

GLYCOL ETHER EB ACETATE

Gen. Variant: SDS_US_GHS

Version 1.1

Revision Date 08/18/2014

Print Date 11/20/2014

SDS No.: 3384

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : GLYCOL ETHER EB ACETATE
CAS Number: 112-07-2
Chemical characterization : Glycol Ethers
Chemical Name : 2-Butoxyethanol acetate
Synonyms : Ethylene Glycol Monobutyl Ether Acetate; Butyl glycol acetate (BGA); Ethylene glycol butyl ether acetate (EGBE)

Use of the Substance/Mixture : Solvent

Company : Lyondell Chemical Company
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
LYONDELL 800-245-4532


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

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Flammable Liquids : Category 4
Acute toxicity; Oral : Category 4
Acute aquatic toxicity : Category 3

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

Label elements

Hazard symbols : 

Signal Word : Warning

Hazard Statements : H227 Combustible liquid.
H302 Harmful if swallowed.
H402 Harmful to aquatic life.

Precautionary Statements : **Prevention**
P210 Keep away from open flames/hot surfaces. - No smoking.

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P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
 P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
 P330 Rinse mouth.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

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
2-Butoxyethylacetate	112-07-2	<=100.0 %	A
2-Butoxyethanol	111-76-2	0.1 - 1.0 %	C

Key:

(A) Substance

(C) Impurity

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

General advice : Inhalation of high vapor concentrations can cause CNS-depression and narcosis.

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Consult a physician 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 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 : DO NOT induce vomiting. If vomiting does occur, have victim lean forward to reduce risk of aspiration. Get medical attention immediately. Aspiration may cause lung damage.

Notes to physician

- Hazards : Inhalation may cause CNS symptoms like headache, dizziness, fatigue, muscular weakness, drowsiness and lack of coordination.
- Treatment : There is good evidence that ethylene glycol monobutyl ether acetate (EGBEA) is hydrolyzed by esterases to its parent glycol ether, ethylene glycol monobutyl ether (EGBE). In vitro results with human red blood suggest that humans are more resistant to the hemolytic effects of EGBE than laboratory test animals such as mice, rats, and rabbits. These results suggest that hemolysis and secondary effects observed in laboratory animals are unlikely to occur in humans except in extreme cases when exposure is severe and/or prolonged. Indicators for treatment and observation include metabolic acidosis, urinary excretion of 2-butoxy acetic acid (BAA), hemolysis, or hematuria. Provide oxygen and/or ventilation assistance, if needed. 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 : 165 - 183 °F (74 - 84 °C)
Method: Tag closed cup

Autoignition temperature : No Data Available.

Lower explosion limit : 0.9 vol%
(tested at 93.3°C/200°F, 1 atm).

Upper explosion limit : 8.8 vol%
(tested at 93.3°C/200°F, 1 atm).

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 fighting : Fine sprays/mists may be combustible at temperatures below normal flash point.
Avoid sparks, heat, and open flame.
Vapors can travel to a source of ignition and flash back.
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 positive pressure self-contained breathing apparatus (SCBA).
Structural firefighter's protective clothing will only provide limited protection.

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.

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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 : Keep non-involved personnel away from the area of spillage. Treat recovered material as described in the section "Disposal considerations".

SECTION 7. HANDLING AND STORAGE**Handling**

Advice on safe handling : Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink or smoke in areas where this material is used.

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
2-Butoxyethylacetate	112-07-2	TWA	20 ppm	US (ACGIH) 2012	
2-Butoxyethanol	111-76-2	TWA	20 ppm	US (ACGIH) 2012	
2-Butoxyethanol	111-76-2	IDLH	700 ppm	NIOSH September 2007	

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2-Butoxyethanol	111-76-2	TWA	50 ppm 240 mg/m ³	US (OSHA) June 23, 2006	
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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 : Wear chemical resistant gloves (EN374) such as:
Butyl rubber.
Neoprene.
- Eye and face protection : Wear safety glasses as minimum eye protection. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987.
- 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.
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Use good personal hygiene practices.
Wash hands before eating, drinking, smoking, or using toilet facilities.
Take off contaminated clothing and wash before reuse.
Wash clothing frequently.

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

- Physical state : liquid
- Color : Colorless.

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Odor : Fruity.
Odor Threshold : 0.01 - 0.48 ppm

Safety data

Flash point : 165 - 183 °F (74 - 84 °C)
Method: Tag closed cup

Lower explosion limit : 0.9 vol%
(tested at 93.3°C/200°F, 1 atm).

Upper explosion limit : 8.8 vol%
(tested at 93.3°C/200°F, 1 atm).

Oxidizing properties : No Data Available.

Autoignition temperature : No Data Available.

