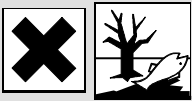


Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Harmful compound, minimize exposure. Irritating to skin, eyes, and the respiratory system. Environmental hazard. This material is very toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment.	

Section I. Chemical Product and Company Identification

Chemical Name	2,3,5,6-Tetrachloronitrobenzene		
Catalog Number	T0624	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	Not available.		
Chemical Formula	C ₆ HCl ₄ NO ₂		
CAS Number	117-18-0	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
2,3,5,6-Tetrachloronitrobenzene	117-18-0	Min. 98.0 (GC)	Not available.	Rat LD ₅₀ (oral) 7500 mg/kg Rat LD ₅₀ (unreported) 250 mg/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	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

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. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
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.
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	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂), halogenated compounds. WARNING: Highly toxic HCl gas is produced during combustion.		
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. Environmentally hazardous material. Use a shovel to put the material into a convenient waste disposal container. 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. ENVIRONMENTAL HAZARD. 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 breathe dust. Always store away from incompatible compounds such as oxidizing agents, alkalis (bases).
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Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (Light brown lumps.)	Solubility	Soluble in water (0.44mg/L @20 °C).
Specific Gravity	Not available.		
Molecular Weight	260.89	Partition Coefficient	LOG P _{ow} : 3.98
Boiling Point	304 °C (579.2°F)	Vapor Pressure	Not applicable.
Melting Point	100 °C (212°F)	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
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, strong alkalis (bases).

Section XI. Toxicological Information

RTECS Number	DC0175000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD ₅₀ (oral) 7500 mg/kg Rat LD ₅₀ (unreported) 250 mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
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.
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Environmental Fate	Tecnazene's production may result in its release to the environment through various waste streams; its former use in the US as fungicide and growth regulator will have resulted in its direct release to the environment. As a technical impurity of pentachloronitrobenzene, tecnazene may be released to the environment during pentachloronitrobenzene production and use. If released to air, a vapor pressure of 1.8X10 ⁻³ mm Hg at 15 deg C indicates tecnazene will exist solely as a vapor in the atmosphere. Vapor-phase tecnazene 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 6.1 years. If released to soil, tecnazene is expected to have no mobility based upon an estimated K _{oc} of 5750. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 2.3X10 ⁻⁵ atm-cu m/mole. However, adsorption to soil is expected to attenuate volatilization. Tecnazene biodegradation was observed in Yolo fine sandy loam soil; after 60, 120, 180, 240, and 300 days incubation at 25 deg C, biodegradation values of 8%, 21%, 23%, 26%, and 24% were obtained, respectively, after correction for losses due to volatilization. If released into water, tecnazene is expected to adsorb to suspended solids and sediment based upon the estimated K _{oc} . Insufficient data are available to predict tecnazene's biodegradation in water. Volatilization from water surfaces is expected to be an important fate process based upon this compound's estimated Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 10 hours and 8 days, respectively. However, volatilization from water surfaces is expected to be attenuated by adsorption to suspended solids and sediment in the water column. The estimated volatilization half-life from a model pond is 33 months if adsorption is considered. BCFs of 1362, 1600 and 2200 in Lake Ontario rainbow trout show bioconcentration in aquatic organisms is very high. Occupational exposure and general population exposure should be low or non-existent since tecnazene is no longer produced or used in the US (Spring, 1998). In the past, tecnazene was applied directly to warehoused produce as a dispersible powder or in smoke formulations and exposure to this compound was primarily by dermal and inhalation in the storage facilities where it was applied.
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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 9: Miscellaneous
PIN Number	UN3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This product is NOT on the EPA Toxic Substances Control Act (TSCA) inventory. The following notices are required by 40 CFR 720.36 (C) for those products not on the inventory list: (i) These products are supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720.0 et sec. (ii) The health risks of these products have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.
WHMIS Classification (Canada)	Not available.
EINECS Number (EEC)	204-178-2
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. R50- Very toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

Version 1.0
Validated on 10/22/2009.
Printed 10/22/2009.

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.