

GLYCOL ETHER DB

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 07/23/2014

Print Date 11/20/2014

SDS No.: 3370

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : GLYCOL ETHER DB
CAS Number: 112-34-5
Chemical characterization : Glycol Ethers
Chemical Name : 2-(2-Butoxyethoxy) ethanol
Synonyms : Diethylene glycol monobutyl ether; Butoxyethoxy ethanol;
Butyl carbitol; Butyl diglycol (BDG); Diethylene glycol butyl
ether (DEGBE)

Use of the Substance/Mixture : Solvent, Use in Cleaning Agents, Uses in Coatings

Company : Equistar Chemicals, LP
LyondellBasell Tower, Suite 300
1221 McKinney St.
P.O. Box 2583
Houston Texas 77252-2583

Telephone : Customer Service
888 777-0232
Product Safety
800 700-0946

Emergency telephone : CHEMTREC USA 800-424-9300
EQUISTAR 800-245-4532

E-mail address : product.safety@lyondellbasell.com

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Eye irritation

Category 2A

GHS Classification Scale (1= severe hazard; 4= slight hazard)

Label elements**Hazard symbols** :**Signal Word** : Warning**Hazard Statements** : H319 Causes serious eye irritation.

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Precautionary Statements : Prevention

P264 Wash hands thoroughly after handling.

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

Response

P312 Call a POISON CENTER or doctor/ physician 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.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards

Hazards Not Otherwise Classified (HNOC)

May cause dermatitis by defatting the skin from prolonged or repeated contact.

3. Composition/information on ingredients**Substances**

Chemical nature : Substance

Ingredients

Chemical Name	CAS-No. EC-No.	Weight %	Component Type
Diethylene glycol monobutyl ether	112-34-5	>= 99.0 %	A
2-Butoxyethanol	111-76-2	<=0.5 %	C

Key:

(A) Substance

(C) Impurity

SECTION 4. FIRST AID MEASURES**First aid procedures**

General advice

: Consult a physician/doctor if necessary.

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this SDS.

Show this material safety data sheet to the doctor in

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- attendance.
- If inhaled : If symptoms are experienced, move victim to fresh air. Seek medical attention if discomfort persists.
- In case of skin contact : Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.).
- In case of eye contact : Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.
- If swallowed : If product is ingested, do not induce vomiting and contact a physician or Poison Control Center.
- Notes to physician**
- Treatment : Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES**Flammable properties**

- Flash point : 221 - 237 °F (105 - 114 °C)
at 1,013 hPa (760 mm Hg)
Method: (Closed Cup, DIN 51755)
- Autoignition temperature : 410 °F (210 °C)
at 1,013.25 hPa (760.00 mm Hg)
- Lower explosion limit : 0.85 vol%
- Upper explosion limit : 24.6 vol%

Fire fighting

- Suitable extinguishing media : SMALL FIRE: Use dry chemicals, CO₂, water spray or alcohol-resistant foam
LARGE FIRE: Use water spray, water fog or alcohol-resistant foam

Protective equipment and precautions for firefighters

- Specific hazards during fire : Fight fire from maximum distance or use unmanned hose

fighting holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Use personal protective equipment.
Ensure adequate ventilation.
Eliminate all sources of ignition.
- Environmental precautions : Do not allow contact with soil, surface or ground water.
Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
- Methods for containment /
Methods for cleaning up : Contain spill with dike to prevent entry into sewers or waterways.
For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spills, soak up with absorbent material and place in properly labeled containers for disposal.
All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.
- Additional advice : See Section 15: Regulatory Information.

SECTION 7. HANDLING AND STORAGE

Handling

- Advice on safe handling : Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded.
It is recommended that any liquid product exposed to air not be highly concentrated by evaporation without first assuring that no peroxide is present.
Alternately, positive steps should be taken to reduce any accumulated peroxides to a safe level before concentrating

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the liquid.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion.

Storage

Requirements for storage areas and containers : Store containers in a cool, dry, ventilated, fire resistant area away from sources of ignition and incompatible materials. Keep container tightly closed and properly labeled.

