

Material Safety Data Sheet

Chloropicrin, 98+% (GC)

ACC# 20104

Section 1 - Chemical Product and Company Identification

MSDS Name: Chloropicrin, 98+% (GC)

Catalog Numbers: AC405000000, AC405001000

Synonyms: Methane, trichloronitro-; Chloroform, nitro-; Nitrochloroform; Nitrotrichloromethane; Trichloronitromethane.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
76-06-2	Chloropicrin	>98	200-930-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: oily clear liquid.

Danger! Poison! May be fatal if inhaled. Harmful if swallowed. Lachrymator (substance which increases the flow of tears). Causes respiratory tract irritation. Causes eye and skin irritation. Causes severe respiratory tract irritation. May cause lung damage. May cause liver and kidney damage. May cause sensitization by inhalation and by skin contact.

Target Organs: Kidneys, liver, lungs, eyes, eyes, eyes.

Potential Health Effects

Eye: Causes severe eye irritation. Lachrymator (substance which increases the flow of tears).

Skin: Causes severe skin irritation. May cause sensitization by skin contact.

Ingestion: Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion may cause colic and death.

Inhalation: May be fatal if inhaled. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. Causes irritation of the mucous membrane and upper respiratory tract. Inhalation may cause anemia, weak and irregular heart, recurrent asthmatic attacks, bronchitis, pulmonary edema, and possible death.

Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. SPEED IS ESSENTIAL, OBTAIN MEDICAL AID IMMEDIATELY.

Notes to Physician: Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at increased risk to the effects of this substance. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Explosive decomposition may occur under fire conditions. Closed containers may rupture violently when heated.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use extinguishing media most appropriate for the surrounding fire. Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 4; Flammability: 0; Instability: 3

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not breathe dust, vapor, mist, or gas. Keep container tightly closed. Do not ingest or inhale. Use only in a chemical fume hood. Do not use magnesium, aluminum or their alloys for handling equipment or containers.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Chloropicrin	0.1 ppm TWA	0.1 ppm TWA; 0.7 mg/m ³ TWA 2 ppm IDLH	0.1 ppm TWA; 0.7 mg/m ³ TWA

OSHA Vacated PELs: Chloropicrin: 0.1 ppm TWA; 0.7 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Appearance: colorless or slight yellow - oily

Odor: strong, pungent

pH: Not available.

Vapor Pressure: 24 mm Hg @ 25 deg C

Vapor Density: 5.67

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 112 deg C

Freezing/Melting Point: -64 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.6920g/cm³

Molecular Formula: CCl₃NO₂

Molecular Weight: 164.37

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, excess heat.

Incompatibilities with Other Materials: Strong bases, aluminum, amines, magnesium, sodium methoxide, aniline, aluminum alloys, magnesium alloys, 3-bromopropyne, alcoholic sodium hydroxide, propargyl bromide.

Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 76-06-2: PB6300000

LD50/LC50:

CAS# 76-06-2:

Inhalation, mouse: LC50 = 66 mg/m³/4H;

Inhalation, rabbit: LC50 = 800 mg/m³/20M;

Inhalation, rat: LC50 = 14400 ppb/4H;

Oral, rat: LD50 = 250 mg/kg;

Probable Oral Lethal Dose (Human) = 5-50 mg/kg. ation, human: LCLo = 2.0 mg/L/10

Carcinogenicity:

CAS# 76-06-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Oral, mouse: TDLo = 26 gm/kg/78W-I (Tumorigenic - equivocal tumorigenic agent by RTECS criteria - Gastrointestinal - tumors).

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: Sister Chromatid Exchange: Human, Lymphocyte = 8 mg/L.

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 3.72 mg/L; 96 Hr; UnspecifiedFish: Rainbow trout: LC50 = 2.87 mg/L; 96 Hr; UnspecifiedFish: Bluegill/Sunfish: LC50 = 2.82 mg/L; 96 Hr; Unspecified If applied to soil as would be the case in its use as a soil sterilant, chloropicrin will both rapidly volatilize and leach. It should photolyze on the soils surface. It may degrade in soil by chemical or biological processes. However degradation rates are unknown. If released in water it would readily volatilize. It will photodegrade in the surface layers of water (half-life about 3 days). Chloropicrin would not be expected to adsorb to sediment or bioconcentrate in fish.

Environmental: If released to the atmosphere, chloropicrin will photolyze (half-life 20 days), producing phosgene and nitrosyl chloride. Being relatively soluble in water, it may be washed out by rain.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CHLOROPICRIN	CHLOROPICRIN
Hazard Class:	6.1	6.1
UN Number:	UN1580	UN1580
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 76-06-2 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 76-06-2: immediate, delayed.

Section 313

This material contains Chloropicrin (CAS# 76-06-2, >98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 76-06-2 is considered highly hazardous by OSHA.

STATE

CAS# 76-06-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+

Risk Phrases:

R 22 Harmful if swallowed.

R 26 Very toxic by inhalation.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 38 In case of insufficient ventilation, wear suitable respiratory equipment.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 76-06-2: No information available.

Canada - DSL/NDSL

CAS# 76-06-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 76-06-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/01/1999

Revision #4 Date: 11/20/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.