

Safety Data Sheet

2-Ethoxyethanol (Cellosolve)

Section 1 - Chemical Product and Company Identification

SDS Name: 2-Ethoxyethanol (Cellosolve)

Catalog Numbers: A-106-5

Company Identification: Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.
10 ELECTRONICS AVENUE
DANVERS, MA 01923

For information, call: 978-739-4883

Emergency Number: 800-424-9300

For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications

H226-Flammable liquids: 3

H302-Acute toxicity, oral: 4

H320-Serious eye damage/eye irritation: 2B

H332-Acute toxicity, inhalation: 4

H360-Reproductive toxicity: 1B

H373-Specific target organ toxicity, repeated exposure: 2

Pictograms or Hazard symbols and Hazard statement(s):



Signal Word: Danger

Hazard Statements:

H226-Flammable liquid and vapour

H302-Harmful if swallowed

H320-Causes eye irritation

H332-Harmful if inhaled

H360-May damage fertility or the unborn child

H373-May cause damage to organs through prolonged or repeated exposure (target organs: central nervous system, brain, liver, kidneys, blood, and bone marrow)

Precautionary Statements:

P201-Obtain special instructions before use.
P202-Do not handle until all safety precautions have been read and understood.
P210-Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233-Keep container tightly closed.
P240-Ground and bond container and receiving equipment.
P241-Use explosion-proof electrical/ventilating/lighting equipment.
P242-Use non-sparking tools.
P243-Take action to prevent static discharges.
P260-Do not breathe dust/fume/gas/mist/vapours/spray.
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.
P264-Wash 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.
P301+P312-If swallowed: Call a Poison Center/doctor if you feel unwell.
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340-If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338-If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313-If exposed or concerned: Get medical advice/attention.
P312-Call a Poison Center/doctor if you feel unwell.
P314-Get medical advice/attention if you feel unwell.
P330-Rinse mouth.
P337+P313-If eye irritation persists: Get medical advice/attention.
P370+P378-In case of fire: Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam to extinguish.
P403+P235-Store in a well-ventilated place. Keep cool.
P405-Store locked up.
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
110-80-5	2-Ethoxyethanol	≤100

Section 4 - First Aid Measures

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek medical attention.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention.

Oral Exposure: If swallowed, seek immediate medical advice. Rinse mouth with water.

Inhalation Exposure: If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Section 5 - Fire Fighting Measures

General Information: Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

Hazardous Combustion Products: Carbon oxides, peroxides, potentially hazardous fumes and gases.

Flash Point: 43°C (109.4°F) Closed Cup; 48.8°C (120°F) Open Cup

Autoignition Temperature: 235°C (455°F)

Explosion Limits, Lower: 1.7% at 93°C

Upper: 15.6% at 93°C

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 1

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation. Eliminate all sources of ignition. Keep away from heat. Take precautionary measures against static discharges. All equipment used when handling this material must be properly grounded.

Methods for Cleaning up: Absorb with sand, earth, or vermiculite. Carefully sweep up and containerize for proper disposal. Use only non-sparking tools and explosion-proof equipment. Take precautionary measures against static discharges. Do not release to the environment. Do not release to drains.

Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Use with adequate ventilation. Use only under a chemical fume hood. Avoid

contact with eyes, skin, and clothing. Do not ingest. Do not breathe vapors or mist. Use only non-sparking tools and explosion-proof equipment. Take precautionary measures against static discharge. All equipment used when handling this material must be properly grounded. Store capped at room temperature in a dry, and well-ventilated place. Avoid exposure to light and air. Keep away from incompatible materials. Protect from heat and sources of ignition. Vapors heavier than air may travel considerable distance and ignite or explode.

