

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	<p>May react violently and/or evolve heat upon exposure to heat, shock and friction.</p> <p>Flammable material; avoid heat and sources of ignition.</p> <p>Corrosive to eyes and skin on contact.</p> <p>Toxic compound, do not ingest or inhale. Avoid all contact with this material.</p>	

Section I. Chemical Product and Company Identification

Chemical Name	Propargyl Chloride (70% in Toluene)		
Catalog Number	P1273	Supplier	TCI America 9211 N. Harborsgate St. Portland OR 1-800-423-8616
Synonym	2-Chloro-1-propyne		
Chemical Formula	CH:CCH ₂ Cl		
CAS Number	624-65-7 108-88-3 (toluene)	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
Propargyl Chloride (70% in Toluene)	624-65-7 108-88-3 (toluene)	70 30	Toluene: ACGIH TLV-TWA: 50ppm (188mg/m ³) OSHA PEL: 8H TWA 100ppm (375mg/m ³); STEL: 150ppm (560mg/m ³)	Rat LD ₅₀ (oral) 636mg/kg Rat LC ₅₀ (inhalation) 49000mg/m ³ /4H Human TC _{Lo} (inhalation) 200ppm (toluene)

Section III. Hazards Identification

Acute Health Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness 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.</p> <p>MUTAGENIC EFFECTS : Not available.</p> <p>TERATOGENIC EFFECTS : Not available.</p> <p>DEVELOPMENTAL TOXICITY: (toluene) Reproductive: rat (inhalation) 1200ppm/6H. Duration: female 9-12 days of pregnancy.</p> <p>Effects on newborn- Delayed effects.</p> <p>rat (inhalation) 2000ppm/6H. Duration: female 7-17 days of pregnancy.</p> <p>Maternal effects- Other effects.</p> <p>Effects on newborn- Physical.</p> <p>Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</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	If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. 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	DO NOT induce vomiting. 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	Flammable.	Auto-Ignition	Not available.
Flash Points	-15°C (5°F). 4°C (toluene)	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	Reactive with strong oxidizers. Vapors may travel to source of ignition and flash back. Closed containers may explode from heat of a fire. Highly flammable in presence of open flames and sparks, of heat.		
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	Flammable liquid. SMALL FIRE: Use DRY chemicals, CO ₂ , alcohol foam or water spray. LARGE FIRE: Use alcohol foam, water spray or fog.		

Section VI. Accidental Release Measures	
Spill Cleanup Instructions	May react violently and/or evolve heat upon exposure to heat, shock and friction. Flammable liquid. Corrosive liquid. Toxic material. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. 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	MAY REACT VIOLENTLY AND/OR EVOLVE HEAT UPON EXPOSURE TO HEAT, SHOCK AND FRICTION. FLAMMABLE. CORROSIVE. TOXIC. Handle with caution and minimize exposure. Keep container dry. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Never add water to this product. 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. Reactive with strong oxidizers; may be ignited by heat, sparks or flames. Vapors may travel to source of ignition and flash back. Closed containers may explode from heat of a fire. Empty containers may pose a fire risk. Evaporate residue under a fume hood if possible. Ground all equipment containing material. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Tightly seal container and store in a cool, dry place. Use only non-sparking hand tool when handling this product.

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	Face shield. 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	Toluene: ACGIH TLV-TWA: 50ppm (188mg/m ³) OSHA PEL: 8H TWA 100ppm (375mg/m ³); STEL: 150ppm (560mg/m ³)

Section IX. Physical and Chemical Properties			
Physical state @ 20°C	Orange liquid.	Solubility	Soluble in petroleum ether. Miscible with alcohol, chloroform, ether, acetone, glacial acetic acid and carbon disulfide. (toluene)
Specific Gravity	0.98 0.866 (toluene)	Partition Coefficient	Not available.
Molecular Weight	74.51	Vapor Pressure	22 mm Hg @ 20°C (toluene)
Boiling Point	110 to 112°C (230 to 233.6°F) (toluene)	Vapor Density	3.2 (toluene)
Melting Point	Not available.	Volatility	Not available.
Refractive Index	1.4967 @ 20°C (toluene)	Odor	Sweet, pungent, benzene-like odor. (toluene)
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	Avoid excessive heat and light.
Incompatibilities	Reactive with oxidizing agents and ammonia.

Section XI. Toxicological Information

RTECS Number	XS5250000 (toluene)
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD ₅₀ (oral) 636mg/kg Rat LC ₅₀ (inhalation) 49000mg/m ³ /4H Human TC _{LO} (inhalation) 200ppm (toluene)
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : (toluene) Reproductive: rat (inhalation) 1200ppm/6H. Duration: female 9-12 days of pregnancy. Effects on newborn- Delayed effects. rat (inhalation) 2000ppm/6H. Duration: female 7-17 days of pregnancy. Maternal effects- Other effects. Effects on newborn- Physical. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. 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	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness 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	Toluene is released into the atmosphere principally from the volatilization of petroleum fuels and toluene-based solvents and thinners and from motor vehicle exhaust. Considerable amounts are discharged into waterways or spilled on land during the storage, transport and disposal of fuels and oils. If toluene is released to soil, it will be lost by evaporation from near-surface soil and by leaching to the groundwater. Biodegradation occurs both in soil and groundwater, but it is apt to be slow especially at high concentrations, which may be toxic to microorganisms. The presence of acclimated microbial populations may allow rapid biodegradation. It will not significantly hydrolyze in soil or water under normal environmental conditions. If toluene is released into water, its concn will decrease due to evaporation and biodegradation. This removal can be rapid or take several weeks, depending on temperature, mixing conditions, and acclimation of microorganisms. It will not significantly adsorb to sediment or bioconcentrate in aquatic organisms. If toluene is released to the atmosphere, it will degrade by reaction with photochemically produced hydroxyl radicals (half-life 3 hr to slightly over 1 day) or be washed out in rain. It will not be subject to direct photolysis. The primary source of human exposure is from inhalation of contaminated ambient air, especially in traffic or near filling stations, or in occupational atmospheres where toluene-based solvents are used.

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.
----------------	---

Section XIV. Transport Information

DOT Classification	DOT CLASS 3: Flammable liquid. DOT CLASS 6.1: Toxic material. DOT CLASS 8: Corrosive liquid.
PIN Number	UN3286
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s.
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.
WHMIS Classification (Canada)	WHMIS CLASS B-2: Flammable liquid with a flash point lower than 35°C (100°F). WHMIS CLASS E: Corrosive liquid.
EINECS Number (EEC)	210-856-9
EEC Risk Statements	R11- Highly flammable. R18- In use, may form flammable/explosive vapor-air mixture. R35- Causes severe burns. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

Version 1.0
Validated on 9/17/1999.
Printed 3/19/2005.

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.