

MATERIAL SAFETY DATA SHEET

Name:	Trichloroisocyanuric Acid 90% Material Safety Data Sheet
Synonym:	Symclosene; 1,3,5-Trichloro-1-Triazine-2,4,6(1H,3H,5H)-Trione
CAS:	87-90-1

Section 1 - Chemical Product

MSDS Name: Trichloroisocyanuric Acid 90%

Synonym: Symclosene; 1,3,5-Trichloro-1-Triazine-2,4,6(1H,3H,5H)-Trione.

Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
87-90-1	Trichloroisocyanuric Acid	99%	201-782-8



O



Hazard Symbols: XN

Risk Phrases: 22 31 36/37 8

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Harmful if swallowed. Contact with acids liberates toxic gas.

Irritating to eyes and respiratory system. Contact with combustible material may cause fire. Hygroscopic (absorbs moisture from the air).

Potential Health Effects

Eye:

May cause conjunctivitis. May cause permanent corneal opacification.

Skin:

May cause severe irritation and possible burns.

Ingestion:

Harmful if swallowed. May cause liver and kidney damage. May cause nausea, vomiting, and diarrhea, possibly with blood.

Inhalation:

Causes respiratory tract irritation. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

Chronic:

May cause liver and kidney damage. Effects may be delayed.

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. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

Ingestion:

Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation:

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration.

If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

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. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water with caution and in flooding amounts. Contact with acid or acid fumes evolves heat and flammable vapors. Some oxidizers may react explosively with hydrocarbons(fuel). May accelerate burning if involved in a fire. Containers may explode when heated.

Extinguishing Media:

Contact professional fire-fighters immediately. For small fires, do NOT use dry chemicals, carbon dioxide, halon or foams. USE WATER ONLY. For large fires flood fire with water from a distance.

Section 6 - ACCIDENTAL RELEASE MEASURES

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

Spills/Leaks:

Avoid runoff into storm sewers and ditches which lead to waterways.

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Do not use combustible materials such as paper towels to clean up spill.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation.

Minimize dust generation and accumulation. Keep container tightly closed. Avoid contact with clothing and other combustible materials.

Do not get on skin or in eyes. Avoid ingestion and inhalation.

Storage:

Keep away from heat, sparks, and flame. Do not store near combustible materials. Corrosives area. Keep away from acids. Store protected from moisture.

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 CAS# 87-90-1: 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 gloves to prevent skin exposure.

Clothing:

Wear appropriate 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

Color: white

Odor: None reported.
pH: Not available.
Vapor Pressure: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 249.00 - 251.00 deg C
Autoignition Temperature: Not available.
Flash Point: 225 deg C (437.00 deg F)
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature: 225 deg C
Solubility in water: 1.2 G/100ML (25 C)
Specific Gravity/Density:
Molecular Formula: C3Cl3N3O3
Molecular Weight: 232.41

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, ignition sources, dust generation, acids, excess heat, combustible materials, reducing agents, strong oxidants, exposure to moist air or water.

Incompatibilities with Other Materials:

Moisture, reducing agents, acids (mineral, non-oxidizing, e.g.

hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid).

Hazardous Decomposition Products:

Hydrogen chloride, nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, nitrogen.

Hazardous Polymerization: Has not been reported.

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 87-90-1: XZ1925000 LD50/LC50:

CAS# 87-90-1: Draize test, rabbit, eye: 500 mg Severe; Draize test, rabbit, skin: 500 mg/24H Moderate; Oral, rat: LD50 = 406 mg/kg.

Carcinogenicity:

Trichloroisocyanuric Acid - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: TRICHLOROISOCYANURIC ACID, DRY

Hazard Class: 5.1
UN Number: 2468
Packing Group: II
IMO
Shipping Name: TRICHLOROISOCYANURIC ACID, DRY
Hazard Class: 5.1
UN Number: 2468
Packing Group: II
RID/ADR
Shipping Name: TRICHLOROISOCYANURIC ACID, DRY
Hazard Class: 5.1
UN Number: 2468
Packing group: II

Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN O

Risk Phrases:

R 22 Harmful if swallowed.

R 31 Contact with acids liberates toxic gas.

R 36/37 Irritating to eyes and respiratory system.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 8 Keep container dry.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 41 In case of fire and/or explosion do not breathe fumes.

WGK (Water Danger/Protection)

CAS# 87-90-1: No information available.

Canada

CAS# 87-90-1 is listed on Canada's DSL List.

CAS# 87-90-1 is listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 87-90-1 is listed on the TSCA inventory.

This MSDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.