



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

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

www.ciscochem.com

1. PRODUCT NAME: Glycol Ether EE
2. CHEMICAL NAME: 2-Ethoxyethanol
3. SYNONYMS:
4. CAS NUMBER: 110-80-5
5. COMPOSITION: 2-Ethoxyethanol (140-80-5) - 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 mild, pleasant ether odor
ODOR THRESHOLD: 0.5 – 0.8ppm
VAPOUR PRESSURE: approx. 3.8mmHg/0.51kPa (20 c)
EVAPORATION RATE (butyl Acetate=1): 0.4
VAPOR DENSITY (air=1): 3.1
BOILING RANGE: 135 c/275 F
FREEZING POINT: -70 F/-94 F
SPECIFIC GRAVITY: 0.93 (20/20 c)
WATER SOLUBILITY: complete
IN OTHER SOLVENTS: soluble in most organic solvents
VISCOSITY: 2.1 centipoise (20 c)
PH: none – does not liberate hydrogen ions when dissolved
FLASH POINT: 43 c/110 F (closed cup)
AUTOIGNITION TEMPERATURE: 235 c/455 F
FLAMMABLE LIMITS: 1.7% - 15.6%
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: may accumulate a static charge – high viscosity makes static charge development unlikely
MECHANICAL IMPACT: not sensitive
CHEMICAL STABILITY: stable; will not polymerize
REACTIVE WITH: strong oxidizing agents; may react vigorously with strong acids or alkalies
DECOMPOSITION PRODUCTS: may form explosive peroxides on prolonged exposure to light and air

7. HAZARDS: HMIS (USA): Health - 1/2, Fire - 2, 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 or “Responder” gloves recommended – consult supplier to confirm suitability
EYES: safety glasses with side shields or chemical goggles – always protect the eyes
VENTILATION: not required unless product mist or vapor is created by handling
CLOTHING: no special protective clothing required

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.
INHALATION: Remove from contaminated area promptly. CAUTION: Rescuer must not endanger



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

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

www.ciscochem.com

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 IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH): 500ppm

LIMITS: OSHA STANDARDS

Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 200ppm (740mg/cu m). Skin Designation.

NIOSH RECOMMENDATIONS

NIOSH Recommends reducing exposure to lowest feasible concn & preventing contact with the skin.

/Glycol ethers/ Recommended Exposure Limit: 10Hr Time-Weighted Avg: 0.5ppm (1.8mg/cu m), skin.

THRESHOLD LIMIT VALUES

8 hr Time Weighted Avg (TWA): 5ppm, 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. Biological Exposure Index (BEI): Determinant: 2-ethoxyacetic acid in urine; Sampling Time: end of shift at end of workweek; BEI: 100mg/g creatinine.

TWAEV ppm/mg/m³: 5/18 (skin)

LD50 ORAL: 1275

SKIN (mg/kg): 3600

LC50ppm INHALATION: 1760

12. TOXICOLOGICAL EFFECTS ACUTE EXPOSURE

INFORMATION: SKIN CONTACT: mild irritant

SKIN ABSORPTION: yes; toxic effects may occur by this route

EYE CONTACT: slight irritating – will not damage eyes

INHALATION: central nervous depression; headache, sleepiness, dizziness, nausea

INGESTION: muscle spasms, pulmonary oedema, rapid breathing, metabolic acidosis, cyanosis (bluish cast), and thirst

EFFECTS OF CHRONIC EXPOSURE

GENERAL: prolonged exposure may cause severe skin cracking and dermatitis; may damage bone marrow, and immune system (unconfined effect)

SENSITISING: not a sensitizer

REPRODUCTIVE EFFECT: affects fertility in male rats; no proven effect in humans, but suspicion of effect

SYNERGISTIC WITH: ethyl alcohol

LD50: 2125mg/kg (oral, rat), 2450 & 4000mg/kg (oral, mouse), 1275mg/kg (oral, rabbit); 1400mg/kg (oral, guinea pig); 3600mg/kg (skin, rabbit), 3900mg/kg (skin, rat)

LC50: 2000ppm (inhalation, rat), over 1760ppm (inhalation, mouse)

13. ECOLOGICAL This product is cannot accumulate in living tissue, but elimination is slow with detectable quantities still
INFORMATION: present after 12 days; this product is readily and rapidly biodegradable in the presence of oxygen; BOD test gave 50-80% degradation in 5 days; half-life in air estimated as 32 hours.

