

**Chemicals Inc.**

# MATERIAL SAFETY DATA SHEET

**ASHTA Chemicals Inc.****P.O. Box 858****Ashtabula, OH 44004****(440) 997-5221****CHLOROPICRIN**

CHEMTREC: (800) 424-9300

**SECTION I****MATERIAL IDENTIFICATION**

CHEMICAL NAME:	<b>Chloropicrin Nitrotrichloromethane</b>	C.A.S. NO.:	<b>76-06-2</b>
TRADE NAME:	<b>Chloropicrin</b>	WHMIS:	<b>0.1%</b>
SYNONYMS:	<b>Trichloronitromethane, Nitrochloroform</b>		
	<b>R.Q.= N.R.</b>		
CHEMICAL FORMULA:	<b>CCl<sub>3</sub>NO<sub>2</sub> or Cl<sub>3</sub>CNO<sub>2</sub></b>		
CHEMICAL FAMILY:	<b>Chlorinated Nitrified Hydrocarbon</b>		
N.F.P.A. REGISTRY:	<b>4-0-3</b>	OSHA PSM:	<b>500 lbs</b>
LABELING:	<b>Poison</b>	REPORTABLE QUANTITY:	<b>None</b>
D.O.T. IDENTIFICATION NO.:	<b>UN 1580</b>	D.O.T. PACKING GROUP:	<b>I</b>
D.O.T. SHIPPING NAME:	<b>Chloropicrin-liquid</b>	D.O.T. HAZARD GUIDE:	<b>154</b>
D.O.T. HAZARD CLASS:	<b>6.1</b>	PLACARD:	<b>UN 1580</b>

**SECTION II****INGREDIENTS AND HAZARDS**

PRINCIPAL COMPONENT:	<b>Chloropicrin</b>	PERCENT:	<b>96.0% minimum</b>
	<b>Trace quantities of water and HCl; remainder are inert substances.</b>		
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES:	<b>The substance decomposes in flame or on a hot surface, forming toxic and corrosive gases. It is a strong oxidant and reacts violently with combustible and reducing materials. Above a critical volume it can be shock detonated.</b>		
ADDITIONAL INFORMATION:	<b>ACGIH TLV = 0.1 PPM, 0.67 mg/m<sup>3</sup></b>		
	<b>OSHA PEL = 0.1 PPM. 0.7 mg/m<sup>3</sup></b>		

**SECTION III****PHYSICAL DATA**

BOILING POINT:	<b>112°C</b>	pH:	<b>Non aqueous</b>
SPECIFIC GRAVITY:	<b>1.692</b>	MOLECULAR WEIGHT:	<b>164.38</b>
VAPOR PRESSURE:	<b>At 25°C = 23.9 mm Hg</b>	VAPOR DENSITY:	<b>5.7</b>
APPEARANCE/ODOR:	<b>Slightly oily, colorless to light green liquid with an intense irritating odor.</b>		
PERCENT VOLATILE BY VOLUME:	<b>96%</b>		
EVAPORATION RATE:	<b>Contingent on ambient turbulence &amp; temperature.</b>		
SOLUBILITY IN WATER:	<b>25°C = .162 g/100 g H<sub>2</sub>O</b>		
FREEZE/SOLIDIFICATION TEMP:	<b>-64°C</b>		
DENSITY:	<b>14.1 lbs/gallon</b>		

**SECTION IV****FIRE AND EXPLOSION DATA**

FLASH POINT (METHOD):	<b>None.</b>
EXTINGUISHING MEDIA:	<b>Use dry chemical or carbon dioxide on small fires. On larger fires use foam.</b>
AUTO IGNITION TEMP:	<b>Non-combustible.</b>
SPECIAL FIRE FIGHTING PROCEDURES:	<b>Wear self contained breathing apparatus and full protective clothing.</b>
UNUSUAL FIRE/EXPLOSION HAZARDS:	<b>Contact with combustible materials may cause fire and explosion.</b>
ADDITIONAL INFORMATION:	<b>Chloropicrin possesses some shock sensitivity. A detonator cap ignited in chloropicrin released more energy than from the detonator cap alone.</b>

