

Material Safety Data Sheet

Diethylene glycol monobutyl ether

ACC# 07330

Section 1 - Chemical Product and Company Identification

MSDS Name: Diethylene glycol monobutyl ether

Catalog Numbers: AC149710000, AC149710010, AC149710025, AC149710050, D50-4

Synonyms:

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 |
|----------|-----------------------------------|---------|---------------|
| 112-34-5 | Diethylene glycol monobutyl ether | 99 | 203-961-6 |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 77.7 deg C.

Caution! May be absorbed through intact skin. **Combustible liquid and vapor.** May cause respiratory tract irritation. May cause skin irritation. May cause eye irritation. May cause digestive tract irritation. May be harmful if swallowed.

Target Organs: Kidneys, central nervous system.

Potential Health Effects

Eye: Causes eye irritation. May cause transient corneal injury.

Skin: Causes skin irritation. May be absorbed through the skin.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May be harmful if swallowed.

Inhalation: May cause respiratory tract irritation.

Chronic: May cause kidney injury. Repeated exposure may cause central nervous system damage. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), acidosis, and quick, shallow breathing.

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.

Ingestion: 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 immediately.

Inhalation: Remove from exposure and move to fresh air immediately. Get medical aid.

Notes to Physician: Administration of Sodium bicarbonate may be of value to treat acidosis. Monitor kidney and liver function and arterial blood gases closely.

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. Containers may explode when heated. Combustible liquid and vapor.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: 77.7 deg C (171.86 deg F)

Autoignition Temperature: 227.7 deg C (441.86 deg F)

Explosion Limits, Lower: .70 vol %

Upper: 5.30 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. Provide ventilation.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. 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. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|-----------------------------------|-------------|-------------|-------------------|
| Diethylene glycol monobutyl ether | none listed | none listed | none listed |

OSHA Vacated PELs: Diethylene glycol monobutyl ether: No OSHA Vacated PELs are listed for this chemical.

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 protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: Faint, mild, characteristic odor.

pH: Not available.

Vapor Pressure: .01 mm Hg @ 20 deg C

Vapor Density: 5.6

Evaporation Rate: <0.01 (butyl acetate=1)

Viscosity: 0.0649 cps @ 20 deg C

Boiling Point: 231 deg C @ 760 mm Hg

Freezing/Melting Point: -68 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: .9536 @ 20°C

Molecular Formula: C₈H₁₈O₃

Molecular Weight: 162.23

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat, strong oxidants.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 112-34-5: KJ9100000

LD50/LC50:

CAS# 112-34-5:

Draize test, rabbit, eye: 20 mg Severe;

Draize test, rabbit, eye: 20 mg/24H Moderate;

Oral, mouse: LD50 = 2400 mg/kg;

Oral, mouse: LD50 = 6050 mg/kg;

Oral, rabbit: LD50 = 2200 mg/kg;

Oral, rat: LD50 = 5660 mg/kg;

Oral, rat: LD50 = 4500 mg/kg;

Skin, rabbit: LD50 = 2700 mg/kg;

Oral, rat: LD50 = 1746-10502 mg/kg rat: LD50 = 1746-15918

Carcinogenicity:

CAS# 112-34-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: LC50 = 1300 mg/L; 96 Hr.; Static conditions, 23 degrees C Fish: Goldfish: LC50 = 2700 mg/L; 24 Hr.; Unspecified Water flea Daphnia: LC50 = 2850 mg/L; 24 Hr.; Unspecified Goldfish, LC50=2700mg/24hr.; Atlantic silverside, TL50=2000ppm/96hr.

Environmental: In soil and water, this chemical is highly mobile and undergoes aerobic biodegradation.

Physical: According to a model of gas/particle partitioning of semivolatile organic compounds in the atmosphere, diethylene glycol mono-n-butyl ether, which has a measured vapor pressure of 0.06 mm Hg at 25 deg C, will exist solely as a vapor in the ambient atmosphere. Vapor-phase diethylene glycol mono-n-butyl ether 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 10 hours. Alcohols and ethers do not absorb UV light in the environment.

Other: Diethylene glycol mono-n-butyl ether is not expected to volatilize from water surfaces based on an estimated Henry's Law constant of 1.3×10^{-8} atm-cu m/mole, calculated from experimental values for vapor pressure and water solubility. According to a classification scheme, an estimated BCF value of 2, from a measured log Kow, suggests that bioconcentration in aquatic organisms is low.

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: | Not regulated as a hazardous material | No information available. |
| Hazard Class: | | |
| UN Number: | | |
| Packing Group: | | |

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 112-34-5 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

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

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 # 112-34-5: immediate, delayed, reactive.

Section 313

This material contains Diethylene glycol monobutyl ether (listed as Glycol ethers), 99%, (CAS# 112-34-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 112-34-5 (listed as Glycol ethers) 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# 112-34-5 can be found on the following state right to know lists: Pennsylvania, (listed as Glycol ethers).

California Prop 65

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:

XI

Risk Phrases:

R 36 Irritating to eyes.

Safety Phrases:

S 24 Avoid contact with skin.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

WGK (Water Danger/Protection)

CAS# 112-34-5: 1

Canada - DSL/NDSL

CAS# 112-34-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D2B.

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# 112-34-5 is listed on the Canadian Ingredient Disclosure List.

| |
|-------------------------------------|
| Section 16 - Additional Information |
|-------------------------------------|

MSDS Creation Date: 6/09/1999

Revision #4 Date: 4/27/2005

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.