

## **I - PRODUCT IDENTIFICATION**

Product: Cyanuric acid 94%  
Chemical Family: Isocyanurate  
Formula: C<sub>3</sub>H<sub>3</sub>N<sub>3</sub>O<sub>3</sub>  
CAS Number: 108-80-5  
Synonym(s): Cyanuric Acid Powder, Cyanuric Acid Granular, Isocyanuric Acid, Cyanuric acid, Conditioner

## **COMPANY IDENTIFICATION**

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

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

Chemical or Common Name:	Exposure Limits	
	OSHA PEL	ACGIH TLV
Cyanuric acid 108-80-5		90-99%
Sulfuric acid 7664-93-9		0-1%
Ammelide 645-93-2		0-0.5%
Ammeline 645-92-1		0-0.5%
Water 7732-18-5		0-10%

TLV-TWA: ACGIH: 1 mg/m<sup>3</sup>, A2 (Designation refers to sulfuric acid contained in strong inorganic acid mists.)  
USA-OSHA: 1 mg.m<sup>3</sup> (Sulfuric acid)  
TLV-STEL: ACGIH: 3 mg/m<sup>3</sup>, 15 min.

## **III – HAZARDS IDENTIFICATION**

Primary Route(s) of Entry:

Ingestion: ( )  
Inhalation: ( )  
Skin Contact: ( )  
Eye Contact: ( )

Primary Health Hazards (Acute and Chronic):

Carcinogenity Listings:

OSHA: ( )  
NTP: ( )  
IARC: ( )

Signs & Symptoms of Exposure:

Ingestion: Ingestion may cause gastrointestinal discomfort with any or all

of the following symptoms: nausea, vomiting, lethargy or diarrhea.  
Inhalation: No significant adverse effects to health would be expected to occur from inhalation with normal use of this product. However, if dust is created and inhaled, inhalation may cause mild irritation to the throat, mucous membranes and upper respiratory tract.  
Skin Contact: Skin contact may cause a mild irritation consisting of transient redness. This irritation effect would not be expected to result in permanent damage.  
Eye Contact: Contact with eyes may cause slight irritation consisting of redness, swelling and mucous discharge to the conjunctiva. No corneal damage or visual impairment.

Medical Conditions Aggravated By Exposure:

#### **IV – FIRST AID MEASURES**

Emergency and First Aid Procedures:

Ingestion: If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately.

Note: never give an unconscious person anything to drink.

Inhalation: In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep person quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.

Skin Contact: Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention immediately.

Eye Contact: Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.

Notes to physician: Irritant. No specific antidote. Treat symptomatically and supportively. In case of ingestion, induce vomiting in alert patient.

#### **V – FIRE FIGHTING MEASURES**

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

Flash Point: Not Applicable

Auto-ignition Temperature: Not Applicable

Flammable Limits: Not Applicable

LEL:

UEL:

Extinguishing Media: Use extinguishing media appropriate to surrounding fire conditions.

Special Fire-fighting Procedures: Cool containers with water spray. In closed stores, provide fire fighters with self-contained breathing apparatus in positive pressure mode.

Unusual Fire and Explosion Hazards: When heated to decomposition, may release poisonous and corrosive fumes of CO<sub>2</sub>, CO, NO<sub>x</sub> and cyanic acid.

## **VI – ACCIDENTAL RELEASE MEASURES**

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

Sweep up, place in a suitable container and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

On Soil: Keep spill materials dry and free of all foreign matter. Containerize in a clean, dry container.

On Water: This material is heavier than water. This material is very slightly soluble in water.

In Air: Not Applicable

## **VII – HANDLING AND STORAGE**

### Precautions to Be Taken in Handling and Storage:

Handling: Do not take internally. Avoid contact with skin, eyes, and clothing. Upon contact with skin or eyes, wash off with water.

Storage: Store in a dry, cool area. Do not store at temperatures above 60°C/140°F. Product has an indefinite shelf-life limitation.

Other Precautions:

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

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. 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:

Local Exhaust: Use local exhaust as necessary, especially under dusty conditions.

Mechanical Exhaust:

Other Protective Clothing or Equipment: Neoprene gloves, chemical safety goggles, 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: 0.27 g/100ml at 25°C

Appearance and odor: White granules or powder, no odor.

