

Material Safety Data Sheet

1-Chloro-2,4-dinitrobenzene

ACC# 53692

Section 1 - Chemical Product and Company Identification

MSDS Name: 1-Chloro-2,4-dinitrobenzene

Catalog Numbers: AC160510000, AC160511000, AC160515000

Synonyms: 4-Chloro-1,3-dinitrobenzene; 6-Chloro-1,3-dinitrobenzene; 2,4-Dinitro-1-chlorobenzene.

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
97-00-7	1-Chloro-2,4-dinitrobenzene	99	202-551-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: yellow solid.

Danger! May be fatal if absorbed through the skin. Causes eye, skin, and respiratory tract irritation. May cause allergic skin reaction. May cause methemoglobinemia. May cause cardiac disturbances. May cause central nervous system effects. Heat sensitive. Marine pollutant.

Target Organs: Blood, central nervous system, cardiovascular system, blood forming organs, skin.

Potential Health Effects

Eye: May cause eye irritation and possible damage.

Skin: May be fatal if absorbed through the skin. Prolonged and/or repeated contact may cause irritation and/or dermatitis. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause cardiac disturbances. May cause methemoglobinemia, cyanosis (bluish

discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. May cause central nervous system effects.

Inhalation: May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. May cause cardiac abnormalities. Inhalation at high concentrations may cause CNS depression and asphyxiation.

Chronic: Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. Prolonged exposure may cause anemia and methemoglobinemia, characterized by dizziness, drowsiness, headache, breath shortness, cyanosis (bluish skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. Repeated exposure may cause allergic respiratory reaction (asthma). Typically the retrobulbar (behind the eyeball) neuritis resulting from chronic poisoning has been associated with peripheral neuritis manifest as paresthesias (burning, prickling sensations in absence of an external stimulus) and pains in the legs and burning of the

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

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Get medical aid immediately. 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.

Notes to Physician: For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

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. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: Water or foam may cause frothing. Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For

large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: 186 deg C (366.80 deg F)

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:2.0%

Upper: 22.0%

NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 4

Section 6 - Accidental Release Measures

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

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only with adequate ventilation.

Storage: Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from flammable liquids. Do not store near alkaline substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1-Chloro-2,4-dinitrobenzene	none listed	none listed	none listed

OSHA Vacated PELs: 1-Chloro-2,4-dinitrobenzene: No OSHA Vacated PELs are listed for this chemical.

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: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: yellow

Odor: almond-like

pH: Not available.

Vapor Pressure: Negligible

Vapor Density: 6.98 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 315 deg C (slight decompose)

Freezing/Melting Point: 50-54 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: 1.687

Molecular Formula: C₆H₃ClN₂O₄

Molecular Weight: 202.55

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Can decompose violently at elevated temperatures. Risk of explosion if heated under confinement.

Conditions to Avoid: Dust generation, excess heat, friction.

Incompatibilities with Other Materials: Explosive reaction with ammonia. Reacts violently with hydrazine sulfate and hydrazine hydrate. Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, oxides of nitrogen, carbon dioxide.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:**CAS#** 97-00-7: CZ0525000**LD50/LC50:**

CAS# 97-00-7:

Draize test, rabbit, eye: 50 ug/24H Severe;

Draize test, rabbit, skin: 2 mg/24H Severe;

Oral, rat: LD50 = 640 mg/kg;

Skin, rabbit: LD50 = 130 mg/kg;

Carcinogenicity:

CAS# 97-00-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Dermatitis caused by chlorodinitrobenzene has been observed in workers who used the compound to control algae in the coolant water of air-conditioning systems. The eruption is characterized by erythema, vesicles, & itching & thus resembles poison ivy.

Teratogenicity: No information found**Reproductive Effects:** No information found**Mutagenicity:** Mutagenic effects have occurred in experimental animals.**Neurotoxicity:** No information found**Other Studies:**

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.**Environmental:** No information available.**Physical:** No information available.**Other:** Has algicidal properties.

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:	CHLORODINITROBENZENES, SOLID	CHLORODINITROBENZENES
Hazard Class:	6.1	6.1
UN Number:	UN3441	UN1577
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 97-00-7 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 # 97-00-7: immediate, delayed, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

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# 97-00-7 is considered highly hazardous by OSHA.

STATE

CAS# 97-00-7 can be found on the following state right to know lists:
Pennsylvania, 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 N

Risk Phrases:

- R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R 33 Danger of cumulative effects.
- R 43 May cause sensitization by skin contact.
- R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

- S 36/37 Wear suitable protective clothing and gloves.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 60 This material and its container must be disposed of as hazardous waste.
- S 28A After contact with skin, wash immediately with plenty of water.
- S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 97-00-7: 2

Canada - DSL/NDSL

CAS# 97-00-7 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

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #9 Date: 3/16/2007

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.