








Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	Toxic compound, do not ingest or inhale. Avoid all contact with this material. Irritating to skin, eyes, and the respiratory system. Carcinogenic material.	   

Section I. Chemical Product and Company Identification

Chemical Name	Dichloromethane (Stabilized with 2-Methyl-2-butene) [for HPLC Solvent]		
Catalog Number	M0629	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Methylene Dichloride		
Chemical Formula	CH ₂ Cl ₂		
CAS Number	75-09-2	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 <small>(Stabilized with 2-Methyl-2-butene) [for HPLC Solvent]</small>	75-09-2	Min. 99.5 (GC)	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.	Human LD _{Lo} (oral) 357mg/kg Rat LD ₅₀ (oral) 1600mg/kg Rat LC ₅₀ (inhalation) 52000mg/m ³ Mouse LC ₅₀ (inhalation) 14400ppm/7H

Section III. Hazards Identification

Acute Health Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. 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 : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic: rat (inhalation) 3500ppm/6H/2 yeat intermittent. Tumorigenic- Carcinogenic by RTECS criteria. mouse (inhalation) 2000ppm/5H/2 years continuous. Tumorigenic- Carcinogenic by RTECS criteria. DEVELOPMENTAL TOXICITY Reproductive: rat (inhalation) 1250ppm/7H. Duration: female 6-15 days of pregnancy. Specific developmental abnormalities- Musculoskeletal system. Specific developmental abnormalities- Urogenital system. rat (inhalation) 4500ppm/24H. Duration: female 1-17 days of pregnancy. Effects on newborn- Behavioral. 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. IMMEDIATELY flush eyes with running water for at least 15 minutes. keeping eyelids open. COLD water may be used. DO NOT use an eye oitment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thorough wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
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, administer artificial respiration. 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 and, if possible, show the chemical label. Treat symptomatically and supportively.

(Stabilized with 2-Methyl-2-butene) [for HPLC Solvent]

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), halogenated compounds. WARNING: Highly toxic HCl gas is produced during combustion.		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
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. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO ₂ , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.		


Section VI. Accidental Release Measures

Spill Cleanup Instructions	Toxic material. Irritating material. Carcinogenic material. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and exercise caution. Absorb with an inert material and put the spilled material in an appropriate waste disposal. Consult federal, state, and/or local authorities for assistance on disposal.
----------------------------	---

Section VII. Handling and Storage

Handling and Storage Information	TOXIC. IRRITANT. CARCINOGEN. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. 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 or 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.
----------------------------------	--

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 possible carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid.	Solubility	Soluble in about 50 parts water. Miscible with alcohol, ether, DMF.
Specific Gravity	1.33		
Molecular Weight	84.93	Partition Coefficient	Not available.
Boiling Point	39.8 to 40°C (103.6 to 104°F)	Vapor Pressure	1265.616 mm Hg
Melting Point	-97°C (-142.6°F)	Vapor Density	2.9
Refractive Index	1.4244 @ 20°C	Volatility	Not available.
Critical Temperature	Not available.	Odor	Sweet pleasant odor.
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 oxidizing agents, aluminum, amides.

(Stabilized with 2-Methyl-2-butene) [for HPLC Solvent]

Section XI. Toxicological Information

RTECS Number	PA8050000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Human LD ₅₀ (oral) 357mg/kg Rat LD ₅₀ (oral) 1600mg/kg Rat LC ₅₀ (inhalation) 52000mg/m ³ Mouse LC ₅₀ (inhalation) 14400ppm/7H
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic: rat (inhalation) 3500ppm/6H/2 yeat intermittent. Tumorigenic- Carcinogenic by RTECS criteria. mouse (inhalation) 2000ppm/5H/2 years continuous. Tumorigenic- Carcinogenic by RTECS criteria. DEVELOPMENTAL TOXICITY Reproductive: rat (inhalation) 1250ppm/7H. Duration: female 6-15 days of pregnancy. Specific developmental abnormalities- Musculoskeletal system. Specific developmental abnormalities- Urogenital system. rat (inhalation) 4500ppm/24H. Duration: female 1-17 days of pregnancy. Effects on newborn- Behavioral. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. 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.


Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Large quantities of dichloromethane are used each year, primarily in aerosols, paint removers and chemical processing. The major route of human exposure is from air, which can be high near sources of emission, and contaminated drinking water. Most of the dichloromethane will be released to the atmosphere where it will degrade by reaction with photochemically produced hydroxyl radicals with a half-life of a few months. It will be subject to direct photolysis. Releases to water will primarily be removed by evaporation. Biodegradation is possible in natural waters but will probably be very slow compared with evaporation. It will not be expected to significantly adsorb to sediment or to bioconcentration in aquatic organisms. Releases to soil will evaporate rapidly from near-surface soil and partially leach into groundwater where its fate is unknown. Dichloromethane is not expected to bioconcentrate in the food chain,

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	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)	Not available.
EINECS Number (EEC)	200-838-9
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin.
Japanese Regulatory Data	Not available.

Continued on Next Page

Emergency phone number (800) 424-9300

Section XVI. Other Information**Version 1.0****Validated on 1/25/2000.****Printed 3/9/2005.****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.