

Safety Data Sheet



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

1.1 Production identifiers

Product name : GLYCOL ETHER DB
Brand : CJ Chemicals LLC
CAS-No. : 112-34-5

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

Identified uses : Laboratory chemicals, synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : CJ Chemicals LLC
3469 E Grand River Rd #112
Howell, MI 48843
United States

Telephone : +1 (888) 274-1044

1.4 Emergency Telephone

Emergency Phone # : 1-800-424-9300 CHEMTREC (USA)
1-703-527-3887 CHEMTREC (international) 24 hours/day; 7 days/week

2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation Category 2A
Specific target organ systemic toxicity - single exposure Category 3

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

Label elements

Hazard symbols :



Signal word : Warning

Hazard Statements : H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

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Precautionary Statements

: Prevention

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No additional information available.

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

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4. FIRST AID MEASURES

- 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.
Show this material safety data sheet to the doctor in 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

- Symptoms : Aspiration may cause pulmonary edema and pneumonitis.
irritant effects
central nervous system effects
- Hazards : May be harmful if swallowed and enters airways.
May be harmful if swallowed.
May be harmful in contact with skin.
May be harmful if inhaled.
Causes mild skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
- Treatment : Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

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5. FIRE-FIGHTING MEASURES

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

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.

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7. Handling and storage

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

Conditions for safe storage, including any incompatibilities

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.

Specific end use(s)

: See Section 1.

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	

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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.
- 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : Clear
- Odor : Faint butyl odor
- Odor Threshold : No value available.
- Flash point : 105 - 114 °C
at 1,013 hPa (760 mm Hg)
Method: (Closed Cup, DIN 51755)

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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	: 210 °C at 1,013.25 hPa
Decomposition temperature	: not determined
pH	: 6 - 7.5
Melting point/freezing point	: -68 °C
Boiling point/boiling range	: 228 - 234 °C at 1,013 hPa
Vapor pressure	: 0.027 hPa at 20 °C
Relative density	: ca. 0.95
Density	: 0.95 g/cm ³ at 20 °C (Water = 1)
Water solubility	: Miscible
Partition coefficient: n-octanol/water	: log Pow: 1.0 at 20 °C
Viscosity, dynamic	: 6.5 mPa.s
Viscosity, kinematic	: 6.1 mm ² /s at 20 °C
Relative vapor density	: 5.6 (Air = 1.0)
Evaporation rate	: 0.01 (butyl acetate = 1)
Explosive properties	: Not explosive
Other Information	: No additional information available.

10. STABILITY AND REACTIVITY

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

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.
May be harmful if swallowed.

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

Acute inhalation toxicity : Based on acute toxicity values, not classified.
May be harmful if inhaled.

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

Acute dermal toxicity : Based on acute toxicity values, not classified.
May be harmful in contact with skin.

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

Skin corrosion/irritation : Not classified
Causes mild skin irritation.

Serious eye damage/eye irritation : Classified
Causes serious eye irritation.

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Respiratory or skin sensitization

: Respiratory sensitization
Not classified
No study available.

: 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

: Classified, May cause drowsiness or dizziness.

Target Organ Systemic Toxicant - Repeated exposure

: Based on repeated exposure toxicity values, not classified.

Aspiration hazard

: Not classified
May be harmful if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment

Acute aquatic toxicity

: Based on acute aquatic toxicity values, not classified.

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

Toxicity to fish :
Low acute toxicity to fish

Toxicity to daphnia and other aquatic invertebrates : Low acute toxicity to aquatic invertebrates.

Toxicity to algae : Low toxicity to algae.

Toxicity to bacteria : Low toxicity to sewage microbes.

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No Data Available.

Persistence and degradability

Biodegradability : 85 %
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

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Not applicable.

Other adverse effects

Additional ecological information : No additional information available.

13. Disposal considerations

Waste treatment methods

Product : 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.

14. TRANSPORT INFORMATION

Not regulated for transport

BLG (MARPOL Annex II)

Description of the goods : POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6) ETHER (CONTAINS DIETHYLENE GLYCOL MONOMBUTYL ETHER)

Pollution category : Z

Ship type : 3

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:

Health Hazards

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SARA 311/312

Eye irritation

Specific target organ systemic toxicity - single exposure

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

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

Other international regulations

Global Inventory Status

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

*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
Taiwan	TCSCA	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

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with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

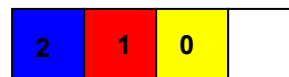
Contact product.safety@lyb.com for additional global inventory information.

16. OTHER INFORMATION

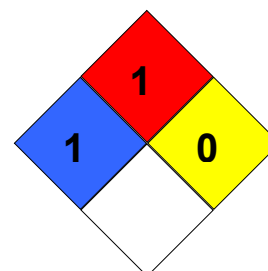
Material safety datasheet sections which have been updated:

Revised Section(s): 2 4 7 11 12 14 15 16 December 3 2017

HMIS Classification : Health Hazard: 2
Flammability: 1
Physical hazards: 0



NFPA Classification : Health Hazard: 1
Fire Hazard: 1
Instability: 0



Further information

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

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

Disclaimer

This document is generated for the purpose of distributing health, safety, and environmental data.

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.

Before using a product sold by a company of the LyondellBasell family of companies, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally.

SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

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Disclaimer

Users should review the applicable Safety Data Sheet before handling the product. This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application:

- (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.
- (v) safety components in automotive applications, for example: air bags, air bag unit housings and covers, seat belt mechanisms, brake systems, pedals and pedal supports, steering systems.

The product(s) may not be used in:

- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
- (ii) applications involving permanent implantation into the body;
- (iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

In addition to the above, LyondellBasell may further prohibit or restrict the use of its products in certain applications. For further information, please contact a LyondellBasell representative.

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Product Information

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

Numerical Data Presentation

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations

The information presented in this document has been translated from English by a vendor LyondellBasell believes to be reliable. LyondellBasell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred. Please refer to our web site (www.lyondellbasell.com) for the original document written in English.

End of Material Safety Data Sheet

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