14. DISPOSAL DO NOT FLUSH TO SEWER; may be incinerated in approved facility.
CONSIDERATIONS:

15. **CARCINOGENIC PROPERTIES & NOTIFICATIONS:** Not considered a tumorigen or a carcinogen in humans or animals.
16. **TRANSPORT INFORMATION:** USA 49 CFR
Product identification number: UN – 1171
Shipping name: Ethylene glycol monoethyl ether
Classification: Class 3; Packing Group II
Label: flammable liquid, Class 3
WHMIS Class: B3, D 1B, D 1A
17. **HANDLING & STORAGE:** Store and use a cool (below 40 c/100 F) dry environment, away from sources of ignition, heat and oxidizing agents. All electrical and mechanical equipment used with or around this product should be explosion-proof. Use non-sparking bronze or aluminium hand tools. Use with adequate ventilation. Do not cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near the workplace. If prolonged storage of part-containers of this product is anticipated, flush headspace with nitrogen prior to sealing.
18. **ACCIDENTAL RELEASE MEASURES:** **LEAK PRECAUTION:** dyke to control spillage and prevent environmental contamination. Fire Potential: blanket spill with foam as a precaution against accidental ignition. Take care to avoid sparks – only use explosion proof electrical equipment near spill.
HANDLING SPILL: ventilate contaminated area thoroughly; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using non-sparking plastic aluminium shovel & store in closed containers for recycling or disposal.
19. **REGULATORY INFORMATION:** **IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH):** 500ppm
OSHA STANDARDS
Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 200ppm (740mg/cu m). Skin Designation.
NIOSH RECOMMENDATIONS
NIOSH Recommends reducing exposure to lowest feasible concn & preventing contact with the skin.
/Glycol ethers/ Recommended Exposure Limit: 10Hr Time-Weighted Avg: 0.5ppm (1.8mg/cu m), skin.
THRESHOLD LIMIT VALUES
8 hr Time Weighted Avg (TWA): 5ppm, 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. Biological Exposure Index (BEI): Determinant: 2-ethoxyacetic acid in urine; Sampling Time: end of shift at end of workweek; BEI: 100mg/g creatinine.
ATMOSPHERIC STANDARDS: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOC-MI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCM 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 monoethyl ether is produced, as an intermediate or final product, by process units covered under this subpart.
STATE DRINKING WATER GUIDELINES: Florida 25,000 ug/l [QR] [REF – 108]
CERCLA REPORATBLE QUANTITIES
Persons in charge of vessels or facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 1000 lb or 454 kg. The NRC toll free number is (800) 424-8802; In the



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

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

www.ciscochem.com

Washington D.C metropolitan area (202) 426-2675. The rule for determining when notification is required is stated in 40 CFR 302.4. (section IV. D.3.b).

TSCA REQUIREMENTS

Multi-Substances Rule for the Testing of Neurotoxicity: EPA issued a final rule, under Section 4 of the Toxic Substances Control Act (TSCA), requiring manufacturers and processors of 2-ethoxyethanol to conduct testing for neurotoxicity. .../This cmpd/ is a volatile solvent with a high production volume. Occupational exposure, present in and/or released to the environment. ... This rule requires cognitive function and screening level tests for neurotoxicity.

RCRA REQUIREMENTS

U359; As stipulated in 40 CFR 261.33, when ethylene glycol monoethyl ether, as a commercial chemical product or manufacturing chemical intermediate or an off-specification commercial chemical product or a manufacturing chemical intermediate, becomes a waste, it must be managed according to Federal and/or State hazardous waste regulations. Also defined as a hazardous waste is any residue, contaminated soil, water, or other debris resulting from the cleanup of a spill, into water or on dry land, of this waste. Generators of small quantities of this waste may qualify for partial exclusion from hazardous waste regulations (40 CFR 261.5). F005; When 2-ethoxyethanol is a spent solvent, it is classified as a hazardous waste from a nonspecific source (F005), as stated in 40 CFR 261.31, and must be managed according to State and/or Federal hazardous waste regulations.

FDA REQUIREMENTS

Certification of this color additive when used as a ink for making food supplements in tablet form; gum, & confectionary (without leaving a residue) is not necessary for the protection of the public health and therefore batches thereof are exempt from the requirements of section 706(c) of the Federal Food, Drug, and Cosmetic Act. Ethylene glycol monoethyl ether is an indirect food additive for use only as a component of adhesives.