scene of an accident.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation/vapour extraction at the workplace.

Advice on general occupational hygiene

Take off immediately all contaminated clothing Product is not explosive. However, formation of explosive air/vapour mixtures are possible. after work and before breaks for thorough skin cleansing. Keep away from food, drink and animal feedingstuffs.



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7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep/Store only in original container. Provide for retaining containers, e.g. floor pan without outflow.

Hints on joint storage

Store separately from foodstuffs.

Further information on storage conditions

Keep in well sealed receptacles at a cool, dry location.

7.3. Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane			
Consumer DNEL, long-term		oral	systemic	0,56 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	9,26 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	5,56 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,48 mg/m ³
Worker DNEL, long-term		inhalation	systemic	1,63 mg/m ³

PNEC values

CAS No	Substance	Value
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane	
Environmental compartment		
Freshwater		0,024 mg/l
Freshwater (intermittent releases)		0,24 mg/l
Marine water		0,0024 mg/l
Freshwater sediment		0,084 mg/kg
Marine sediment		0,0084 mg/kg
Secondary poisoning		0,028 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,0027 mg/kg

8.2. Exposure controls



Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly sealed safety glasses. (EN 166)



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Hand protection

Wear protective gloves. (EN 374)
Material: NBR (Nitrile rubber). Butyl rubber.
penetration time (maximum wearing period): See information supplied by the manufacturer.

Skin protection

Wear protective clothing. (EN 340)

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	light yellow
Odour:	characteristic

	Test method
Melting point/freezing point:	-21,5 °C
Boiling point or initial boiling point and boiling range:	294 °C
Flash point:	140 °C DIN 51758
Auto-ignition temperature:	260 °C
Water solubility: (at 20 °C)	55,6 g/L
Vapour pressure: (at 22 °C)	25 hPa
Density (at 20 °C):	1,11 g/cm ³ ISO 2811-2

9.2. Other information

Other safety characteristics

Viscosity / dynamic: (at 25 °C)	15-25 mPa·s ISO 9371
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SECTION 10: Stability and reactivity

10.1. Reactivity

No further relevant information available.

10.2. Chemical stability

no decomposition when stored and handled properly

10.3. Possibility of hazardous reactions

Response: Alkali (lye), Amines, Acids

10.4. Conditions to avoid

No further relevant information available.

10.5. Incompatible materials

No further relevant information available.

10.6. Hazardous decomposition products

Irritant gases / vapors

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicokinetics, metabolism and distribution

Harmful if swallowed, in contact with skin or if inhaled.

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Acute toxicity

2425-79-8 1,4-bis(2,3 epoxypropoxy)butane; butanedioldiglycidyl ether

oral: 1.410 - 3.000 mg/kg (rat) LD50

dermal: 1.500 mg/kg (rabbit) LD50

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane				
	oral	ATE 500 mg/kg			
	dermal	ATE 1100 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

Irritation and corrosivity

Causes skin irritation. Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction.

Specific effects in experiment on an animal

Irritant effect on the eye, mild irritation to the skin (rabbit).

11.2. Information on other hazards**Endocrine disrupting properties**

No information available. Endocrine disrupting properties - human health: The substance/mixture does not contain any components that exhibit endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 at levels of 0.1% or higher. Endocrine disrupting properties - environment: The substance/mixture does not contain any components that exhibit endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1% or more.

SECTION 12: Ecological information**12.1. Toxicity**

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane					
	Acute fish toxicity	LC50 19,8 mg/l	96 h	fish		
	Acute crustacea toxicity	EC50 75 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

12.3. Bioaccumulative potential

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

12.4. Mobility in soil

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

12.5. Results of PBT and vPvB assessment



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This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

The product does not contain any relevant quantities of substances with workplace-related limit values to be monitored.

Further information

Do not let the product enter the groundwater, open water, or the sewerage system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. e.g. transfer to a suitable incineration plant Waste key numbers are assigned according to the European Waste Catalogue (EWC) depending on the sector and process type.

Contaminated packaging

Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.2. UN proper shipping name:

National und International: No dangerous good in sense of these transport regulations.

Other applicable information (land transport)

No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

No dangerous good in sense of these transport regulations.

Marine transport (IMDG)

14.1. UN number or ID number:

UN 9999

Marine pollutant:

no

Other applicable information (marine transport)

No dangerous good in sense of these transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

No dangerous good in sense of these transport regulations.

Other applicable information

No dangerous good in sense of these transport regulations.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Additional information

Contains epoxy constituents. See information supplied by the manufacturer.

National regulatory information

Water hazard class (D):

1 - slightly hazardous to water



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SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 12,13,14,15.

Abbreviations and acronyms

Acute Tox: Acute toxicity

Skin Irrit: Skin irritation

Eye Dam: Eye damage

Skin Sens: Skin sensitisation

Aquatic Chronic: Chronic aquatic hazard

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Further Information

Avoid contact with the eyes and skin.