

1. PRODUCT NAME: Glycol Ether EB
2. CHEMICAL NAME: Ethylene Glycol Monobutyl Ether
3. SYNONYMS:
4. CAS NUMBER: 11-76-2
5. COMPOSITION: Ethylene Glycol Monobutyl Ether (111-76-2)
- 100%

IN CASE OF
TRANSPORT EMERGENCY
CONTACT CHEMTREC
USA: 1-800-424-9300
INTERNATIONAL: 1-703-527-3887

6. PROPERTIES: ODOR & APPEARANCE: clear, colorless liquid with pleasant odor – odor is familiar domestic cleaners
ODOR THRESHOLD: 0.35ppm – 0.5ppm
VAPOUR PRESSURE: 0.76mmHg/0.101kPa (20 c)
EVAPORATION RATE (butyl Acetate=1): 0.08
VAPOR DENSITY (air=1): 4.1
BOILING RANGE: 171 c/340 F
FREEZING POINT: -70 F/-103 F
SPECIFIC GRAVITY: 0.902 (20/20 c)
WATER SOLUBILITY: complete
IN OTHER SOLVENTS: soluble in most organic solvents
VISCOSITY: 6.4 centipoise (20 c)
PH: none – this product does not yield hydrogen ions in solution
FLASH POINT: 62 c/143 F (closed cup) – most flash points for EB exceed 61 c, with 2 below 61 c
AUTOIGNITION TEMPERATURE: 238 c/460 F
FLAMMABLE LIMITS: 1.1% - 12.7%
COMBUSTION PRODUCTS: carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments
FIREFIGHTING PRECAUTIONS: foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA
STATIC DISCHARGE: will not accumulate a static charge
MECHANICAL IMPACT: not sensitive
CHEMICAL STABILITY: stable; will not polymerize
REACTIVE WITH: strong oxidizing agents; strong acids or alkalies
DECOMPOSITION PRODUCTS: may form explosive peroxides on prolonged exposure to light and air

7. HAZARDS: HMIS (USA): Health - 3, Fire - 1, Reactivity - 0

8. FIRE FIGHTING INFORMATION: Foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA.

9. PERSONAL PROTECTION MEASURES: HANDS: butyl rubber, “Viton”, or “Saranex” gloves
EYES: safety glasses with side shields or chemical goggles
VENTILATION: mechanical required to maintain vapor concentration below TWAEV, (2 above) respirator with organic vapor cartridge should be available for escape purposes in the event of ventilation failure
CLOTHING: impervious (hands, above) apron, boots, & long sleeves if splashing is anticipated

10. FIRST AID PROCEDURES: SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive
Matthews, NC 28105
(704) 845 9440

www.ciscochem.com

INHALATION: Remove from contaminated area promptly. **CAUTION:** Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.
NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity product. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

11. EXPOSURE LIMITS: IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH): 700ppm
ALLOWABLE TOLERANCE

Ethylene glycol monobutyl ether is exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.

OSHA STANDARDS

Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 50ppm (240mg/cu m). Skin Designation. Vacated 1989 OSHA PEL TWA 25ppm (120mg/cu m), skin designation, still enforced in some states.

NIOSH RECOMMENDATIONS

NIOSH Recommends reducing exposure to lowest feasible concentration & preventing contact with the skin. /Glycol ether/ Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5ppm (24mg/cu m).
Skin.

THRESHOLD LIMIT VALUES

8 hr Time Weighted Avg (TWA): 25ppm, skin. Excursion Limit Recommendation: Excursions in worker exposure levels may exceed three times the TLV - TWA for no more than a total of 30 min during a work day, and under no circumstances should they exceed five times the TLV-TWA, provided that the TLV-TWA is not exceeded. Notice of Intended Change for 2002: These substances, with their corresponding values and notations, comprise those for which a limit has been proposed for the first time or for which a change in the Adopted value is proposed. In each case, the proposed values should be considered trial values for the year following ratification by the ACGIH Board of Directors. If, during the year, no evidence comes to light that questions the appropriateness of these proposals, the values will be reconsidered for adoption as TLVs. A3; Confirmed animal carcinogen with unknown relevance to humans.

TWAEV ppm/mg/m³: 20 (skin)

LD50 ORAL: 320

SKIN (mg/kg): 220

LC50ppm INHALATION: 370

12. TOXICOLOGICAL EFFECTS ACUTE EXPOSURE

INFORMATION: SKIN CONTACT: drying, mild irritant

SKIN ABSORPTION: yes; toxic by this route

EYE CONTACT: liquid severely irritating, vapor irritating, redness & pain; may damage eyes

INHALATION: very toxic by inhalation, irritating, nasal discharge, chest pain, coughing, dizziness, nausea, drowsiness, headache – low vapor pressure makes this route of overexposure unlikely

INGESTION: burning sensation in mouth, throat, stomach; headache, dizziness, drowsiness, intoxication; metabolic acidosis, renal damage, & respiratory failure reported in 2 cases of deliberate ingestion – ingestion unlikely route of industrial exposure

EFFECTS OF CHRONIC EXPOSURE

GENERAL: experimental haemolytic agent (blood in urine) in rodents; no such effects have been reported in humans

SENSITISING: not a sensitizer

REPRODUCTIVE EFFECT: experimental mutagen and teratogen in rodents; no known effect in humans.



