



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

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# MATERIAL SAFETY DATA SHEETS

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Manufacturer: PHARMCO-AAPER  
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## 1,2,4-Trichlorobenzene

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### 1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: 1,2,4-Trichlorobenzene  
Synonym(s): Trichlorobenzenes  
Molecular Formula: C<sub>6</sub>H<sub>3</sub>Cl<sub>3</sub>  
Molecular Weight: 181.45

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No	Percent	Hazardous
1,2,4-Trichlorobenzene	120-82-1	90 - 100%	Yes

### 3. HAZARDS IDENTIFICATION

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND REPRODUCTIVE SYSTEM. VAPOR CAUSES RESPIRATORY TRACT IRRITATION AND SEVERE EYE IRRITATION. LIQUID CAUSES SKIN AND EYE IRRITATION.

NFPA Hazard Ratings: Health - 2, Flammability - 1, Reactivity - 0

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe

handling of this material, all the information contained in this MSDS must be considered.

#### Potential Health Effects

**Inhalation:** Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Inhalation may lead to drowsiness, uncoordination, narcosis, liver damage, headache, increased heart rate and blood pressure, and tremors.

**Ingestion:** Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Other symptoms may parallel those from inhalation. Ingestion of a few ounces could prove fatal.

**Skin Contact:** Causes irritation to skin. Symptoms include redness, itching, and pain. Prolonged contact may cause skin burns. May be absorbed through the skin with possible systemic effects.

**Eye Contact:** Vapors and liquid cause irritation, redness and pain. Vapor concentrations over 5 ppm can cause severe irritation.

**Chronic Exposure:** Prolonged or repeated exposure may affect lungs, liver, kidneys, and skin. May have teratogenic effects.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing disorders of the blood, skin, liver, kidneys or lungs may be at an increased risk from exposure.

#### **4. FIRST-AID MEASURES**

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

#### **5. FIRE FIGHTING MEASURES**

**Fire:**

Flash point: 105C (221F) CC

Flammable limits in air % by volume: lel: 2.5; uel: 6.6

Upper and lower explosive limits were measured at 150C (302F).

**Explosion:** Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back.

**Fire Extinguishing Media:** Water spray, dry chemical, alcohol foam, or carbon dioxide. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire.

**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## 6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

## 7. HANDLING AND STORAGE

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Protect from freezing. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Limits: ACGIH STEL: 5 ppm (Ceiling)

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, a half-face organic vapor respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid.

Odor: Characteristic aromatic odor.

Solubility: Negligible (< 0.1%)

Specific Gravity: 1.45 @ 20C/4C

pH: No information found.

% Volatiles by volume @ 21C (70F): 100

Boiling Point: 213C (415F)

Melting Point: 17C (63F)

Vapor Density (Air=1): 6.26

Vapor Pressure (mm Hg): 1 @ 38.4C (100F)

Evaporation Rate (BuAc=1): No information found.

## 10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.

Hazardous Polymerization: Will not occur.

Incompatibilities: Acids, acid fumes, oxidizers, steam.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

## 11. TOXICOLOGICAL INFORMATION

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
1,2,4-Trichlorobenzene (120-82-1)	No	No	None

## 12. ECOLOGICAL INFORMATION

Environmental Fate: When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is not expected to leach into groundwater. When released into water, this material may biodegrade to a moderate extent. When released into water, this material may evaporate to a moderate extent. When released into water, this material is expected to have a half-life between 10 and 30 days. This material has an experimentally-determined bioconcentration factor (BCF) of greater than 100. This material is expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is not expected to be degraded by photolysis. When released into air, this material is expected to have a half-life between 10 and 30 days.

Environmental Toxicity: This material is expected to be toxic to aquatic life. The LC50/96-hour values for fish are between 1 and 10 mg/l.

## 13. DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. TRANSPORT INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name: TRICHLOROBENZENES, LIQUID

Hazard Class: 6.1

UN/NA: UN2321

Packing Group: III

International (Water, I.M.O.)  
 Proper Shipping Name: TRICHLOROBENZENES, LIQUID  
 Hazard Class: 6.1  
 UN/NA: UN2321  
 Packing Group: III

International (Air, I.C.A.O.)  
 Proper Shipping Name: TRICHLOROBENZENES, LIQUID  
 Hazard Class: 6.1  
 UN/NA: UN2321  
 Packing Group: III

## 15. REGULATORY INFORMATION

### -----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
1,2,4-Trichlorobenzene (120-82-1)		Yes	Yes	Yes

### -----\Chemical Inventory Status - Part 2\-----

--Canada--					
Ingredient	Korea	DSL	NDSL	Phil.	
1,2,4-Trichlorobenzene (120-82-1)		Yes	Yes	No	Yes

### -----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
1,2,4-Trichlorobenzene (120-82-1)	No	No	Yes	No

### -----\Federal, State & International Regulations - Part 2\-----

Ingredient	-RCRA-		-TSCA-	
	CERCLA		261.33	8(d)
1,2,4-Trichlorobenzene (120-82-1)	100	No	No	

Chemical Weapons Convention: No    TSCA 12(b): Yes    CDTA: No  
 SARA 311/312: Acute: Yes    Chronic: Yes    Fire: No    Pressure: No  
 Reactivity: No (Pure / Liquid)

Australian Hazchem Code: 2Z  
 Poison Schedule: No information found.

## 16. OTHER INFORMATION

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.