

## **I - PRODUCT IDENTIFICATION**

Product: Trichloroisocyanuric Acid  
Chemical Family: Chloroisocyanurate  
Formula: C<sub>3</sub>Cl<sub>3</sub>N<sub>3</sub>O<sub>3</sub>  
CAS Number: 87-90-1  
Synonyms: 1,3,5-trichloro-s-triazine-2,4,6-trione  
Trade name: Microphor Chlorinating slugs  
EPA Registration Number: 69681-5-50754  
California EPA Registration Number: 69681-5-AA-50754

### **COMPANY IDENTIFICATION**

AllChem Performance Products  
6010 NW First Place  
Gainesville, FL 32607  
Tel:352-378-9696

### **24 HR EMERGENCY TELEPHONE NUMBER**

INFOTRAC (Transportation): (800)535-5053

## **II – COMPOSITION, INFORMATION ON INGREDIENTS**

	Exposure Limits	
<u>CHEMICAL OR COMMON NAME:</u>	<u>OSHA PEL:</u>	<u>ACGIH TLV:</u>
Trichloro-s-triazinetrione: 96-100%	Not established	Not established
Dichloroisocyanuric Acid: 0-4%		

## **III – HAZARDS IDENTIFICATION**

### Primary Health Hazards:

Acute: Corrosive to eyes, skin and mucous membranes. Harmful by inhalation and if swallowed.

Chronic: Prolonged exposure may cause damage to the respiratory system.

Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.

### Signs & Symptoms of Exposure:

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.

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.

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.

Eye Contact: Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.

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

Medical Conditions Aggravated By Exposure: Asthma, respiratory and cardiovascular disease.

#### **IV – FIRST AID MEASURES**

Emergency and First Aid Procedures:

Have the product container or label with you when calling a poison control center or doctor, or going in for treatment.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.

IF IN EYES: 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.

IF SWALLOWED: 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 poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Corrosive.

In case of ingestion do not induce vomiting. No specific antidote. Treat symptomatically and supportively.

#### **V – FIRE FIGHTING MEASURES**

##### **FIRE AND EXPLOSION HAZARD DATA**

Flash Point: Not applicable

Auto-Ignition Temperature: Not applicable

Extinguishing Media: Water. Do not use dry chemical extinguisher containing ammonia compounds.

Special Fire-fighting Procedures: 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.

## **VI – ACCIDENTAL RELEASE MEASURES**

Steps To Be Taken In Case Material Is Spilled Or Released:

Personal Precautions: For small spills in a well-ventilated area, wear a NIOSH approved half-face or full face tight fitting respirator or a loose fitting powered air-purifying respirator equipped with chlorine cartridges.

After Spillage/Leakage: Hazardous concentrations in air may be found in local spill area and immediately downwind. If spill material is still dry, do not put water on this product as a gas evolution may occur.

On Soil: Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea.

On 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.

## **VII – HANDLING AND STORAGE**

Precautions to Be Taken in Handling and Storage:

Handling: Avoid bodily contact. Do not take internally. Upon contact with skin and 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.

Other Precautions: This information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations and management, and for persons working with or handling this product.

## **VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION**

Respiratory Protection: When dusty conditions are encountered, wear a NIOSH/OSHA full-respirator with chlorine cartridges for protection against chlorine gas and dust/mist pre-filter. A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Ventilation: Use local exhaust ventilation to minimize dust and chlorine levels where industrial use occurs. Otherwise, ensure good general ventilation.

Other Protective Clothing or Equipment: Use Neoprene gloves, Use chemical safety glasses to avoid eye contact. Where industrial use occurs, chemical goggles may be required. Use body covering clothes and boots.

Work/ Hygienic Practices: Safety shower and eye bath should be provided. Do not eat, drink or smoke until after-work, showering and changing clothes

## **IX - PHYSICAL/CHEMICAL CHARACTERISTICS**

Boiling Point: Not applicable

Vapor Pressure (mm Hg): Not applicable under standard conditions.

Vapor Density (Air=1): Not applicable under standard conditions.

Solubility in Water: 1.2g/100ml at 25°C

Appearance and odor: White granular solid or tablet form, sharp, chlorine-like, bleach odor.