8. Exposure controls/personal protection**Control parameters****Ingredients with workplace control parameters****Occupational Exposure Limits**

Ingredients	CAS-No.	Type	Limit Value	Basis Revision Date	Additional Information
Diethylene glycol monobutyl ether	112-34-5	TWA	10 ppm inhalable fraction and vapor	US (ACGIH) 2013	
2-Butoxyethanol	111-76-2	TWA	20 ppm	US (ACGIH) 2012	
2-Butoxyethanol	111-76-2	IDLH	700 ppm	NIOSH September 2007	
2-Butoxyethanol	111-76-2	TWA	50 ppm 240 mg/m ³	US (OSHA) June 23, 2006	

Consult local authorities for acceptable exposure limits.

Exposure controls**Engineering measures**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection : Use chemical resistant gloves appropriate to conditions of

- use.
Acid-resistant protective gloves complying with EN374 (e.g. neoprene or other type giving suitable protection).
- Eye and face protection : Safety glasses with side-shields
- Skin and body protection : Appropriate protective clothing should be worn to prevent skin contact.
- Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

- Physical state : liquid
- Color : Clear
- Odor : Faint butyl odor

Safety data

- Flash point : 221 - 237 °F (105 - 114 °C)
at 1,013 hPa (760 mm Hg)
Method: (Closed Cup, DIN 51755)
- Lower explosion limit : 0.85 vol%
- Upper explosion limit : 24.6 vol%
- Flammability (solid, gas) : not applicable
- Oxidizing properties : Not considered an oxidizing agent.
- Autoignition temperature : 410 °F (210 °C)
at 1,013.25 hPa (760.00 mm Hg)
- Decomposition temperature : not determined
- pH : 6 - 7.5
- Melting point/freezing point : -90 °F (-68 °C)

Boiling point/boiling range	: 442 - 453 °F (228 - 234 °C) at 1,013 hPa (760 mm Hg)
Vapor pressure	: 0.027 hPa (0.020 mm Hg) at 68 °F (20 °C)
Density	: 0.95 g/cm ³ at 68 °F (20 °C) (Water = 1)
Water solubility	: Miscible
Partition coefficient: n-octanol/water	: log Pow: 1.0 at 68 °F (20 °C)
Viscosity, dynamic	: 6.5 mPa.s
Viscosity, kinematic	: 6.1 mm ² /s at 68 °F (20 °C)
Relative vapor density	: 5.6 (Air = 1.0)
Evaporation rate	: 0.01 (butyl acetate = 1)
Explosive properties	: Not explosive
Remarks - Other information	: No additional information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Will not occur.
Chemical stability	: Stable under normal conditions.
Conditions to avoid	: Avoid contact with strong oxidizers, excessive heat, sparks or open flame.
Materials to avoid	: Oxidizers, Acids, Alkalis
Hazardous decomposition products	: Carbon Monoxide and Carbon dioxide.
Thermal decomposition	: Carbon oxides (CO, CO ₂)
Hazardous reactions	: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Summary : The below given information is based on the assessment of the product including impurities.

Acute toxicity

Acute oral toxicity : Based on acute toxicity values, not classified.

: LD50: 2,410 mg/kg
Species: mouse

Acute inhalation toxicity : Not classified
No adverse effect observed.

: LC0: > 2.1 mg/l
Exposure time: 4 HOURS
Species: rat

Acute dermal toxicity : Based on acute toxicity values, not classified.

: LD50: 2,764 mg/kg
Species: rabbit

Skin corrosion/irritation : Based on skin irritation values, not classified.

: May cause slight transient skin irritation.

Serious eye damage/eye irritation : Classified

: Causes serious eye irritation.

Respiratory or skin sensitization : Not classified
No adverse effect observed.

Chronic toxicity

Carcinogenicity : Not classified
Contains a substance that has a positive carcinogenicity study.
The weight of evidence for the carcinogenicity of this substance does not meet the criteria for classification.

Germ cell mutagenicity : Not classified
No adverse effect observed.

