

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	<p>Flammable material; avoid heat and sources of ignition. Harmful compound, minimize exposure. Teratogen. May form explosive peroxides. Heat and light sensitive. Store under nitrogen.</p>	

Section I. Chemical Product and Company Identification

Chemical Name	1,2-Dimethoxyethane		
Catalog Number	D0634	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Ethylene Glycol Dimethyl Ether		
Chemical Formula	CH ₃ OCH ₂ CH ₂ OCH ₃		
CAS Number	110-71-4	In case of Emergency Call	Chemtrec® (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
1,2-Dimethoxyethane	110-71-4	Min. 99.0(GC)	Not available.	Rat LD ₅₀ (intraperitoneal) 800mg/kg Mouse LD ₅₀ (intraperitoneal) 400mg/kg Mouse LD ₅₀ (oral) 3200mg/kg

Section III. Hazards Identification

Acute Health Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY/REPRODUCTIVE EFFECTS: Rat TDLo (Oral), 660mg/kg, female, 8-18 Days of pregnancy. Toxic Effects: Effects on Fertility- Post-implantation mortality. Specific Developmental Abnormalities- Musculoskeletal system. Specific Developmental Abnormalities- Homeostasis. Rat TDLo (Oral), 660mg/kg, female, 8-18 Days of pregnancy. Toxic Effects: Effects on Newborn- Stillbirth. Effects on Newborn- Live birth index. Effects on Newborn- Viability index. Mouse TDLo (Oral), 1960mg/kg, female, 7-10 Days of pregnancy. Toxic Effects: Effects on Embryo or Fetus- Fetal death. Specific Developmental Abnormalities- Other developmental abnormalities. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.</p>

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.

Section V. Fire and Explosion Data			
Flammability	Flammable.	Auto-Ignition	202°C (395.6°F)
Flash Points	-2°C (28.4°F).	Flammable Limits	LOWER: 1.6% UPPER: 10.4%
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	Flammable liquid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures	
Spill Cleanup Instructions	Flammable material. Harmful material. Teratogenic material. May form explosive peroxides. Heat and light sensitive. Store under nitrogen. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage	
Handling and Storage Information	FLAMMABLE. HARMFUL. TERATOGEN. MAY FORM EXPLOSIVE PEROXIDES. HEAT AND LIGHT SENSITIVE. STORE UNDER NITROGEN. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray. 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 water and alcohol. Soluble in Hydrocarbon solvents, chloroform, ether, acetone, and benzene.
Specific Gravity	0.87 (water=1)		
Molecular Weight	90.12	Partition Coefficient	Not available.
Boiling Point	82 to 83°C (179.6 to 181.4°F)	Vapor Pressure	6.4 kPa (@ 20°C)
Melting Point	-58°C (-72.4°F)	Vapor Density	3.1 (Air = 1)
Refractive Index	1.3813 @ 20 °C	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data	
Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Sensitive to heat and light.
Incompatibilities	Reactive with oxidizing agents, strong acids.

Section XI. Toxicological Information	
RTECS Number	KI1451000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD ₅₀ (intraperitoneal) 800mg/kg Mouse LD ₅₀ (intraperitoneal) 400mg/kg Mouse LD ₅₀ (oral) 3200mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY/REPRODUCTIVE EFFECTS : Rat TDLo (Oral), 660mg/kg, female, 8-18 Days of pregnancy. Toxic Effects: Effects on Fertility- Post-implantation mortality. Specific Developmental Abnormalities- Musculoskeletal system. Specific Developmental Abnormalities- Homeostasis. Rat TDLo (Oral), 660mg/kg, female, 8-18 Days of pregnancy. Toxic Effects: Effects on Newborn- Stillbirth. Effects on Newborn- Live birth index. Effects on Newborn- Viability index. Mouse TDLo (Oral), 1960mg/kg, female, 7-10 Days of pregnancy. Toxic Effects: Effects on Embryo or Fetus- Fetal death. Specific Developmental Abnormalities- Other developmental abnormalities. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information	
Ecotoxicity	Not available.
Environmental Fate	1,2-Dimethoxyethane's production and use as a solvent and solubilizer may result in its release to the environment through various waste streams. If released to the atmosphere, 1,2-dimethoxyethane will mainly exist in the vapor phase in the ambient atmosphere based on a measured vapor pressure of 48 mm Hg at 20 deg C. Vapor-phase 1,2-dimethoxyethane is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals with an estimated half-life of about 25 hours. An estimated Koc of 18 suggests that 1,2-dimethoxyethane will have very high mobility in soil. Volatilization of 1,2-dimethoxyethane may be possible from dry soil surfaces, based on its vapor pressure, but will be very slow from moist soil surfaces given an estimated Henry's Law constant of 1.1X10 ⁻⁶ atm-cu m/mole. Limited data, based on pure culture studies, suggest that this compound may be resistant to biodegradation in both soil and water. 1,2-Dimethoxyethane is not expected to adsorb to suspended matter in the water column based on its Koc value. 1,2-Dimethoxyethane may volatilize from slowly water surfaces given an estimated Henry's Law constant of 1.1X10 ⁻⁶ atm-cu m/mole. Estimated half-lives for a model river and model lake are 33 and 240 days, respectively. Bioconcentration in aquatic organisms will be low based on an estimated BCF value of 0.4. Exposure to 1,2-dimethoxyethane may occur occupationally during its production or during its use as a solvent.

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	CLASS 3: Flammable liquid.
PIN Number	UN2252
Proper Shipping Name	1,2-Dimethoxyethane
Packing Group (PG)	II
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. This product is subject to SARA Section 313 reporting requirements.
WHMIS Classification (Canada)	CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
EINECS Number (EEC)	203-794-9
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R19- May form explosive peroxides. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R46- May cause heritable genetic damage. R47- May cause birth defects.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

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Notice to Reader

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household, 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.