Aqua Chemical Supply, Inc.

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1. PRODUCT AND COMPANY IDENTIFICATION

Chemical name Trichloro-s-triazinetrione
Synonym(s) Trichloroisocyanuric Acid; TCCA; Trichlor; Trichloro-s- triazinetrione; Symclosene
Chemical formula $C_3 Cl_3 N_3 O_3$
Chemical family Chloroisocyanurate
Molecular weight 232.5
Type of product and use For disinfectant, sanitizers, fungicides, bactericides and algaecides for pools, spas and hot tubs
Manufacturer/Supplier/Distributor
W.W. Adcock
P.O. Box 492
Huntingdon Valley, PA 19006

Emergency telephone number: For emergency assistance involving chemicals call
CHEMTREC day or night at: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Emergency overview White granules or tablet-form product; Oxidizer; Corrosive to eyes, skin and mucous membranes. Harmful by inhalation and if swallowed.
Potential Health Effects: - Eye Contact Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.
- Skin contact Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation.
Repeated skin exposure may cause tissue destruction due to the corrosive nature of the product.
- Inhalation Irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory tract with the production of lung edema that can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function. Inhalation of high concentrations can result in permanent lung damage from the corrosive action of the lung.
- Ingestion Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration. Ingestion causes severe damage to the gastrointestinal tract with the potential to cause perforation.
NFPA Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 2. Special Hazard Warning: OXIDIZER
HMIS Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 2.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
Trichloroisocyanuric Acid	87-90-1	96-100	Not determined	Not determined
Dichloroisocyanuric Acid	2782-57-2	0-4	Not determined	Not determined

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

Eye contact Hold eye open and rinse slowly and gently with water for 15- 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Ingestion Call poison control center, or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

5. FIRE FIGHTING MEASURES

Flash point Not applicable
Auto-ignition temperature Not applicable
Suitable extinguishing media Water
Extinguishing media not to be used Do not use dry chemical extinguisher containing ammonia compounds.

Firefighting procedure Fire fighters should wear full protective clothing and self- contained breathing apparatus (SCBA) in positive pressure mode. Cool containers with water spray. On small fires, use water spray or fog.
On large fires, use heavy deluge or fog streams. Flooding amounts of water may be required before extinguishment can be accomplished.

Unusual fire and explosion hazards When heated to decomposition, may release poisonous and corrosive fumes of nitrogen trichloride, chlorine, nitrous oxides, cyanates, carbon monoxide and carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions For small spills in a well-ventilated areas, wear a NIOSH approved half-face or full face tight fitting respirator or a loose fitting powered air purifying respirator equipped with chlorine cartridges. Chemical goggles should be worn when using a half-face respirator. In addition to respiratory protection, wear coveralls; chemical resistant gloves; chemical resistant footwear; and chemical resistant headgear for overhead exposure.
For clean-up of large spills, or small dry spills in confined areas, wear full-face respirator with chlorine cartridges or a positive pressure supplied air respirator.
Additionally, body protection should be impervious clothing covering entire body to prevent personal contact with material. CAUTION - Protection concerns must also address the following: If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.
Methods for cleaning up Hazardous concentrations in air may be found in local spill area and immediately downwind. If spill material is still dry, do not put water directly on this product as a gas evolution may occur.
- Soil Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container.
- Water This material is heavier than and soluble in water. Stop flow of material into water as soon as possible. Begin monitoring for available chlorine and pH immediately.
- In air Vapors may be suppressed by the use of water fog.

7. HANDLING AND STORAGE

Handling Avoid bodily contact. Do not take internally. Upon contact with skin or eyes, wash off with water.
Storage Store in a dry, cool, well-ventilated area away from incompatible materials (see "materials to avoid"). Product has an indefinite shelf-life limitation. Do not store at temperatures above 60°C/140°F.
Available chlorine loss can be as little as 0.1% per year at ambient temperatures.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation requirements Use local exhaust ventilation to minimize dust and chlorine levels where industrial use occurs. Otherwise, ensure good general ventilation.
Personal protective equipment:
- Respiratory protection When dusty conditions are encountered, wear a NIOSH/OSHA full-face respirator with chlorine cartridges for protection against chlorine gas and dust/mist pre-filter.
- Hand protection Neoprene gloves
- Eye protection Use chemical safety glasses to avoid eye contact. Where industrial use occurs, chemical goggles may be required.
- Skin and body protection Body covering clothes and boots

