



**MSDS Number:** 00026

**Effective Date:** 4/15/98

**Product Name:** Chloropicrin Industrial

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**SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

<b>Product Name:</b>	<b>Chloropicrin Industrial</b>		
<b>Manufacturer:</b>	Great Lakes Chemical Corporation		
<b>Address:</b>	P.O. Box 2200		
<b>City:</b>	West Lafayette		
<b>State:</b>	Indiana		
<b>Zip:</b>	47996-2200		
<b>Emergency Telephone Number:</b>	<b>1-800-949-5167</b>		
<b>Information</b>			
<b>Telephone Number:</b>	1-765-497-6100	<b>Fax:</b>	1-765-497-6123
<b>Chemtrec Phone:</b>	<b>1-800-424-9300</b>		
<b>Effective Date:</b>	4/15/98		
<b>Supercede Date:</b>	6/23/97		
<b>MSDS Prepared By:</b>	Regulatory Affairs Department/Great Lakes Chemical Corporation		
<b>Synonyms:</b>	Trichloronitromethane		
<b>Product Use:</b>	Chemical Intermediate		
<b>Chemical Name:</b>	Chloropicrin		
<b>Chemical Family:</b>	Halonitroalkane		

**Additional Information**

No information available

**SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENT NAME	CAS No.	%	EXPOSURE LIMITS
Chloropicrin	76062	99	Y (Hazardous) 0.1 ppm (OSHA PEL TWA) Not established (OSHA PEL STEL) Not established (OSHA PEL CEIL) 0.1 ppm (ACGIH TLV TWA) Not established (ACGIH TLV STEL) Not established (ACGIH TLV CEIL)

\*Mixture. Indented chemicals components of mixture.

**Additional Information**

OSHA IDHL = 4 ppm

NIOSH REL = 0.1 ppm

EPA Fumigation Limit = 0.1 ppm

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## SECTION III - HAZARDS IDENTIFICATION

### Emergency Overview:

Colorless liquid  
Intensely irritating tear gas odor  
Highly toxic. May be fatal if inhaled.  
Toxic. Harmful if swallowed.  
Corrosive to eyes.  
Corrosive to skin.  
Causes severe respiratory tract, nose and throat irritation.  
Mutagen  
May cause heart effects.  
Long term overexposure may cause liver effects.  
Long term overexposure may cause stomach effects.  
Bulk containers of chloropicrin are shock sensitive and can detonate.  
Chloropicrin is not flammable, but may explode when involved in fires.

### Relevant Routes of

#### Exposure:

Ingestion, inhalation and skin absorption

#### Signs and Symptoms of

#### Overexposure:

Chloropicrin is a powerful irritant with effects observed on all body surfaces. Liquid chloropicrin is corrosive to skin. It causes severe watering of the eyes, shortness of breath (pulmonary edema), dizziness, nausea and vomiting. Severe exposure may cause weak and irregular heartbeat, asthmatic attack and may be fatal. Skin wounds exposed to chloropicrin become septic.

### Medical Conditions

#### Generally Aggravated By

#### Exposure:

Dermatitis  
Respiratory disorders

#### Potential Health Effects:

See Section XI for additional information.

#### Eyes:

Corrosive to the eyes. May cause chemical burns.  
Prolonged eye exposure may result in blindness.

#### Skin:

Corrosive to skin. May cause chemical burns.

#### Ingestion:

Toxic. May be harmful if swallowed.

#### Inhalation:

Causes severe mucous membrane and respiratory tract irritation.  
Can cause weak and irregular heartbeat.

### Carcinogenicity:

NTP: No

IARC: No

OSHA: No

ACGIH: No

OTHER: No

### Additional Information

No information available

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## SECTION IV - FIRST AID MEASURES

