

SAFETY DATA SHEET

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

Product identifier

Product name: Eastman(TM) DB Solvent

Product No.: EAN 902423. 01800-00, P0180000, P0180001, P0180002, P0180004, E01800E1, E01800E2, E01800E3, P0180007, P0180005, P0180006

Additional identification

Chemical name: 2-(2-butoxyethoxy)ethanol
CAS-No.: 112-34-5

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

Identified uses: Solvent

Uses advised against: None known.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnsds@eastman.com

Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard classification:

Health hazards

|| **Serious eye damage/eye irritation** **Category 2A**

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:



|| **Signal words:** **WARNING!**

Hazard Statement(s): H319: Causes serious eye irritation.**Precautionary statement:****Prevention:** P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.**Response:** 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.**Hazard(s) not otherwise classified (HNOC):** Peroxide former.**SECTION 3: Composition/information on ingredients****Substances / Mixtures****General information:**

Chemical name	Concentration	Additional identification	Notes
diethylene glycol monobutyl ether	100%	CAS-No.: 112-34-5	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

SECTION 4: First aid measures**Description of first aid measures****Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.**Skin contact:** Wash with soap and water. Get medical attention if symptoms occur.**Ingestion:** Seek medical advice.**Most important symptoms and effects, both acute and delayed:** May irritate and cause redness and pain.**Indication of any immediate medical attention and special treatment needed****Hazards:** None known.**Treatment:** Treat symptomatically.**SECTION 5: Firefighting measures****General fire hazards:** None known.

Extinguishing media

Suitable extinguishing media: Water spray. Dry chemical. Carbon Dioxide. Alcohol foam.

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture: Forms peroxides of unknown stability.

Advice for firefighters

Special fire fighting procedures: Fight fire from a protected location.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear appropriate personal protective equipment.

Environmental precautions: Avoid release to the environment.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling: Avoid contact with eyes. Wash thoroughly after handling. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store away from heat and light.

Specific end use(s): Solvent

SECTION 8: Exposure controls/personal protection**Control parameters****Occupational exposure limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

Chemical name	Type	Exposure Limit values	Source
2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether - Inhalable fraction and vapor.	TWA	10 ppm	US. ACGIH Threshold Limit Values (03 2013)

Exposure controls**Appropriate engineering controls:**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment**General information:**

Eye bath. Washing facilities. Safety shower.

Eye/face protection:

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection:**

It is a good industrial hygiene practice to minimize skin contact.

Other:

No data available.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures:

Observe good industrial hygiene practices.

Environmental Controls:

No data available.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Physical State:	Liquid
Form:	Liquid
Color:	colorless
Odor:	Faint
Odor Threshold:	No data available.
pH:	No data available.
Freezing Point:	-68 °C
Boiling Point:	230.4 °C
Flash Point:	114 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	Not applicable
Flammability Limit - Upper (%)-:	24.6 %(V)
Flammability Limit - Lower (%)-:	0.7 %(V)
Vapor pressure:	2.9 Pa (25 °C)
Vapor density (air=1):	5.6
Specific Gravity:	0.955 (20 °C)
Solubility(ies)	
Solubility in Water:	0.955 g/l (20 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	log Pow: 1
Autoignition Temperature:	210 °C
Decomposition Temperature:	No data available.
Dynamic Viscosity:	6 mPa.s (20 °C)
Kinematic viscosity:	6.28 mm ² /s (20 °C)
Explosive properties:	Not classified
Oxidizing properties:	Not classified

SECTION 10: Stability and reactivity

Reactivity:	None known.
Chemical stability:	Stable
Possibility of hazardous reactions:	Forms peroxides of unknown stability.
Conditions to avoid:	Incompatible materials.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation: None known.

Ingestion: None known.

Skin contact: None known.

Eye contact: Causes eye irritation.

Information on toxicological effects

Acute Toxicity

Oral

Product: No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
 diethylene glycol monobutyl
 ether Oral LD-50: (Rat): 4,500 mg/kg

Dermal

Product: No data available.

