








Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	<p>Combustible material; avoid heat and sources of ignition. Toxic compound, do not ingest or inhale. Avoid all contact with this material. Irritating to skin, eyes, and the respiratory system. Sensitizer. Possible carcinogenic material. Light-sensitive material.</p>	   

Section I. Chemical Product and Company Identification

Chemical Name	1,2-Dichlorobenzene		
Catalog Number	D1116	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	o-Dichlorobenzene		
Chemical Formula	C ₆ H ₄ Cl ₂		
CAS Number	95-50-1	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-Dichlorobenzene	95-50-1	Min. 98.0 (GC)	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD ₅₀ (oral) 500mg/kg Rabbit LD ₅₀ (dermal) >10000mg/kg Mouse LD ₅₀ (oral) 4386mg/kg

Section III. Hazards Identification

Acute Health Effects	<p>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.</p>
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY Not available. The substance is toxic to kidneys, lungs, the nervous system, liver. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.</p>

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. 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.

Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	647°C
Flash Points	69°C (156.2°F)	Flammable Limits	Lower: 2.2% vol. Upper: 9.2% vol.
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	Combustible material. Toxic material. Irritating material. Sensitizing material. Possible carcinogenic material. Light-sensitive material. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Consult federal, state, and/or local authorities for assistance on disposal.
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Section VII. Handling and Storage

Handling and Storage Information	COMBUSTIBLE. TOXIC. IRRITANT. SENSITIZER. POSSIBLE CARCINOGEN. LIGHT-SENSITIVE. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes. Always store away from incompatible compounds such as oxidizing agents.
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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. 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	Colorless liquid.	Solubility	Soluble in alcohol, ether, acetone and benzene. Solubility in water; 137mg/L @ 25°C.
Specific Gravity	1.30	Partition Coefficient	3.38
Molecular Weight	147.00	Vapor Pressure	1.2 mmHg @ 20°C
Boiling Point	178 to 182°C (352.4 to 359.6°F)	Vapor Density	5.1
Melting Point	-17 to -14°C (1.4 to 6.8°F)	Volatility	100% by volume
Refractive Index	1.5515 @ 20°C	Odor	Pleasant aromatic odor.
Critical Temperature	Not available.	Taste	Not available.
Viscosity	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 light. Avoid excessive heat and light.
Incompatibilities	Reactive with oxidizing agents, aluminum, and aluminum alloys.

Section XI. Toxicological Information

RTECS Number	CZ4500000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD ₅₀ (oral) 500mg/kg Rabbit LD ₅₀ (dermal) >10000mg/kg Mouse LD ₅₀ (oral) 4386mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY Not available. The substance is toxic to kidneys, lungs, the nervous system, liver. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.
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	Chemical waste dump leachates and direct manufacturing effluents are reported to be the major source of pollution of the chlorobenzenes (including the dichlorobenzenes) to Lake Ontario. The major source of 1,2-dichlorobenzene emission to the atmosphere has been reported to be solvent applications which may emit 25% of annual production to the atmosphere. If released to soil, 1,2-dichlorobenzene can be moderately to tightly adsorbed. Leaching from hazardous waste disposal areas has occurred and the detection of 1,2-dichlorobenzene in various groundwaters indicates that leaching can occur. Volatilization from soil surfaces may be an important transport mechanism. It is possible that 1,2-dichlorobenzene will be slowly biodegraded in soil under aerobic conditions. Chemical transformation by hydrolysis, oxidation or direct photolysis are not expected to occur in soil. If released to water, adsorption to sediment will be a major environmental fate process based upon extensive monitoring data in the Great Lakes area and Koc values. Analysis of Lake Ontario sediment cores has indicated the presence and persistence of 1,2-dichlorobenzene since before 1940. 1,2-Dichlorobenzene is volatile from the water column with an estimated half-life of 4.4 hours from a model river one meter deep flowing 1 m/sec with a wind velocity of 3 m/sec at 20°C; adsorption to sediment will attenuate volatilization. Aerobic biodegradation in water may be possible, however, anaerobic biodegradation is not expected to occur. Experimental BCF values of 66-560 have been reported and 1,2-dichlorobenzene has been detected in trout from Lake Ontario. Aquatic hydrolysis, oxidation and direct photolysis are not expected to be important. If released to air, 1,2-dichlorobenzene will exist predominantly in the vapor-phase and will react with photochemically produced hydroxyl radicals at an estimated half-life rate of 24 days in a typical atmosphere. Direct photolysis in the troposphere is not expected to be important. The detection of 1,2-dichlorobenzene in rainwater suggests that atmospheric removal via wash-out is possible. General population exposure to 1,2-dichlorobenzene may occur through oral consumption of contaminated drinking water and food (particularly fish) and through inhalation of contaminated air since 1,2-dichlorobenzene has been detected in widespread ambient air.

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 this substance.
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Section XIV. Transport Information

DOT Classification	DOT CLASS 6.1: Toxic material.
PIN Number	UN1591
Proper Shipping Name	o-Dichlorobenzene
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.
WHMIS Classification (Canada)	WHMIS CLASS B-3: Combustible liquid with a flash point between 35°C (100°F) and 93.3°C (200°F).
EINECS Number (EEC)	202-425-9
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.

Section XVI. Other Information

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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, 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.

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