SECTION V		HEALTH HAZARD DATA	
OSHA PERMISSIBLE EXPOSURE LIMIT:	<b>0.1 PPM, 0.7 mg/m<sup>3</sup></b>		
ACGIH THRESHOLD LIMIT VALUE:	<b>0.1 PPM, 0.67 mg/m<sup>3</sup></b>		
IARC/NTP CARCINOGEN:	<b>Not listed</b>		
MUTAGENIC:	<b>Not listed</b>	TERATOGENIC:	<b>Not listed</b>
REPRODUCTIVE TOXICITY:	<b>Not listed</b>		
MEDICAL CONDITIONS			
AGGRAVATED BY EXPOSURE:	<b>Respiratory tract and severe eye irritant.</b>		
PRIMARY ROUTES OF EXPOSURE:	<b>Inhalation and vapor irritant to eyes</b>		
TARGET ORGANS:	<b>Respiratory tract, eyes.</b>		
EFFECTS OF EXPOSURE:			
INHALATION:	<b>Pungent, sore throat, coughing, labored breathing, dizziness, nausea, vomiting, bluish skin, faintness. Serious cases may be fatal.</b>		
SKIN:	<b>Corrosive, causes redness and chemical burns.</b>		
EYES:	<b>Powerful lachrymator - commonly referred to as tear gas.</b>		
INGESTION:	<b>Corrosive with the same effect as inhalation .</b>		
EMERGENCY FIRST AID:			
INHALATION:	<b>Remove to fresh air, place in half upright position and transport to hospital.</b>		
SKIN:	<b>Remove contaminated clothing, rinse skin with plenty of water or shower. Transport to hospital.</b>		
EYES:	<b>Wash with water for 15 minutes. Obtain medical help.</b>		
INGESTION:	<b>Rinse mouth, give plenty of water to drink, transport to hospital immediately.</b>		
ADDITIONAL INFORMATION:	<b>Liquid chloropicrin has a corrosive action on the skin. Scratches or abrasions exposed to chloropicrin fumes invariably become septic.</b>		
SECTION VI		REACTIVITY DATA	
STABILITY:	<b>Chloropicrin is stable under normal conditions.</b>		
CONDITIONS TO AVOID:	<b>Open flame or hot surfaces.</b>		
INCOMPATIBILITY:	<b>Reducing agents, combustible substances and sulfuric acid.</b>		
HAZARDOUS DECOMPOSITION			
PRODUCTS:	<b>Will decompose if exposed to high temperatures forming toxic gases.</b>		
POLYMERIZATION:	<b>Will not polymerize.</b>		
SECTION VII		ENVIRONMENTAL PROTECTION PROCEDURES	
SPILL RESPONSE:	<b>Evacuate the danger area. Collect leaking liquid in a sealable container. If this is not possible, absorb in sand or inert absorbent and remove to a safe place. Do not use sawdust or other flammable materials for absorbing a spill. Spilled chloropicrin will vaporize into the atmosphere. Clean-up crew must use self contained breathing apparatus. Consult the supplier for assistance.</b>		
WASTE DISPOSAL METHODS:	<b>Chloropicrin can be neutralized with sodium bisulfite. This step should be performed before washing area with water. Large spills may require transporting clean-up waste to a licensed disposal site.</b>		
SECTION VIII		SPECIAL PROTECTION INFORMATION	
EYE PROTECTION:	<b>Chemical goggles.</b>		
RESPIRATORY PROTECTION:	<b>Approved self-contained breathing apparatus with full face piece must be used.</b>		
OTHER PROTECTION:	<b>Protective clothing must be worn. Safety eye wash and shower station should be available in the handling area.</b>		
VENTILATION RECOMMENDED:	<b>Exhaust ventilation is required to meet PEL limits.</b>		
GLOVE TYPE RECOMMENDED:	<b>Polyethylene lined. Do not use rubber.</b>		
ADDITIONAL INFORMATION:	<b>Impervious clothing other than rubber.</b>		
SECTION IX		SPECIAL PRECAUTIONS	
HYGIENIC PRACTICES IN HANDLING/STORING:	<b>Only trained personnel with necessary safety equipment (eye, respiratory, skin) should be allowed to handle chloropicrin containers.</b>		

---

**PRECAUTIONS TO BE TAKEN FOR  
HANDLING/STORING:**

**Do not allow combustibles in the storage area. Avoid the use of rubber compounds, PVC and PVDC materials to store or transfer chloropicrin. All storages should be properly vented to prevent toxic fumes from entering the atmosphere. Dry chloropicrin can be handled in mild steel containers, vessels and piping.**

**PRECAUTIONS FOR REPAIR  
MAINTENANCE OF CONTAMINATED  
EQUIPMENT:**

**Only personnel trained and qualified in handling this product should prepare equipment for maintenance.**

**OTHER PRECAUTIONS:**

**Do not permit personnel to handle this material without proper training and all necessary safety equipment.**

---

**SECTION X****TRANSPORTATION**

---

**USUAL SHIPPING CONTAINERS:**

**Tank cars, ton containers, cylinders.**

**USUAL SHELF LIFE:**

**Indefinite (life of containers).**

**STORAGE/TRANSPORT TEMPERATURES:**

**Ambient.**

**SUITABLE STORAGE****MATERIALS/COATINGS:**

**Mild steel (if dry), teflon-lined equipment.**

**UNSUITABLE:**

**Rubber, PVC, and PVDC materials.**

---

REVIEWED: **03/06**

(No changes made)

SUPERSEDES: **11/03**

(Added WHMIS percentage, OSHA PSM Threshold Quantity)

THIS INFORMATION IS DRAWN FROM RECOGNIZED SOURCES BELIEVED TO BE RELIABLE. ASHTA Chemicals Inc. MAKES NO GUARANTEES OR ASSUMES ANY LIABILITY IN CONNECTION WITH THIS INFORMATION. THE USER SHOULD BE AWARE OF CHANGING TECHNOLOGY, RESEARCH, REGULATIONS AND ANALYTICAL PROCEDURES THAT MAY REQUIRE CHANGES HEREIN. THE ABOVE DATA IS SUPPLIED UPON THE CONDITION THAT PERSONS WILL EVALUATE THIS INFORMATION AND THEN DETERMINE ITS SUITABILITY FOR THEIR USE. ONLY U.S.A. REGULATIONS APPLY TO THE ABOVE.