

# SAFETY DATA SHEET

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

### Product identifier

**Product name:** Eastman(TM) EB Solvent

**Product No.:** EAN 902270. 00650-00, P0065000, P0065001, P0065002, P0065006, E00650E1, E00650E2, E00650E3, P0065007, P0065008, P0065009, P0065010, P0065011

**Synonyms, Trade Names:** 00650-00

### Additional identification

**Chemical name:** 2-butoxyethanol  
**CAS-No.:** 111-76-2

### 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](http://www.EASTMAN.com) or email [emnmsds@eastman.com](mailto:emnmsds@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:

#### Physical Hazards

Flammable liquids Category 4

#### Health Hazards

Acute toxicity (Oral) Category 4  
Skin Corrosion/Irritation Category 2  
Serious Eye Damage/Eye Irritation Category 2A  
Aspiration Hazard Category 1

**OSHA Specified Hazards:** not applicable

**Warning label items including precautionary statement:**

**Pictogram:**



**Signal Words:** DANGER!

**Hazard Statement(s):** H227: Combustible liquid.  
H304: May be fatal if swallowed and enters airways.  
H302: Harmful if swallowed.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.

**Precautionary Statement:**

**Prevention:** P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response:** P370+P378: In case of fire; Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P332+P313: If skin irritation occurs: Get medical advice/attention.  
P363: Wash contaminated clothing before reuse.  
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.  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P331: Do NOT induce vomiting.

**Storage:** P403+P235: Store in a well-ventilated place. Keep cool.  
P405: Store locked up.

**Disposal:** P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Hazard(s) not otherwise classified (HNOC):** None known.

### SECTION 3: Composition/information on ingredients

#### Substances / Mixtures

##### General information:

Chemical name	Concentration	Additional identification	Notes
2-butoxyethanol	100%	CAS-No.: 111-76-2	#

\* 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. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**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:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Ingestion:** Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

**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:** Glycol Ethers: Some glycol ethers cause adverse effects in animals that include the reproductive system, offspring, blood, kidney and liver.

**Treatment:** Treat symptomatically.

## SECTION 5: Firefighting measures

**General Fire Hazards:** Combustible liquid and vapor.

### 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:** Use water spray to keep fire-exposed containers cool.

**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:**

Eliminate sources of ignition. 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 breathing mists or vapors. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. 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 and in a well-ventilated place. 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-butoxyethanol	TWA	20 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	50 ppm 240 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

**Biological Limit Values**

Chemical name	Exposure Limit Values	Source
2-butoxyethanol (Butoxyacetic acid (BAA), with hydrolysis: Sampling time: End of shift.)	200 mg/g (Creatinine in urine)	ACGIH BEL (01 2010)

**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. Wear a full-face respirator, if needed.

**Skin protection**

**Hand Protection:** Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

**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**

<b>Physical State:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Mild sweet, ester
<b>Odor Threshold:</b>	0.48 ppm
<b>pH:</b>	No data available.
<b>Freezing Point:</b>	-75 °C
<b>Boiling Point:</b>	171 °C
<b>Flash Point:</b>	67 °C (Closed Cup)
<b>Evaporation Rate:</b>	0.1
<b>Flammability (solid, gas):</b>	No data available.
<b>Flammability Limit - Upper (%)-:</b>	No data available.
<b>Flammability Limit - Lower (%)-:</b>	No data available.

<b>Vapor pressure:</b>	1.17 hPa (25 °C)
<b>Vapor density (air=1):</b>	4
<b>Specific Gravity:</b>	0.90 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	900 g/l (25 °C)
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	Pow: 6.46 log Pow: 0.81
<b>Autoignition Temperature:</b>	No data available.
<b>Decomposition Temperature:</b>	124.7 °C (DSC) 21.7 J/g Weak exotherm
<b>Dynamic Viscosity:</b>	3.3 mPa.s (20 °C)
<b>Kinematic viscosity:</b>	3.642 mm <sup>2</sup> /s (20 °C)
<b>Explosive properties:</b>	No data available.
<b>Oxidizing properties:</b>	Not classified.

**Other information**

<b>Molecular weight:</b>	118.2 g/mol (C <sub>6</sub> H <sub>14</sub> O <sub>2</sub> )
<b>Minimum ignition temperature:</b>	230 °C (1,013 hPa, ASTM D2155)

**SECTION 10: Stability and reactivity**

<b>Reactivity:</b>	None known.
<b>Chemical Stability:</b>	Stable
<b>Possibility of Hazardous Reactions:</b>	Forms peroxides of unknown stability.
<b>Conditions to Avoid:</b>	Heat, sparks, flames.
<b>Incompatible Materials:</b>	Strong oxidizing agents.
<b>Hazardous Decomposition Products:</b>	Carbon Dioxide. Carbon Monoxide.