Decomposition temperature : not determined

pH : 3 - 5

Melting point/freezing point : -82.3 °F (-63.5 °C)

Boiling point/boiling range : 378 °F (192 °C)
at 1,013 hPa (760 mm Hg)

Vapor pressure : 0.026 hPa (0.020 mm Hg)
at 77 °F (25 °C)

Density : 0.943 g/cm³
at 68 °F (20 °C)
(Water = 1)

Water solubility : 15 g/l
at 68 °F (20 °C)

Partition coefficient: n-octanol/water : log Pow: 1.51
at 77 °F (25 °C)

Viscosity, dynamic : No Data Available.

Viscosity, kinematic : 1.9 mm²/s
at 68 °F (20 °C)

1.3 mm²/s
at 104 °F (40 °C)

Relative vapor density : 5.5
(Air = 1.0)

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Evaporation rate : 0.03

Explosive properties : No Data Available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Will not occur.

Chemical stability : Stable under recommended storage conditions.

Conditions to avoid : Forms explosive peroxides on prolonged storage.

Materials to avoid : Strong acids
Strong oxidizing agents.
Zinc and Zinc alloys

Hazardous decomposition products : Carbon Monoxide and Carbon dioxide.

Thermal decomposition : Incomplete combustion may produce carbon monoxide and other toxic gases.

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 : Classified
Harmful if swallowed.
Ingestion may cause weakness, confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma.
Causes rapid damage to red blood cells and subsequent anemia.
May damage the kidneys.

: LD50: 1,880 mg/kg
Species: Rat

Acute inhalation toxicity : Based on acute toxicity values, not classified.
Exposure to vapor may cause irritation of the eyes, nose, or throat.

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	: LC50: > 3.91 mg/l Species: Rat
Acute dermal toxicity	: Based on acute toxicity values, not classified. : LD50: 1,500 mg/kg Species: Guinea pig
Skin corrosion/irritation	: Based on skin irritation values, not classified.
Serious eye damage/eye irritation	: Based on eye irritation values, not classified.
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	: Based on single exposure toxicity values, not classified.
Target Organ Systemic Toxicant - Repeated exposure	: Based on repeated exposure toxicity values, not classified., Results from acute and repeat exposure studies in rats, mice and rabbits indicate that EGBE causes injury to red blood cells

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with subsequent intravascular hemolysis and anemia, and secondary changes in the liver and kidney. Human and guinea pig red blood cells are resistant to EGBE injury and therefore the effects noted in sensitive species are not relevant to humans.

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

12. ECOLOGICAL INFORMATION**Ecotoxicology Assessment**

Acute aquatic toxicity : Classified
Harmful to aquatic life.

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

Toxicity to fish

2-Butoxyethylacetate : LC50: 22 mg/l
Exposure time: 96 HOURS
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates

2-Butoxyethylacetate : LC50: 37 mg/l
Exposure time: 48 HOURS
Species: Daphnia magna.
Immobilization

Toxicity to algae

2-Butoxyethylacetate : EC50: 1,570 mg/l
Exposure time: 72 HOURS
Species: Pseudokirchneriella subcapitata (green algae)
Growth inhibition

Toxicity to bacteria

2-Butoxyethylacetate : EC20: > 1,000 mg/l
Exposure time: 3 HOURS
Species: Activated sludge
Respiration inhibition
Low toxicity to sewage microbes.

Toxicity to fish (Chronic toxicity)

2-Butoxyethylacetate : no data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

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2-Butoxyethylacetate : EC10: 30.4 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia

Reproduction Test

Persistence and degradability

Biodegradability : 77 - 97 %
Rapidly degradable.
(After 28 days in a ready biodegradability test)

Bioaccumulative potential

Bioaccumulation : Bioconcentration factor (BCF): 4.61
Method: (QSAR calculated value)
This material is not expected to bioaccumulate.

Mobility in soil

Distribution among environmental compartments : Stability in water
Slow hydrolysis of ester acetate group is expected

: Stability in soil
no data available
Low absorption to soil particulates predicted

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 : Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes.
Comply with federal, state, or local regulations for disposal.

SECTION 14. TRANSPORT INFORMATION

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DOT

UN number : NA1993
Description of the goods : Combustible liquid, n.o.s.
 : (ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE)
Class : CL
Packing group : III
Labels : 3

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:

Fire Hazard.

Immediate (Acute) 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>
2-Butoxyethylacetate	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:

112-07-2 2-Butoxyethylacetate
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

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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

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)

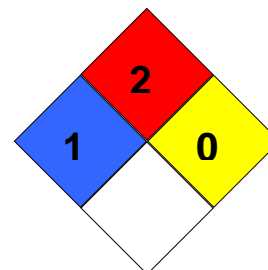
Contact product.safety@lyondellbasell.com for additional global inventory information.

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

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

**NFPA Classification**

: Health Hazard: 1
Fire Hazard: 2
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:

Updated format First Edition July 24 2014

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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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