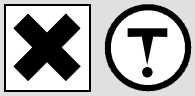
TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Harmful compound, minimize exposure.** **Irritating to skin, eyes, and the respiratory system.** **CARCINOGEN. MINIMIZE EXPOSURE.**	

Section I. Chemical Product and Company Identification

Chemical Name: **Dichloromethane Anhydrous** (stabilized with 2-Methyl-2-butene)

Catalog Number	D3478
Synonym	Methylene Chloride Anhydrous
Chemical Formula	CH_2C_2
CAS Number	75-09-2

Supplier
TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

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
Dichloromethane Anhydrous (stabilized with 2-Methyl-2-butene)	75-09-2	Min. 99.0%(GC)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD_{50} (oral) 1600 mg/kg Rabbit LD_{50} (oral) 2000 mg/kg Rat LD_{50} (inhalation) 52g/m^3

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. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Carcinogenic by RTECS criteria.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : TUMORIGENIC EFFECTS
Rat TCLo Inhalation; 3500 ppm/6 hours/2 years intermittent
TOXIC EFFECTS
Tumorigenic - Carcinogenic by RTECS criteria
Endocrine - Tumors
TCLo Inhalation; 102000 mg/kg/102 weeks intermittent
TOXIC EFFECTS
Tumorigenic - Carcinogenic by RTECS criteria
Skin and Appendages - Tumors
Blood - Leukemia
Mouse TCLo Inhalation; 122400 mg/kg/102 weeks intermittent
TOXIC EFFECTS
Tumorigenic - Carcinogenic by RTECS criteria
Lung, Thorax, or Respiration - Tumors
Liver - Tumors
DEVELOPMENTAL TOXICITY: REPRODUCTIVE EFFECTS
Rat TCLo Inhalation; 4500 ppm/24 hours; female 1 to 17 days of pregnancy
TOXIC EFFECTS
Effects on Newborn - Behavioral
TCLo Inhalation; 1250 ppm/7 hours; female 6 to 15 days of pregnancy
TOXIC EFFECTS
Specific Developmental Abnormalities - Musculoskeletal system
Specific Developmental Abnormalities - Urogenital system
Mouse TCLo Inhalation; 1250 ppm/7 hours; female 6 to 15 days of pregnancy
TOXIC EFFECTS
Specific Developmental Abnormalities - Musculoskeletal system
Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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 for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

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.

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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	May be combustible at high temperature.	Auto-Ignition	556.1°C (1033°F)
Flash Points	100°C (212°F).	Flammable Limits	LOWER: 12% UPPER: 25%
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 Measures

Spill Cleanup Instructions	Harmful Material. Irritating Material. Carcinogenic Material. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information	HARMFUL. IRRITANT. CARCINOGEN. Keep locked up.. 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. Wear suitable protective clothing. 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, metals, alkalis (bases).

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. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, Colorless.)	Solubility	Slightly soluble in water (1.3g/100mL @ 20°C) Miscible in acetone, ether, alcohol, chloroform, carbon tetrachloride.
Specific Gravity	1.33 (water=1)		
Molecular Weight	84.93	Partition Coefficient	LOG P_{ow} 1.25
Boiling Point	39°C (102.2°F)	Vapor Pressure	353.1 mmHg (@ 20°C)
Melting Point	-95°C (-139°F)	Vapor Density	2.9 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Chloroform like.
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	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, metals, strong alkalis (bases), aluminum, alkali metals, magnesium powders, potassium, sodium, concentrated nitric acid. This compound will attack some forms of plastic, rubber, and coatings.

Continued on Next Page Emergency phone number (800) 424-9300

Section XI. Toxicological Information

RTECS Number

PA8050000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Rat LD_{50} (oral) 1600 mg/kg
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Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity

Not available.

Environmental Fate

Dichloromethane's production and use as solvent, chemical intermediate, grain fumigant, paint stripper and remover, metal degreaser, and refrigerant may result in its release to the environment through various waste streams. If released to air, a vapor pressure of 435 mm Hg at 25 deg C indicates dichloromethane will exist solely as a vapor in the ambient atmosphere. Vapor-phase dichloromethane will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 119 days. It will not be subject to direct photolysis. If released to soil, dichloromethane is expected to have very high mobility based upon an estimated Koc of 24. Volatilization from moist soil surfaces is expected to be an important fate process based upon a estimated Henry's Law constant of 3.25X10-3 atm-cu m/mole. Dichloromethane may volatilize from dry soil surfaces based upon its vapor pressure. Biodegradation in soil may occur based on activated sludge studies. If released into water, dichloromethane is not expected to adsorb to suspended solids and sediment in water based upon the estimated Koc. Biodegradation is possible in natural waters but will probably be very slow compared with evaporation. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 1 hr and 4 days, respectively. An estimated BCF of 2 suggests the potential for bioconcentration in aquatic organisms is low. Hydrolysis is not an important degradation process under normal environmental conditions. Occupational exposure to dichloromethane may occur through inhalation and dermal contact with this compound at workplaces where dichloromethane is produced or used. The general population may be exposed to dichloromethane via inhalation of ambient air, ingestion of food and drinking water, and dermal contact with consumer products, such as paint strippers, which contain dichloromethane.

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.

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Section XIV. Transport Information

DOT Classification	DOT Class 6.1: Toxic material.
PIN Number	UN1593
Proper Shipping Name	Dichloromethane.
Packing Group (PG)	III
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)	CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). On DSL.
EINECS Number (EEC)	200-838-9
EEC Risk Statements	R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R45- May cause cancer.
Japanese Regulatory Data	ENCS No. (2)-36

Section XVI. Other Information

Version 1.0
Validated on 11/29/2007.
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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.