<b>Eyes:</b>	In all cases of overexposure, get medical attention immediately. Take person to a doctor or emergency treatment facility. If in eyes, hold eyelids open and flush with steady gentle stream of water for at least 15 minutes.
<b>Skin:</b>	In all cases of overexposure, get medical attention immediately. Take person to a doctor or emergency treatment facility. If on skin, immediately remove contaminated clothing, shoes, and other items covering skin. Wash contaminated skin area thoroughly with soap and water.
<b>Ingestion:</b>	In all cases of overexposure, get medical attention immediately. Take person to a doctor or emergency treatment facility. Do not give anything by mouth to an unconscious person.
<b>Inhalation:</b>	In all cases of overexposure, get medical attention immediately. Take person to a doctor or emergency treatment facility. If inhaled, get exposed person to fresh air. Keep warm. Make sure person can breathe freely. If breathing has stopped, give artificial respiration, preferably mouth-to-mouth.
<b>Antidotes:</b>	No information available
<b>Notes to Physicians and/or Protection for First-Aiders:</b>	No information available

### ***Additional Information***

No information available

## SECTION V - FIRE FIGHTING MEASURES

<b>Flammable Limits in Air (% by Volume):</b>	Not available
<b>Flash Point:</b>	Not combustible
<b>Autoignition Temperature:</b>	Not available
<b>Extinguishing Media:</b>	All conventional media are suitable.
<b>Fire Fighting Instructions:</b>	Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact in fire situations.
<b>Unusual Fire and Explosion Hazards:</b>	Under fire conditions, toxic and irritating fumes may be emitted. Containers can explode in fire situations. Use water spray to cool containers exposed to heat. Heated material decomposes violently at 112 degrees C to severely toxic gases, especially in contact with metals.
<b>Flammability Classification:</b>	Non-combustible liquid
<b>Known or Anticipated Hazardous Products of Combustion:</b>	Hydrogen chloride and/or chlorine Oxides of nitrogen Phosgene Carbon monoxide and carbon dioxide

### ***Additional Information***

No information available

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## SECTION VI - ACCIDENTAL RELEASE MEASURES

### Accidental Release Measures:

Evacuate immediate area of spill or leak. Use a NIOSH/MSHA approved self-contained breathing apparatus and other appropriate personal protective equipment for entry into affected area to correct problem. Move leaking or damaged containers outdoors or to an isolated location, observing strict safety precautions. Work upwind if possible. Allow spilled material to evaporate or absorb onto vermiculite, dry sand, earth or similar absorbent material which may be disposed of on site, or at an approved disposal facility. Do not permit entry into spill area or cleanup area by unprotected persons until concentration of chloropicrin is determined to be less than 0.1 ppm.

**Personal Precautions:** See Section VIII.

**Environmental Precautions:** No information available

### **Additional Information**

A 5% sodium bisulfate solution may be used to wash spill area after pickup is complete to neutralize remaining chloropicrin. Collect all rinsate for proper disposal.

## SECTION VII - HANDLING AND STORAGE

### Handling:

Persons moving or handling containers should wear protective clothing. Open container only in a well-ventilated area wearing protective clothing and respiratory protection if necessary. Avoid eye, skin and clothing contact.

Do not breathe mist or vapor.

### Storage:

Store in a cool, dry, well-ventilated area away from incompatible materials.

Keep away from direct sunlight.

Store away from heat, sparks, and flame.

Keep container tightly closed.

### Other Precautions:

No information available

### **Additional Information**

No information available

## SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** No information available

**Ventilation Requirements:** Use to keep levels below established threshold values.

Use mechanical ventilation for general area control.

### **Personal Protective Equipment:**

**Eye/Face Protection:** Chemical safety goggles or full face shield

**Skin Protection:** Chemical resistant gloves with polyethylene liner

Clothing designed to minimize skin contact

### **Respiratory Protection:**

Wear a NIOSH/MSHA approved organic/acid gas cartridge respirator if misting or vapor occurs, or there is potential for airborne exposures to exceed established threshold values.

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## SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult the OSHA respiratory protection information located at 29CFR 1910.134 and the American National Standard Institute's Practices of Respiratory Protection Z88.2.

<b>Other Protective Clothing or Equipment:</b>	Measure chloropicrin concentration with a Matheson-Kitagawa detection device using tube 172.
<b>Exposure Guidelines:</b>	See Section II.
<b>Work Hygienic Practices:</b>	Make sure piping is empty before doing maintenance work.