Specified substance(s)

2-(2-
 butoxyethoxy)ethanol;
 diethylene glycol
 monobutyl ether Dermal LD-50: (Rabbit): 2,764 mg/kg

Inhalation

Product: No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
 diethylene glycol monobutyl
 ether No data available.

Repeated dose toxicity

Product: No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
 diethylene glycol monobutyl
 ether NOAEL (Rat, in drinking water, 90 d): 250 mg/kg
 NOAEL (Rat, Dermal Study, 90 d): > 2,000 mg/kg (highest dose tested)
 NOAEL (Rat, Inhalation study:, 90 d): > 0.094 mg/l

Skin corrosion/irritation:

Product: No data available.

Specified substance(s)

2-(2-
 butoxyethoxy)ethanol;
 diethylene glycol
 monobutyl ether (Rabbit, 4 h): Slight

**Serious eye damage/eye
 irritation:**

Product: No data available.

Specified substance(s)

2-(2-
 butoxyethoxy)ethanol;
 diethylene glycol
 monobutyl ether (Rabbit, 24 h): moderate

Respiratory or skin sensitization:**Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol
monobutyl ether

Skin Sensitization:, (Guinea Pig) - non-sensitizing

Mutagenicity**In vitro****Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
etherMutagenicity - Bacterial, : negative +/- activation
Chromosomal aberration, : negative +/- activation
Mutagenicity - Mammalian, : negative +/- activation**In vivo****Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Carcinogenicity**Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Reproductive toxicity**Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Specific target organ toxicity - single exposure**Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Specific target organ toxicity - repeated exposure**Product:** No data available.**Specified substance(s)**2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Aspiration hazard

Product:	No data available.
Specified substance(s) 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	No data available.
Other adverse effects:	No data available.

SECTION 12: Ecological information

Toxicity

Acute toxicity

Fish

Product:	No data available.
Specified substance(s) 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	LC-50 (Fish, 96 h): 1,300 mg/l

Aquatic invertebrates

Product:	No data available.
Specified substance(s) 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	EC-50 (daphnid, 48 h): > 100 mg/l

Chronic Toxicity

Fish

Product:	No data available.
Specified substance(s) 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	No data available.

Aquatic invertebrates

Product:	No data available.
Specified substance(s) 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	No data available.

Toxicity to Aquatic Plants

Product:	No data available.
Specified substance(s) 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether	EC-50 (Alga, 96 h): > 100 mg/l

Persistence and degradability

Biodegradation

Product: No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

85 % (28 d, Ready Biodegradability: Modified MITI Test (I)) Readily biodegradable

Biological Oxygen Demand:

Product No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

BOD-5: 250 mg/g

Chemical Oxygen Demand:

Product No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

2,080 mg/g

BOD/COD ratio

Product No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Bioaccumulative potential

Product: No data available.

Specified substance(s)

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Mobility in soil:

No data available.

Known or predicted distribution to environmental compartments

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

**Results of PBT and vPvB
assessment:**

2-(2-butoxyethoxy)ethanol;
diethylene glycol monobutyl
ether

No data available.

Not fulfilling PBT
(persistent/bioaccumulative/toxic) criteria

Other adverse effects:

No data available.

SECTION 13: Disposal considerations**Waste treatment methods**

General information: No data available.

Disposal methods: Dispose of waste and residues in accordance with local authority requirements. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Class not regulated

IMDG - International Maritime Dangerous Goods Code

Class not regulated

IATA

Class not regulated

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: D/2/B

SARA 311-312 Hazard Classification(s):

immediate (acute) health hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List

DIETHYLENE GLYCOL MONOBUTYL ETHER (GLYCOL ETHERS CATEGORY)

OSHA: hazardous

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.KE-10466

Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 2, Flammability - 1, Chemical Reactivity - 1

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information: Not relevant.

Key literature references and sources for data: No data available.

Training information: No data available.

Issue date: 04/29/2014

SDS No.:

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.