Reproductive toxicity

Effects on fertility /
Effects on or via lactation : Not classified
No adverse effect observed.

Effects on Development : Not classified
No adverse effect observed.

**Target Organ Systemic
Toxicant - Single exposure** : Based on single exposure toxicity values, not classified.

**Target Organ Systemic
Toxicant - Repeated
exposure** : Based on repeated exposure toxicity values, not classified.

Aspiration hazard : Based on physico-chemical values or lack of human evidence,
not classified.

12. ECOLOGICAL INFORMATION**Ecotoxicology Assessment**

Acute aquatic toxicity : Based on acute aquatic toxicity values, not classified.

Chronic aquatic toxicity : Not classified, based on readily biodegradability and low acute
toxicity.

Toxicity to fish :
Acute toxicity to fish is very low.

**Toxicity to daphnia and
other aquatic invertebrates** : Acute toxicity to freshwater and marine invertebrates is very
low.

Toxicity to algae : Acute toxicity to aquatic plants very low.

Toxicity to bacteria : Low toxicity to sewage microbes.

**Toxicity to fish (Chronic
toxicity)** : No Data Available.

Toxicity to daphnia and : No Data Available.

**other aquatic invertebrates
(Chronic toxicity)****Persistence and degradability**

Biodegradability : 92 %
Rapidly degradable.
(After 28 days in a ready biodegradability test)

Bioaccumulative potential

Bioaccumulation : Bioconcentration factor (BCF): 1.4 - 3.2
Method: (QSAR calculated value)
This material is not expected to bioaccumulate.

Mobility in soil

Distribution among environmental compartments : Stability in soil
no data available
Low absorption to soil particulates predicted

: Stability in water
Not expected to hydrolyze readily.

**Additional advice
Environmental fate and pathways** : No additional information available.

Results of PBT and vPvB assessment

Not applicable.

Other adverse effects

Additional ecological information : No additional information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from clean-up operations may be hazardous wastes and therefore, subject to specific regulations.

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SECTION 14. TRANSPORT INFORMATION

Not regulated for transport

SECTION 15. REGULATORY INFORMATION

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

SARA 302/304

This product contains no known chemicals regulated under SARA 302/304.

SARA 311/312

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

Immediate (Acute) Health Hazard.

Delayed (Chronic) Health Hazard.

SARA 313

This product contains the following chemicals subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR 372:

<u>Component</u>	<u>Reporting Threshold</u>
Diethylene glycol monobutyl ether	1.0%
2-Butoxyethanol	1.0%

State Reporting

This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, LyondellBasell has not tested for the presence of listed chemical substances.

This product contains the following chemicals regulated by New Jersey's Worker and Community Right to Know Act:

111-76-2 2-Butoxyethanol

This product contains the following chemicals regulated by Massachusetts' Right to Know Law:

111-76-2 2-Butoxyethanol

This product contains the following chemicals regulated by Pennsylvania's Right to Know Act:

111-76-2 2-Butoxyethanol

Other international regulations**Global Inventory Status**

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

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*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant

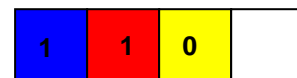
REACH status

If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that the chemical substance in this product has been pre-registered or, where required under REACH, registered, and that we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

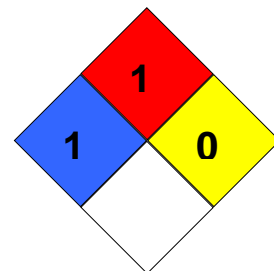
Contact product.safety@lyondellbasell.com for additional global inventory information.

SECTION 16. OTHER INFORMATION**Further information****HMIS Classification**

: Health Hazard: 1
 Flammability: 1
 Physical hazards: 0

**NFPA Classification**

: Health Hazard: 1
 Fire Hazard: 1
 Instability: 0

**Other Information**

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)

NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

Material safety datasheet sections which have been updated:

Revised Section(s): 2 to 15 Revision Date July 7 2014

Disclaimer

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Information is correct to the best of our knowledge at the date of the SDS publication.

It is not a specification sheet nor should any displayed data be construed as a specification.

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