### *Additional Information*

No information available

## SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance:</b>	Colorless liquid
<b>Boiling Point:</b>	233.6 degrees F, 112 degrees C
<b>Bulk Density:</b>	Not available
<b>Color:</b>	Colorless
<b>Decomposition Temperature:</b>	Not available
<b>Evaporation Rate:</b>	Not available
<b>Freezing Point:</b>	Not available
<b>Heat Value:</b>	Not available
<b>Melting Point:</b>	-83 degrees F, -64 degrees C
<b>Molecular/Chemical Formula:</b>	CCl3NO2
<b>Molecular Weight:</b>	NA
<b>Octanol/Water Partition Coefficient:</b>	Not available
<b>Odor:</b>	Intensely irritating tear gas odor
<b>Odor Threshold:</b>	Not available
<b>Particle Size:</b>	Not available
<b>Percent Volatile:</b>	Not available
<b>pH Value:</b>	Not available
<b>pH Concentration:</b>	Not available
<b>Physical State:</b>	Liquid
<b>Reactivity in Water:</b>	Not water reactive
<b>Saturated Vapor Concentration:</b>	Not available
<b>Softening Point:</b>	Not available
<b>Solubility in Water:</b>	0.2 g per 100 g of water
<b>Specific Gravity or Density (Water=1):</b>	1.66
<b>Vapor Density:</b>	~5.7
<b>Vapor Pressure:</b>	18.3 mmHg at 20 degrees C
<b>Viscosity:</b>	Not available
<b>Volatile Organic Compounds:</b>	Not available

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## SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

### Water/Oil Distribution

**Coefficient:** Not available

**Weight Per Gallon:** Not available

### *Additional Information*

No information available

## SECTION X - STABILITY AND REACTIVITY

**Stability:** Bulk containers are shock sensitive and can detonate, especially when heat is available for initiation. Photodegradation producing phogene is possible. However, under ambient room light chloropicrin is stable to photodegradation.

**Conditions to Avoid:** Unstable under fire and extreme heat conditions. Avoid direct sunlight.

### Incompatibility With Other Materials:

Organic amines  
Reducing agents  
Sulfuric acid  
Incompatible with containers or equipment made of aluminum, magnesium or their alloys.  
Aniline  
3-Bromopropyne  
Propargyl bromide  
Sodium methoxide  
Sodium hydroxide/alcohol solutions

### Hazardous Decomposition

**Products:** Thermal decomposition may produce the following:  
Hydrogen chloride and/or chlorine  
Oxides of nitrogen  
Phosgene  
Carbon monoxide and carbon dioxide

**Hazardous Polymerization:** Will not occur

**Conditions to Avoid:** None

### *Additional Information*

No information available

## SECTION XI - TOXICOLOGICAL INFORMATION

VALUE (LD50 OR LC50)	ANIMAL	ROUTES	COMPONENTS
150 ppm/15 minutes	Rabbit	Acute Inhalation	Chloropicrin
11.9 ppm/4H	Rat	Acute Inhalation	Chloropicrin
250 mg/kg	Rat	Acute Oral	Chloropicrin

### Toxicological Information:

Mutagenic in the Ames test.  
The inhalation LCLO for cats, rabbits and guinea pigs is 120 ppm for 20 minutes. The intraperitoneal LD50 in the mouse is 25 mg/kg. The intravenous LD50 in the guinea pig is 4.2 mg/kg. The human TCLO is 298 ppm for 10 minutes. The oral

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TDLO in the mouse is 26,000 mg/kg/78 weeks. In a two year oral chronic toxicity study in rats, at concentrations of 0.1, 1.0 and 10.0 mg/kg/day, hepatocyte vacuolation was noted at all dose levels. In the 1.0 and 10.0 mg/kg/day dose levels epithelial hyperkeratosis of the nonglandular stomach was noted in both males and females. A NOAEL was determined to be 0.1 mg/kg/day.

## **Additional Information**

No information available

## **SECTION XII - ECOLOGICAL INFORMATION**

**Ecological Information:** Chloropicrin will decompose in the environment. The photodegradation half life is 20 days. Bioaccumulation in fish is not expected. Acutely toxic to animals, plants and aquatic organisms. Do not release to the environment.

## **Additional Information**

No information available

## **SECTION XIII - DISPOSAL CONSIDERATIONS**

**Disposal Considerations:** Dispose of waste at an approved chemical disposal facility in compliance with all current Local, State/Province, Federal/Canadian laws and regulations.