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance White granules or tablet-form product

Odor	Sharp, chlorine-like, bleach odor
Melting point/range	Not applicable
Boiling point/range	Not applicable
Vapor pressure	Not applicable under standard conditions
Vapor density	Not applicable under standard conditions
Evaporation rate (ether=1)	Not applicable under standard conditions
Solubility:	
Bulk density	Granular-0.89-1.1 g/cc Tablets - 1.16-1.9 g/cc
Specific gravity	>1
pH	2.7-2.9 (1% solution)
Decomposition temperature	225 °C (437°F)

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions Do not package in paper or cardboard.
NOTE: Contact with small amounts of water may result in an exothermic reaction with the liberation of toxic fumes.
Materials to avoid Organic materials, reducing agents, nitrogen containing materials, other oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.
Conditions to avoid Heating above decomposition temperature
Hazardous decomposition products Nitrogen trichloride, chlorine, nitrous oxides, cyanates, carbon monoxide, carbon dioxide.
Hazardous polymerization Will not occur

11. TOXICOLOGICAL INFORMATION

Acute toxicity: - Rat oral LD50	490 mg/kg
- Rabbit dermal LD50	>2000 mg/kg
- Rat inhalation LC50	Approx.0.68 mg/l/4 hour - (nose only)
- Eye irritation (rabbit)	Corrosive
- Dermal irritation (rabbit)	Corrosive

Target organ effects This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.
There are no known or reported effects from repeated exposure.
Toxicological investigation indicates it does not produce significant effects from chronic exposure.

Chronic toxicity Prolonged exposure may cause damage to the respiratory system. Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.

Mutagenicity Not mutagenic in five Salmonella strains and one E.coli strain with or without mammalian microsomal activation.

Carcinogenicity Not classified by IARC, OSHA, and EPA. Not included in NTP 11th Report on Carcinogens.

Reproductive toxicity There are no known or reported effects on reproductive function or fetal development. Toxicological investigation indicates it does not affect reproductive function of fetal development.

12. ECOLOGICAL INFORMATION

Aquatic toxicity :	
- 96 Hour-LC50, Fish	0.32 mg/l (Rainbow trout) 0.30 mg/l (bluegill sunfish)
- 48 Hour-LC50, Daphnia magna	0.21 mg/l
Avian toxicity:	
- Oral LD50, Mallard duck	1600 mg/kg
- Dietary LC50, Mallard duck	>10,000 ppm
- Dietary LC50, Bobwhite quail	7422 ppm

13. DISPOSAL CONSIDERATION

Waste disposal Observe all federal, state and local environmental regulations when disposing of this material. If this product becomes waste, it will be a hazardous waste that is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly.
Care must be taken to prevent environmental contamination from the use of this material.

14. TRANSPORT INFORMATION

UN No. 2468
DOT Proper shipping name: Trichloroisocyanuric Acid Dry
Class: 5.1 - Oxidizing substances
Label: OXIDIZER (5.1)
Packing Group: II
Emergency Guide No.140
IMO Proper shipping name: Trichloroisocyanuric Acid Dry
Class: 5.1 - Oxidizing substances
Label: OXIDIZING AGENT (5.1)
Packing Group: II
ICAO/IATA Proper shipping name: Trichloroisocyanuric Acid Dry
Label: OXIDIZER (5.1)
Class: 5.1
Packing group: II

15. REGULATORY INFORMATION

USA Reported in the EPA TSCA Inventory
Sara 313 Not listed
Sara (311, 312) hazard class This product is categorized as an immediate health hazard, and fire and reactivity physical hazard
- WASTE CLASSIFICATIONS If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001.
- Workplace Classification This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).
EU Reported in EINECS
Australia Listed in AICS
China inventory Listed
Korea KE-34101
Philippines Listed in PICCS

16. OTHER INFORMATION

Notice

Aqua Chemical Supply, Inc. expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Aqua Chemical Supply, Inc. sales office.

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This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.