

MATERIAL SAFETY DATA SHEET

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Version 1.5

Section 1 - Product and Company Information

Product Name TRICHLOROISOCYANURIC ACID, 97%
Product Number 176125
Brand ALDRICH

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
TRICHLORO-ISO-CYANURIC ACID	87-90-1	No

Formula C3Cl3N3O3
Synonyms ACL 85 * CBD 90 * Fichlor 91 * Fi Clor 91 *
Isocyanuric chloride * Kyselina
trichloisokyanurova (Czech) * NSC-405124 *
Symclosen * Symclosene *
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione,
1,3,5-trichloro- * Trichlorinated isocyanuric
acid * Trichlorocyanuric acid *
Trichloroisocyanuric acid * Trichloroisocyanurate *
Trichloroisocyanuric acid *
N,N',N"-Trichloroisocyanuric acid *
1,3,5-Trichloroisocyanuric acid *
Trichloro-s-triazinetriene *
1,3,5-Trichloro-s-triazine-2,4,6(1H,3H,5H)-trione
* Trichloro-s-triazine-2,4,6(1H,3H,5H)-trione *
1,3,5-Trichloro-2,4,6-trioxohexahydro-s-triazine

RTECS Number: XZ1925000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Oxidizing. Corrosive. Dangerous for the environment.
Contact with combustible material may cause fire. Harmful if
swallowed. Contact with acids liberates toxic gas. Causes burns.
Very toxic to aquatic organisms, may cause long-term adverse
effects in the aquatic environment.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give oxygen.

EYE EXPOSURE

Assure adequate flushing of the eyes by separating the eyelids with fingers.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam. Quench with large quantities of water.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Contact with other material may cause fire. Once fire hazard is under control, contact supplier for proper methods of handling wet material. Emits toxic fumes under fire conditions.

EXPOSURE HAZARD(S)

Material: Corrosive. Toxic.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep, scoop, or vacuum up all spilled materials and contaminated materials and place in clean, dry containers for disposal. Complete cleanup on a dry basis if possible. Do not use floor sweeping compounds in removal of this material.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

SPECIAL REQUIREMENTS

Store under inert gas.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color: Faintly yellow Form: Powder Odor: Pungent	
Property	Value	At Temperature or Pressure
Molecular Weight	232.41 AMU	
pH	2.7 - 3.3	25 °C Concentration: 10 g/l
BP/BP Range	N/A	
MP/MP Range	247 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	0.95 kg/l	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	> 225 °C	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	Solubility in Water:10 mg/ml H ₂ O, 20°C

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Conditions of Instability: May decompose on exposure to moist air or water.

Conditions to Avoid: Reacts with water to form hazardous quantities of nitrogen trichloride which is violently explosive

Materials to Avoid: Strong reducing agents, Strong bases, Calcium hypochlorite.

HAZARDOUS DECOMPOSITION PRODUCTS

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

TOXICITY DATA

Oral
Human
3570 mg/kg
LDLO
Remarks: Gastrointestinal:Ulceration or bleeding from stomach.

Oral
Rat
406 mg/kg
LD50

Oral
Mammal
750 mg/kg
LD50

IRRITATION DATA

Skin
Rabbit
500 mg
24H
Remarks: Moderate irritation effect

Eyes
Rabbit
500 mg
Remarks: Severe irritation effect

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Trichloroisocyanuric acid, dry
UN#: 2468
Class: 5.1
Packing Group: Packing Group II
Hazard Label: Oxidizer
PIH: Not PIH

IATA

Proper Shipping Name: Trichloroisocyanuric acid, dry
IATA UN Number: 2468
Hazard Class: 5.1
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: O-Xn-N
Indication of Danger: Oxidizing. Harmful. Dangerous for the environment.
R: 8-22-31-36/37-50/53
Risk Statements: Contact with combustible material may cause fire. Harmful if swallowed. Contact with acids liberates toxic gas. Irritating to eyes and respiratory system. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 8-26-41-60-61
Safety Statements: Keep container dry. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of fire and/or explosion do not breathe fumes. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Corrosive. Dangerous for the environment.
Risk Statements: Contact with combustible material may cause fire. Harmful if swallowed. Contact with acids liberates toxic gas. Causes burns. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: Keep container dry. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of fire and/or explosion do not breathe fumes. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.