Specific Gravity (H<sub>2</sub>O=1): >1

Melting Point: Not applicable

Evaporation Rate: Not applicable under standard conditions.

Molecular Weight: 232.5

Bulk Density: Tablets – 1.16-1.9 g/cc, Granular – 0.89-1.1 g/cc.

pH: 2.7-2.9 (1% solution)

Thermal decomposition: 225°C (437°F)

## **X – STABILITY AND REACTIVITY**

Stability:         Unstable                       Stable under normal conditions

Conditions to Avoid: Do not package in paper or cardboard. Note: Contact with small amounts of water may result in an exothermic reaction with the liberation to toxic fumes. Heating above 225°C.

Incompatibility: Organic materials, reducing agents, nitrogen containing materials, other oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.

Hazardous Decomposition or By-Products: Nitrogen trichloride, chlorine, nitrous oxides, cyanates, carbon monoxide, carbon dioxide.

Hazardous Polymerization:     May Occur                       Will Not Occur

## **XI- TOXICOLOGICAL INFORMATION**

Acute Toxicity:

Rat oral LD50: 490 mg/kg

Rabbit dermal LD50: >2000 mg/kg

Rat inhalation LC50: Approx.0.68 mg/1/4 hour – (nose only)

Eye irritation (rabbit): Corrosive

Dermal irritation (rabbit): Corrosive

Target Organ Toxicity:

Reproductive and Development Toxicity: There are no known effects on reproductive function or fetal development. Toxicological investigation indicated it does not affect reproductive function of fetal development.

Carcinogenicity: Not known to be a carcinogen. Not included in NTP 8<sup>th</sup> Report on Carcinogens. Not classified by IARC, OSHA, and EPA.

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

## **XII- 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:

Mallard Duck, acute oral LD50: 1600 mg/kg

Mallard Duck, dietary LC50: >10,000 ppm

Bobwhite Quail, dietary LC: 7422 ppm

## **ENVIRONMENTAL HAZARDS (PR Notice 93-10)**

This product is toxic to fish and aquatic organisms. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water board or Regional Office of the EPA.

## **XIII - DISPOSAL CONSIDERATIONS**

Waste Disposal Method: 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.

Type of product and use: For formulation into end-use products intended for disinfectants, sanitizers, fungicides, bactericides and algacides for pools, spas, hot tubs, industrial recirculating water cooling towers, air washers and evaporative condensers, sewage treatments, food contact surfaces, laundry and egg sanitizing.

## **XIV - TRANSPORTATION DATA**

U.S. DEPARTMENT OF TRANSPORTATION - 49 CFR

Proper Shipping Name: Trichloroisocyanuric Acid Dry

Hazard Class/Division Number: 5.1 – Oxidizing substances

ID Number: UN2468

Packing Group: II  
Label Required: OXIDIZER (5.1)  
Emergency Guide No.141

#### INTERNATIONAL MARITIME ORGANIZATION - IMDG

Proper Shipping Name: Trichloroisocyanuric Acid Dry  
Hazard Class/Division Number: 5.1 – Oxidizing substances  
Packing Group: II  
Label Required: OIXIDIZING AGENT (5.1)  
(IMDG CODE – page 5190, amdt. 29-98)

ICAO/IATA  
Label: OXIDIZER (5.1)  
Class: 5.1  
Packing group: II

#### **XV - REGULATORY INFORMATION**

- (X) SARA: Section 311/312 Categorization (40CFR 370.2) this product is categorized as an immediate health hazard, and fire and reactivity physical hazard. Section 313 information (40c=CFR 372) this product does not contain a chemical listed at or above de minimis concentrations.
  - (X) TSCA
  - (X) EPA
  - (X) OSHA: This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).
- 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 waster number: D001.
- Hazardous Per 29 CFR 1910.1200: Yes
- 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.

#### **XVI - ADDITIONAL INFORMATION**

This MSDS replaces the 06/22/2000 version. Any changes in information are as follows:  
In Section I - 24 hr emergency telephone number

**ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.**

Due to the changing nature of regulatory requirements, the REGULATORY INFORMATION listed in Section XV of this document should NOT be considered all-inclusive or authoritative. International, Federal, State and Local regulations should be

consulted to determine compliance with all required reporting requirements.

The information in this MSDS was obtained from sources, which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.** The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.** This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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