

Material Safety Data Sheet

Ethylene Glycol Monoethyl Ether Acetate

ACC# 27520

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethylene Glycol Monoethyl Ether Acetate

Catalog Numbers: E181-4

Synonyms: 2-Ethoxyethyl acetate; Oxitol acetate; Cellosolve acetate; Ethylene glycol monoethyl ether acetate; EGEEA; Ethylene glycol ethyl ether acetate.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
111-15-9	Ethylene Glycol Monoethyl Ether Acetate	ca. 100	203-839-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 51 deg C.

Warning! Flammable liquid and vapor. Causes eye irritation. Causes respiratory tract irritation. May be harmful if swallowed, inhaled, or absorbed through the skin. May cause skin irritation. May cause blood abnormalities. May form explosive peroxides. This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable. May cause central nervous system depression. May cause liver and kidney damage. Possible birth defect hazard. May cause birth defects based on animal data. May cause reproductive and fetal effects.

Target Organs: Blood, kidneys, central nervous system, liver, reproductive system.

Potential Health Effects

Eye: May cause eye irritation. May cause chemical conjunctivitis and corneal damage.

Skin: May cause skin irritation. May be absorbed through the skin. May cause irritation and dermatitis. May cause cyanosis of the extremities.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Ingestion of large amounts may cause CNS depression.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. May cause burning sensation in the chest.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Prolonged or repeated skin contact may cause defatting and dermatitis. Chronic exposure may cause reproductive disorders and teratogenic effects.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. 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. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

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

Flash Point: 51 deg C (123.80 deg F)
Autoignition Temperature: 380 deg C (716.00 deg F)
Explosion Limits, Lower:1.70 vol %
Upper: 10.10 vol %
NFPA Rating: (estimated) Health: 1; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store protected from light and air. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethylene Glycol Monoethyl Ether Acetate	5 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	0.5 ppm TWA; 2.7 mg/m3 TWA 500 ppm IDLH	100 ppm TWA; 540 mg/m3 TWA

OSHA Vacated PELs: Ethylene Glycol Monoethyl Ether Acetate: 100 ppm TWA; 540 mg/m3 TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate 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 respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: ester-like

pH: Not available.

Vapor Pressure: 2.34 mm Hg @ 25 deg C

Vapor Density: 4.72 (Air=1)

Evaporation Rate:0.2

Viscosity: 1.32 cP 20 deg C

Boiling Point: 156 deg C @ 760 mmHg

Freezing/Melting Point:-61 deg C

Decomposition Temperature:Not available.

Solubility: Soluble.

Specific Gravity/Density:.9750g/cm3

Molecular Formula:C6H12O3

Molecular Weight:132.16

Section 10 - Stability and Reactivity

Chemical Stability: Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation.

Conditions to Avoid: Light, ignition sources, excess heat, exposure to flame, prolonged exposure to air.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, coatings, nitrates, plastics, rubber.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:**CAS#** 111-15-9: KK8225000**LD50/LC50:**

CAS# 111-15-9:

Dermal, guinea pig: LD50 = >19460 mg/kg;

Draize test, rabbit, eye: 40 mg Moderate;

Inhalation, rabbit: LC50 = >2000 ppm/4H;

Inhalation, rat: LC50 = 12100 mg/m³/8H;

Oral, rabbit: LD50 = 1950 mg/kg;

Oral, rat: LD50 = 2700 mg/kg;

Skin, rabbit: LD50 = 10500 uL/kg;

Carcinogenicity:

CAS# 111-15-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found**Teratogenicity:** No information found**Reproductive Effects:** In experiments with laboratory animals, EGEEA has caused developmental abnormalities in the musculoskeletal, respiratory, cardiovascular, and urogenital systems. Paternal effects on the reproductive system and increases in the post-implantation mortality rate have also been observed. There have been no reports of adverse human experience attributed to EGEEA.**Mutagenicity:** No information found**Neurotoxicity:** No information found**Other Studies:**

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 42.2 mg/L; 96 Hr.; Flow-through, 25.4-27.4 degrees C, pH6.9-7.7 Fish: Goldfish: LC50 = 160.0 mg/L; 24 Hr.; Unspecified No data available.**Environmental:** Volatilization of ethylene glycol monoethyl ether acetate may occur from moist soil surfaces given an estimated Henry's Law constant of 1.8X10⁻⁶ atm-cu m/mole, calculated from experimental values for vapor pressure and water solubility. Volatilization from dry soil surfaces is expected based on a measured vapor pressure of 2.34 mm Hg, from experimentally-derived coefficients. The dominant degradation process for ethylene glycol monoethyl ether acetate in soil is expected to be biodegradation.**Physical:** ATMOSPHERIC FATE: According to a model of gas/particle partitioning of semivolatile organic compounds in the atmosphere, ethylene glycol monoethyl ether acetate, which has a measured vapor pressure of 2.34 mm Hg at 25 deg C, from experimentally-derived coefficients, will exist solely as a vapor in the ambient atmosphere. Vapor-phase ethylene glycol monoethyl ether acetate is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be about 1.2 day.**Other:** The Koc of ethylene glycol monoethyl ether acetate is estimated as approximately 5, using a measured water solubility of 229,000 mg/l at 20 deg C and a regression-derived equation. According to a recommended classification scheme, this estimated Koc value suggests that ethylene glycol monoethyl ether acetate has very high mobility in soil.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	No information available.
Hazard Class:	3	
UN Number:	UN1172	
Packing Group:	III	

Section 15 - Regulatory Information

US FEDERAL**TSCA**

CAS# 111-15-9 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

CAS# 111-15-9: Section 5

TSCA Significant New Use Rule

CAS# 111-15-9: This product is for research and development use only. It is subject to a SNUR which has specific requirements and restrictions. The specific citation for this product is 4040 CFR 721.10001.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 111-15-9: immediate, delayed, fire.

Section 313

This material contains Ethylene Glycol Monoethyl Ether Acetate (listed as Glycol ethers), ca. 100%, (CAS# 111-15-9) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 111-15-9 (listed as Glycol ethers (except for EGBE)) is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 111-15-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65**The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:**

WARNING: This product contains Ethylene Glycol Monoethyl Ether, a chemical known to the state of California to cause male reproductive toxicity.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

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Risk Phrases:

R 10 Flammable.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 60 May impair fertility.

R 61 May cause harm to the unborn child.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 111-15-9: 1

Canada - DSL/NDSL

CAS# 111-15-9 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D2B, D2A.

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

Canadian Ingredient Disclosure List

CAS# 111-15-9 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/07/1999

Revision #8 Date: 6/06/2006

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 Fisher 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 Fisher has been advised of the possibility of such damages.