## **Additional Information**

Return empty cylinders freight collect to the Great Lakes Chemical Corporation location from which shipment was made. Close cylinder valve by turning clockwise until hand tight. Disconnect lines. Replace safety caps and bonnet. Return partial cylinders only after consulting Great Lakes Chemical Corporation for proper shipping instructions.

## **SECTION XIV - TRANSPORT INFORMATION**

### U.S. DOT

**Proper Shipping Name:** Chloropicrin  
**Hazard Class:** 6.1  
**ID Number:** UN1580  
**Packing Group:** I  
**Labels:** Poison  
**Special Provisions:** 2, B7, B9, B14, B32, B46, B74, T38, T43, T45  
**Packaging Exceptions:** None  
**Non-Bulk Packaging:** 227  
**Bulk Packaging:** 244  
**Passenger Air/Rail Limit:** Forbidden  
**Air Cargo Limit:** Forbidden  
**Vessel Stowage:** D  
**Other Stowage:** 40  
**Reportable Quantity:** N/A

### AIR - ICAO OR IATA

**Proper Shipping Name:** Forbidden  
**Hazard Class:** N/A

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## SECTION XIV - TRANSPORT INFORMATION

ID Number: N/A  
Subsidiary Risk: N/A  
Packing Group: N/A  
Hazard Labels: N/A  
Packing Instructions: N/A  
Air Passenger Limit Per Package: N/A  
Packing Instruction - Cargo: N/A  
Air Cargo Limit Per Package: N/A  
Special Provisions Code: N/A

### WATER - IMDG

Proper Shipping Name: Chloropicrin  
Hazard Class: 6.1  
ID Number: UN1580  
Packing Group: I  
Subsidiary Risk: N/A  
Medical First Aid Guide Code: 740

### ***Additional Information***

Poison Inhalation Hazard  
EmS No. 6.1-02

## SECTION XV - REGULATORY INFORMATION

**U.S. Federal Regulations:** The components of this product are either on the TSCA Inventory or exempt (i.e. impurities, a polymer complying with the exemption rule at 40 CFR 723.250) from the Inventory.

SARA 313  
The following materials are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:  
Chloropicrin (De Minimus Concentration = 1%)

**State Regulations:** New Jersey Right To Know - Yes  
Pennsylvania Right To Know - Yes  
Massachusetts Right To Know - Yes  
California Prop 65 - No

**International Regulations:** This material (or each component) is listed on the following inventories:  
Canada - DLS  
EU - EINECS  
Japan - ENCS  
Korea - ECL

Candian Disclosure List (0.1%)

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## SECTION XV - REGULATORY INFORMATION

Canadian WHMIS Hazard Class and Division = D.1.a, E, F

### SARA Hazards:

<b>Acute:</b>	Yes
<b>Chronic:</b>	Yes
<b>Reactive:</b>	Yes
<b>Fire:</b>	No
<b>Pressure:</b>	No

### *Additional Information*

The above regulatory information represents only selected regulations and is not meant to be a complete list.

## SECTION XVI - OTHER INFORMATION

### NFPA Codes:

<b>Health:</b>	4
<b>Flammability:</b>	0
<b>Reactivity:</b>	3
<b>Other:</b>	N

### HMIS Codes:

<b>Health:</b>	4
<b>Flammability:</b>	0
<b>Reactivity:</b>	3
<b>Protection:</b>	H

**Label Statements:** Not available

### **Other Information:**

Abbreviations:

(L) = Loose bulk density in g/ml  
LOEC = Lowest observed effect concentration  
MATC = Maximum acceptable toxicant concentration  
NA = Not available  
N/A = Not applicable  
NL = Not limited  
NOEC = No observed effect concentration  
NOEL = No observable effect level  
NR = Not rated  
(P) = Packed bulk density in g/ml  
PNOC = Particulates Not Otherwise Classified  
PNOR = Particulates Not Otherwise Regulated  
REL = Recommended exposure limit  
TS = Trade secret

### *Additional Information*

Information on this form is furnished solely for the purpose of compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200 and The Canadian Environmental Protection Act, Canada Gazette Part II, Vol. 122, No. 2 and shall not be used for any other purpose.

### Revision Information:

Section III - Emergency overview

Section XI - Toxicological information