Note: The substance may form explosive peroxides. Reacts with strong oxidants causing a fire and explosion hazard. Attacks many plastics and rubber.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate chemical-resistant protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Exposure Limits:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
2-Ethoxyethanol CAS#110-80-5	5 ppm Skin TWA	0.5 ppm TWA 1.8 mg/m ³ TWA 500 ppm IDLH	200 ppm TWA 740 mg/m ³ TWA

OSHA Vacated PELs: 2-Ethoxyethanol: 200 ppm TWA; 740 mg/m³ Skin TWA

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Clear, colorless

Odor: Aromatic

Vapor Pressure: 0.5 kPa at 20°C (68°F); 0.708 kPa at 25°C (77°F)

Odor Threshold: 2.7ppm-49ppm

Vapor Density: 3.11

pH: Approx. 7.1

Relative Density: Not available

Melting point/freezing point: -70°C (-94°F)

Solubility: Soluble in water

Boiling Point: 135.1°C (275.2°F)
Flash Point: 43°C (109.4°F) Closed Cup; 48.8°C (120°F) Open Cup
Evaporation Rate: Not available
Flammability (solid, gas): Not applicable
Partition coefficient: n-octanol/water: -0.32
Autoignition Temperature: 235°C (455°F)
Decomposition Temperature: Not available
Viscosity: 2.08 mPa.s at 20°C (68°F)
Specific Gravity/Density: 0.93 g/mL at 25°C (77°F)

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, ignition sources, and excess heat. Avoid exposure to air and light.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, metals, plastics, rubber.
Hazardous Decomposition Products: Carbon oxides, peroxides, potentially hazardous fumes and gases.

Section 11 - Toxicological Information

CAS#110-80-5 2-Ethoxyethanol: RTECS#: KK8050000

LD50 Oral: 2800 mg/kg (rat)
LD50 Oral: 1400 mg/kg (guinea pig)
LD50 Dermal: 3300 mg/kg (rabbit)
LC50 Inhalation: 14.72 mg/L 4h vapor (rat)
LC50 Inhalation: 4267 ppm 4h (rat)

Carcinogenicity: 2-Ethoxyethanol CAS#110-80-5 is not listed by IARC, NTP, ACGIH, or OSHA. 2-Ethoxyethanol is listed by California Prop. 65 as a developmental carcinogen (male reproductive).

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, and eye.

Epidemiology: Not available.

Teratogenicity: May cause birth defects. Teratogenic effects have occurred in experimental animals.

Reproductive Effects: May damage fertility or the unborn child. Experiments have shown reproductive effects on laboratory animals.

Developmental Effects: Possible risk of harm to the unborn child. Developmental effects have occurred in experimental animals.

Neurotoxicity: Not available.

Mutagenicity: Mutagenic effects have occurred in experimental animals.

Specific Target Organ Toxicity, Single Exposure: Not available.

Specific Target Organ Toxicity, Repeated Exposure: Central nervous system, brain, liver, kidneys, blood, and bone marrow.

Symptoms associated with exposure: Inhalation exposure may cause cough, drowsiness, headache, shortness of breath, sore throat, weakness, fatigue, unconsciousness, irritation of the respiratory tract. Ingestion may cause abdominal pain, nausea, vomiting, diarrhea. May harm the urinary system, respiratory system. Eye contact may cause irritation, pain, redness, watering, blurred vision. Skin contact may cause dermatitis and may defat the skin. May be absorbed through the skin. May cause damage to the central nervous system, brain, liver, kidneys, blood, and bone marrow.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Do not release to the environment. Do not release to drains.

CAS#110-80-5 2-Ethoxyethanol:

LC50, freshwater fish: >10000 mg/L 96h static (Lepomis macrochirus)(bluegill)
EC50, freshwater algae: >1000 mg/L 72h (Desmodesmus subspicatus)(green algae)
EC50, water flea: 1892.52 mg/L 48h (Daphnia magna)
EC50, microtox: 430 mg/L 30min

Persistence and degradability: Persistence is unlikely based on available information.

Bio-accumulative potential: Potential for bioconcentration in aquatic organisms is low.

Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 - Transport Information

DOT

Proper shipping name: Ethylene Glycol Monoethyl Ether

UN1171

PG III

Hazard class 3 (flammable)

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information

SDS Creation Date: 2/2/12

Revision #1: 2/26/2014 YM. Co-sign RC 12/2/14

Revision #2: 2-4-16

Revision #3: 4-16-19

Revision #4: 4-5-22

Revision #5: 2-5-24

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Rowley Biochemical, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rowley Biochemical, Inc. has been advised of the possibility of such damages.