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive
Matthews, NC 28105
(704) 845 9440

www.ciscochem.com

Carcinogenicity & reproductive toxicity of this product was assumed from properties of glycol ethers EM, & EE. EB does NOT follow this pattern.

SYNERGISTIC WITH: not known

ESTIMATED LD50: 320mg/kg (oral, rabbit), 470 & 910mg/kg (oral, rat), 1230mg/kg (oral, mouse & guinea pig); 1200mg/kg (oral, mouse, guinea pig); 220mg/kg (skin, rabbit)

ESTIMATED LC50: 370 & 600ppm (inhalation, rat), 630ppm (guinea pig), 700ppm (mouse)

Note: LD50 & LC50 vary widely between species. Human toxicity may be lower than the above suggests.

13. ECOLOGICAL INFORMATION: This product cannot accumulate in living tissue, diluted, this product is readily and rapidly biodegradable in a wastewater treatment facility; BOD testing gives 73 & 88% degradation in 5 days & 20 days; half-life in air estimated as 20 hours.
14. DISPOSAL CONSIDERATIONS: DO NOT FLUSH TO SEWER; may be incinerated in approved facility.
15. CARCINOGENIC PROPERTIES & NOTIFICATIONS: No evidence of a carcinogenic & tumorigenic activity in humans.
16. TRANSPORT INFORMATION: USA 49 CFR
Product identification number: UN – 1993 (but see Note below)
Shipping name: Combustible liquid, N.O.S (ethylene glycol monobutyl ether)
Classification: Class 3; Combustible liquid
Label: Class 3, Combustible liquid – label bulk shipments only
WHMIS Class: B3, D 1A, D 2B
17. HANDLING & STORAGE: Store and use a cool dry environment, away from sources of ignition, heat and oxidizing agents. Use with adequate ventilation. Do not cut, drill, weld or grind on or near this container – vapor inside may ignite and explode. Warning: explosive peroxides may form on prolonged contact with air (although this process may also require light). If prolonged storage of a part drum is anticipated, flush headspace with nitrogen prior to sealing. Note: this product may be more toxic than common industrial solvents. “Skin” designation attached to the TWAEV means that vapor or liquid may be absorbed through the skin, adding to the total body burden. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near the workplace.
18. ACCIDENTAL RELEASE MEASURES: LEAK PRECAUTION: dyke to control spillage and prevent environmental contamination.
HANDLING SPILL: ventilate contaminated area thoroughly; recover free liquid with suitable pumps;
absorb residue on an inert sorbent, pick up using shovels & store in closed containers for disposal.
19. REGULATORY INFORMATION: IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH): 700ppm
ALLOWABLE TOLERANCE
Ethylene glycol monobutyl ether is exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.
OSHA STANDARDS
Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 50ppm (240mg/cu m). Skin Designation. Vacated 1989 OSHA PEL TWA 25ppm (120mg/cu m), skin designation, still enforced in some states.
NIOSH RECOMMENDATIONS
NIOSH Recommends reducing exposure to lowest feasible concn & preventing contact with the skin.
/Glycol ether/ Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5ppm (24mg/cu m). Skin.
THRESHOLD LIMIT VALUES



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive
Matthews, NC 28105
(704) 845 9440

www.ciscochem.com

8 hr Time Weighted Avg (TWA): 25ppm, skin. Excursion Limit Recommendation: Excursions in worker exposure levels may exceed three times the TLV - TWA for no more than a total of 30 min during a work day, and under no circumstances should they exceed five times the TLV-TWA, provided that the TLV-TWA is not exceeded. Notice of Intended Change for 2002: These substances, with their corresponding values and notations, comprise those for which a limit has been proposed for the first time or for which a change in the Adopted value is proposed. In each case, the proposed values should be considered trial values for the year following ratification by the ACGIH Board of Directors. If, during the year, no evidence comes to light that questions the appropriateness of these proposals, the values will be reconsidered for adoption as TLVs. A3; Confirmed animal carcinogen with unknown relevance to humans.

ATMOSPHERIC STANDARDS

This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. Ethylene glycol monobutyl ether is produced, as an intermediate or final product, by process units covered under this subpart.

TSCA REQUIREMENTS

Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting rule. The section 8(d) model rule requires manufactures, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Ethyl glycol mono-n-butyl ether is included on this list.

FIFRA REQUIREMENTS

Ethylene glycol monobutyl ether is exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.

FDA REQUIREMENTS

Ethylene glycol monobutyl ether is an indirect food additive for use only as a component of adhesives.