

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Hygroscopic -- keep container tightly sealed. The health risks of this compound have not been fully determined. Exposure may cause irritation of the skin, eyes, and respiratory system.	   

Section I. Chemical Product and Company Identification

Chemical Name	Diethylene Glycol Monoethyl Ether		
Catalog Number	E0048	Supplier	TCI America 9211 N. Harbortgate St. Portland OR 1-800-423-8616
Synonym	Carbitol		
Chemical Formula	CH ₃ CH ₂ OCH ₂ CH ₂ OCH ₂ CH ₂ OH		
CAS Number	111-90-0	In case of Emergency Call	Chemtec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Diethylene Glycol Monoethyl Ether	111-90-0	Min. 99.0 (GC)	Not available.	Not available.

Section III. Hazards Identification

Acute Health Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. SEEK IMMEDIATE MEDICAL ATTENTION in case of ingestion of a radioactive material.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	96°C (204.8°F).	Flammable Limits	LOWER: 1.2% UPPER: 23.5%
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release MeasuresSpill Cleanup
Instructions

Hygroscopic material.
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and StorageHandling and Storage
Information

HYGROSCOPIC. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, acids.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

Personal Protection

Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.



Exposure Limits

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C

Liquid. (Clear, colorless.)

Solubility

Miscible with ether, pyridine, acetone, benzene, chloroform, ethanol.

Specific Gravity

0.987 (water=1)

Molecular Weight

134.17

Partition Coefficient

Not available.

Boiling Point

195°C (383°F)

Vapor Pressure

0 kPa (@ 20°C)

Melting Point

-54°C (-65.2°F)

Vapor Density

4.63 (Air = 1)

Refractive Index

1.4273 @ 20°C

Volatility

Not available.

Critical Temperature

Not available.

Odor

Fruity.

Viscosity

Not available.

Taste

Bitter.

Section X. Stability and Reactivity Data

Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability

Avoid excessive heat and light.

Incompatibilities

Reactive with strong oxidizing agents, strong acids, acid chlorides, and acid anhydrides.

Section XI. Toxicological Information

RTECS Number

KK8750000

Routes of Exposure

Eye Contact. Ingestion. inhalation.

Toxicity Data

Not available.

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY Not available.
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Section XII. Ecological Information

Ecotoxicity

Not available.

Environmental Fate

Diethylene glycol monoethyl ether may be released to the environment via various effluents at sites where it is produced or used as a solvent. If released to the atmosphere, diethylene glycol monoethyl ether will exist solely in the vapor phase in the ambient atmosphere, based on a measured vapor pressure of 0.126 mm Hg at 25 deg C. Vapor-phase diethylene glycol monoethyl ether is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with a half-life of about 12 hours. An estimated Koc value of 12 suggests that diethylene glycol monoethyl ether will have very high mobility in soil. Volatilization from moist soil surfaces should not occur based on an estimated Henry's Law constant of 2.2×10^{-8} atm-cu m/mole. Volatilization may be significant from dry soil surfaces based on the vapor pressure of this compound. Diethylene glycol monoethyl ether is not expected to undergo hydrolysis or direct photolysis in the environment. Aqueous screening test data indicate that biodegradation is likely to be the most important removal mechanism of diethylene glycol monoethyl ether from both aerobic soil and water. Biodegradation ranging from 48-87% was reported in non-acclimated cultures incubated for 20 days. In water, diethylene glycol monoethyl ether is not expected to adsorb to sediment or particulate matter based on its Koc value. This compound is not expected to volatilize from water surfaces given its estimated Henry's Law constant. Bioconcentration in aquatic organisms is expected to be low based on an estimated BCF value of 0.2. Occupational exposure may occur through dermal contact or inhalation at workplaces where it is produced or used. Atmospheric workplace exposures have been documented. Limited monitoring data indicate that non-occupational exposures can occur from the ingestion of contaminated drinking water supplies.

Section XIII. Disposal Considerations

Waste Disposal

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification

Not a DOT controlled material (United States).

PIN Number

Not applicable.

Proper Shipping Name

Not applicable.

Packing Group (PG)

Not applicable.

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)

This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada)

Not available.

EINECS Number (EEC)

203-919-7

EEC Risk Statements

Not available.

Japanese Regulatory Data

ENCS No. 2-0422

Section XVI. Other Information**Version 1.0****Validated on 1/8/2002.****Printed 2/15/2005.****Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.