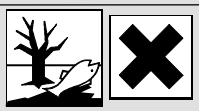
TCI AMERICA

Material Safety Data Sheet

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

Section I. Chemical Product and Company Identification

Chemical Name **Pentachlorobenzene**

Catalog Number	P0730
Synonym	Benzene, 1,2,3,4,5-pentachloro- (CA INDEX NAME)
Chemical Formula	C_6HCl_5
CAS Number	608-93-5

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

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
Pentachlorobenzene	608-93-5	Min. 98.0 (GC)	Not available.	Rat LD_{50} (oral) 1080 mg/kg Mouse LD_{50} (oral) 1175 mg/kg Rat LD_{50} (dermal) >2500 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: Reproductive Effects.
Rat TDLo Oral 1802 mg/kg, male 13 weeks prior to mating
TOXIC Effects:
Paternal Effects - Spermatogenesis
Rat TDLo Oral 2000 mg/kg, female 6-15 days of pregnancy
TOXIC Effects:
Effects on Embyo or Fetus - Other effects to embryo
Specific Developmental Abnormalities - Musculoskeletal system
TDLo Oral 2 gm/kg, female 6-15 days of pregnancy
TOXIC Effects:
Specific Developmental Abnormalities - Musculoskeletal system
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), halogenated compounds.
WARNING: Highly toxic HCl gas is produced during combustion.

Fire Hazards

Not available.

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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	Environmentally hazardous material. Harmful material. Irritating 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.

Section VII. Handling and Storage

Handling and Storage Information	ENVIRONMENTAL HAZARD. HARMFUL. IRRITANT. 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, acids, alkalis (bases).

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. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 
Exposure Limits	Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (Off-white, lumps.)	Solubility	Not available.
Specific Gravity	1.609 (water=1)		
Molecular Weight	250.34	Partition Coefficient	Not available.
Boiling Point	275 to 277°C (527 to 530.6°F)	Vapor Pressure	Not applicable.
Melting Point	84 to 87°C (183.2 to 188.6°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 strong oxidizing agents, acids, alkalis (bases), dimethylformamide.

Section XI. Toxicological Information

RTECS Number	DA6640000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD_{50} (oral) 1080 mg/kg Mouse LD_{50} (oral) 1175 mg/kg Rat LD_{50} (dermal) >2500 mg/kg
Chronic Toxic Effects	**CARCINOGENIC EFFECTS** : Not available. **MUTAGENIC EFFECTS** : Not available. **TERATOGENIC EFFECTS** : Not available. **DEVELOPMENTAL TOXICITY**: Reproductive Effects. Rat TDLo Oral 1802 mg/kg, male 13 weeks prior to mating TOXIC Effects: Paternal Effects - Spermatogenesis Rat TDLo Oral 2000 mg/kg, female 6-15 days of pregnancy TOXIC Effects: Effects on Embyo or Fetus - Other effects to embryo Specific Developmental Abnormalities - Musculoskeletal system TDLo Oral 2 gm/kg, female 6-15 days of pregnancy TOXIC Effects: Specific Developmental Abnormalities - Musculoskeletal system Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Continued on Next Page **Emergency phone number (800) 424-9300**

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	Pentachlorobenzene's production and use as a starting reagent in the manufacture of the fungicide quintozene (pentachloronitrobenzene) may result in its release to the environment through various waste streams. It is a technical impurity of this pesticide and therefore, may also enter the environment as a result of the use of quintozene. Based upon a vapor pressure of 6.5X10-3 mm Hg at 25 deg C, pentachlorobenzene is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase pentachlorobenzene is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an estimated atmospheric half-life of about 277 days. Pentachlorobenzene is expected to be immobile in soils based upon log Koc values in the range of 3.5-5.1 measured in soils and sediment. Volatilization of pentachlorobenzene from dry soil surfaces is not expected based upon the vapor pressure of this compound. Volatilization from moist soil surfaces is expected based on the Henry's Law constant of 7.1X10-4 atm-cu m/mole at 20 deg C, but this process may be attenuated due to adsorption. Pentachlorobenzene was shown to be resistant to degradation in laboratory soil tests with half-lives of 194 and 345 days reported in duplicate experiments. In water, pentachlorobenzene is expected to adsorb to sediment or particulate matter based on its measured Koc values. This compound is expected to volatilize from water surfaces given its Henry's Law constant, but adsorption may attenuate this process. Estimated volatilization half-lives for a model river and model lake are 7 and 160 hours, respectively, when neglecting adsorption. The volatilization half-life from a model pond is about 11 months when adsorption is considered. Pentachlorobenzene may undergo photolysis in surface waters based on 41 percent photodegradation when irradiated with light greater than 290 nm in water solution after 24 hrs. Bioconcentration in aquatic organisms is very high based on BCF values in the range of 1,100 to 6,800 measured in fish. Occupational exposure may be through inhalation and dermal contact with this compound at workplaces where pentachlorobenzene is produced or used. Exposure may also arise in occupations where the pesticide quintozene is produced and used. The general population may be exposed to pentachlorobenzene via inhalation of ambient air, ingestion of food and drinking water.

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 9: Miscellaneous hazardous material.
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 compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	On DSL
EINECS Number (EEC)	210-172-0
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. R51- Toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment.
Japanese Regulatory Data	ENCS No. 3-76

Section XVI. Other Information

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Notice to Reader