**SECTION 11: Toxicological information****Information on likely routes of exposure**

<b>Inhalation:</b>	None known.
<b>Ingestion:</b>	Harmful if swallowed. May be fatal if swallowed and enters airways.
<b>Skin Contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes eye irritation.

**Information on toxicological effects****Acute Toxicity****Oral**

<b>Product:</b>	Oral LD-50: (Rat): 1,300 mg/kg Oral LD-50: (Guinea Pig): 1,400 mg/kg
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**Dermal**

**Product:** Dermal LD-50: (Rat): > 2,000 mg/kg  
 Dermal LD-50: (Guinea Pig): > 2,000 mg/kg

**Inhalation**

**Product:** Vapour: LC50 (Rat, 3 h): > 4.9 mg/l  
 Vapour: LC0 (Guinea Pig, 1 h): > 3.4 mg/l

**Repeated Dose Toxicity**

**Product:** LOAEL (Rat, Oral Study): 69 mg/kg (Target Organ(s): Liver)  
 NOAEL (Rat, Dermal Study): 150 mg/kg  
 LOAEC (Rat, Inhalation study:): 152 mg/m<sup>3</sup> (Target Organ(s): Blood)

**Skin Corrosion/Irritation:**

**Product:** (Rabbit, 24 h): moderate

**Serious Eye Damage/Eye Irritation:**

**Product:** (Rabbit, 24 h): moderate

**Respiratory or Skin Sensitization:**

**Product:** Skin Sensitization:, (Guinea Pig) - Not a skin sensitizer.

**Mutagenicity**

**In vitro**

**Product:** Salmonella typhimurium assay (Ames test), : negative +/- activation

**In vivo**

**Product:** Chromosomal aberration intraperitoneal injection (Mouse, Male.): negative

**Carcinogenicity**

**Product:** Based on available data the classification criteria are not met. Not classified as hazardous.

**Reproductive Toxicity**

**Product:** Based on available data the classification criteria are not met. Not classified as hazardous.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Not classified.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** Not classified.

**Aspiration Hazard**

**Product:** Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Other Adverse Effects:**

No data available.

**SECTION 12: Ecological information****Toxicity****Acute toxicity****Fish****Product:** LC-50 (Oncorhynchus mykiss, 96 h): 1,474 mg/l**Aquatic Invertebrates****Product:** EC-50 (Water Flea, 48 h): 1,550 mg/l**Chronic Toxicity****Fish****Product:** NOEC (Zebra Fish, 21 d): > 100 mg/l**Aquatic Invertebrates****Product:** NOEC (daphnid, 21 d): 100 mg/l**Toxicity to Aquatic Plants****Product:** EC-50 (Algae (*Pseudokirchneriella subcapitata*), 72 h): 1,840 mg/l**Persistence and Degradability****Biodegradation****Product:** 90.4 % (28 d) Readily biodegradable**Biological Oxygen Demand:****Product** No data available.**Specified substance(s)**

2-butoxyethanol No data available.

**Chemical Oxygen Demand:****Product** No data available.**Specified substance(s)**

2-butoxyethanol No data available.

**BOD/COD Ratio****Product** No data available.**Specified substance(s)**

2-butoxyethanol No data available.

**Bioaccumulative Potential****Product:** Potential to bioaccumulate is low.**Mobility in Soil:**

Expected to partition to water.

**Results of PBT and vPvB assessment:**

Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent, very bioaccumulative) 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 combustible liquid, Packing group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities

Possible Shipping Description(s):

NA 1993 Combustible liquid, n.o.s. (ethylene glycol monobutyl ether) combustible liquid III

**IMDG - International Maritime Dangerous Goods Code**

Class not regulated

Possible Shipping Description(s):

not regulated

**IATA**

Class not regulated

Possible Shipping Description(s):

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:** B/3, D/1/A, D/2/B

**SARA 311-312 Hazard Classification(s):**

immediate (acute) health hazard  
delayed (chronic) health hazard  
fire hazard

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

2-BUTOXYETHANOL (ETHYLENE GLYCOL MONOBUTYL ETHER) (GLYCOL ETHER 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-04134

**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 - 2, 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:** 02/23/2015

**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.