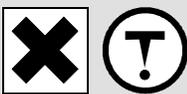


# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Harmful compound, minimize exposure. Irritating to skin, eyes, and the respiratory system. Carcinogenic material.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>1,1,2-Trichloroethane</b>		
Catalog Number	T0381	Supplier	TCl America 9211 N. Harborsgate St. Portland OR 1-800-423-8616
Synonym	Vinyl Trichloride		
Chemical Formula	CICH <sub>2</sub> CHCl <sub>2</sub>		
CAS Number	79-00-5	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
1,1,2-Trichloroethane	79-00-5	Min. 98.0 (GC)	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD <sub>50</sub> (oral) 836mg/kg Rat LD <sub>50</sub> (intraperitoneal) 265mg/kg Mouse LD <sub>50</sub> (intraperitoneal) 494mg/kg Rabbit LD <sub>50</sub> (dermal) 3730µL/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. 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	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic: mouse (oral) 27000mg/kg/78 weeks intermittent. Tumorigenic- Carcinogenic by RTECS criteria. mouse (oral) 76000mg/kg/78 weeks intermittent. Tumorigenic- Carcinogenic by RTECS criteria. <b>DEVELOPMENTAL TOXICITY</b> Not available. 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 ointment. 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	If the victim is not breathing, perform artificial respiration. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention. 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.

**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 include toxic carbon oxides (CO,CO <sub>2</sub> ), 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 <sub>2</sub> , 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	Harmful 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. 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.
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**Section VII. Handling and Storage**

Handling and Storage Information	HARMFUL. 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, alkalis (bases).
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**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. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 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	Colorless liquid.	Solubility	Miscible with organic liquids, >10% in chloroform, >10% in ethanol, >10% in ethyl ether.
Specific Gravity	1.44		Miscible with esters, ketones, ethers. Soluble in water (4.50g/L @ 20°C), ethanol, chloroform and diethyl ether.
Molecular Weight	133.40	Partition Coefficient	Not available.
Boiling Point	110 to 115°C (230 to 239°F)	Vapor Pressure	18.8 mm Hg @ 20°C
Melting Point	-37°C (-34.6°F)	Vapor Density	4.55
Refractive Index	1.4711 @ 20°C	Volatility	Not available.
Critical Temperature	Not available.	Odor	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	Reacts violently with; sodium, potassium, magnesium, aluminum and is heat sensitive. Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, strong alkalis (bases).

**Section XI. Toxicological Information**

RTECS Number	KJ3150000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD <sub>50</sub> (oral) 836mg/kg Rat LD <sub>50</sub> (intraperitoneal) 265mg/kg Mouse LD <sub>50</sub> (intraperitoneal) 494mg/kg Rabbit LD <sub>50</sub> (dermal) 3730µL/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic: mouse (oral) 27000mg/kg/78 weeks intermittent. Tumorigenic- Carcinogenic by RTECS criteria. mouse (oral) 76000mg/kg/78 weeks intermittent. Tumorigenic- Carcinogenic by RTECS criteria. <b>DEVELOPMENTAL TOXICITY</b> Not available. 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	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	1,1,2-Trichloroethane will enter the atmosphere from its use in the manufacture of vinylidene chloride and its use as a solvent. It will also be discharged in wastewater associated with these uses and in leachates and volatile emissions from landfills. Releases to water will primarily be lost through evaporation. Once in the atmosphere, 1,1,2-trichloroethane will photodegrade slowly by reaction with hydroxyl radicals (half-life 24-50 days in unpolluted atmospheres to a few days in polluted atmospheres). 1,1,2-Trichloroethane has a low soil partition coefficient and will readily leach where biodegradation, if it occurs, may be very slow. Bioconcentration is not a significant process. Primary human exposure is from occupational exposure and from ambient air in the vicinity of industrial sources and contaminated drinking water.

**Section XIII. Disposal Considerations**

Waste Disposal	Recycle to process, if possible. Consult your local or 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	UN2810
Proper Shipping Name	Toxic, liquids, organic, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

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

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	Not available.
EINECS Number (EEC)	201-166-9
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	Not available.

**Section XVI. Other Information****Version 1.0****Validated on 7/30/1999.****Printed 3/11/2005.****Notice to Reader**

TCl 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.

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