Specific Gravity (H<sub>2</sub>O=1): 2.5

Percent volatile by volume:

Melting Point: Sublimes at 320-330°C (608-626°F)

Evaporation Rate: Not applicable under standard conditions

Molecular Weight: 129.08  
Bulk density: 0.79-0.85 g/cc  
pH: 3.8-4.0  
Thermal decomposition: Not applicable

### **X – STABILITY AND REACTIVITY**

Stability:         Unstable                    Stable under normal conditions

Conditions to Avoid: Heating above 330°C (626°F)

Incompatibility: Oxidizing agents

Hazardous Decomposition or By-Products: Cyanic acid, nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization:                    May Occur                    Will Not Occur

### **XI- TOXICOLOGICAL INFORMATION**

Acute Toxicity:

Rat oral LD50: >5000 mg/kg

Rat dermal LD50: >2000 mg/kg

Eye irritation (rabbit): Mild irritant

Dermal Irritation (rabbit): Mild irritant

Target Organ Toxicity: May cause mild skin and eye irritation. Based on data from toxicological investigations, Cyanuric acid does not result in direct target damage. Damage to the kidneys and bladder has been observed in rats when these animals are provided a saturated solution (5375 ppm) of cyanuric acid for their drinking water. During excretion of high amounts by the kidneys, stones of cyanuric acid can form (calculi) resulting in mechanical damage, which is secondary to stone formation. There should be no risk to humans during manufacture of the product, its use as a swimming-pool disinfectant, or even by consumption of dilute solutions (1-10 ppm) of cyanuric acid. Cyanuric acid is excreted unchanged rapidly via the kidneys. It lacks the potential to bioaccumulate in the body.

Chronic toxicity: There are no known or reported effects from chronic exposure except for effects similar to those experienced from single exposure.

Reproductive and Development Toxicity: There is no known reported effects on reproductive function or fetal development. Monosodium cyanurate (the sodium salt of cyanuric acid) has been tested by oral gavage in pregnant rats and rabbits. No teratogenic effects were seen in the offspring of either species. Sulfuric acid aerosol (95.7% purity) was tested in pregnant mice and rabbits exposed to the concentrations of 0.5 and 20 mg/cubic meter by inhalation on gestational days 6-15 and 6-18, respectively. No reproductive or developmental effects were seen in either species at any of the exposure concentrations utilized.

Carcinogenicity: Cyanuric acid is not known to be a carcinogen. Not classified by IARC, OSHA, or EPA. Not included in NTP 8<sup>th</sup> Report on Carcinogens. Sulfuric acid is not known or reported to be carcinogenic by any reference source. IARC evaluated several epidemiology studies where individuals in a variety of industries had been exposed to a mixture of strong inorganic acid mists are

carcinogenic to humans. Because cancer has not been observed in animals when they are exposed only to sulfuric acid mist, exposure to sulfuric acid by itself was not determined to be carcinogenic to humans.

Mutagenicity: Not known or reported to be mutagenic. Cyanuric acid was demonstrated to be non-mutagenic in the Ames assay, both with or without metabolic activation.

## **XII – ECOLOGICAL INFORMATION**

Aquatic Toxicity: 96 hour LC50-Fish: >2,100 mg/l (Rainbow trout)  
>2,100 mg/l (bluegill sunfish)  
>2,100 mg/l (Fathead minnow)  
48 hour LC50, Daphnia Magna: 1,000 mg/l  
Avian Toxicity: Mallard duck, dietary LC50: >10,000 ppm  
Bobwhite quail, dietary LC50: >10,000 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.

## **XIV - TRANSPORTATION DATA**

U.S. Department of Transportation - 49 CFR

Not Regulated

Proper Shipping Name:

Hazard Class/Division Number:

ID Number:

Packing Group:

Label Required:

Placard Required:

Marine Pollutant:

Emergency Telephone Number: Chemtrec 800-424-9300

International Maritime Organization – IMDG

Not Regulated

Proper Shipping Name:

Hazard Class/Division Number:

ID Number:

Packing Group:

Label Required:

Placard Required:

Marine Pollutant:

Emergency Telephone Number: Chemtrec 202-483-7616 [call collect]

**XV - REGULATORY INFORMATION**

This chemical appears on the following lists:

(X) SARA TITLE III

Section 311/312 Categorization (40 CFR 370.2): this product is categorized as an immediate health hazard, and fire physical hazard.

Section 313 Information ( 40 CFR 372): This mixture or trade name product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

(X) TSCA – Reported in the EPA TSCA Inventory

Workplace Classification: This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EEC: Reported in EINECS (No. 2036180)

Adverse Human health effects: irritant to eyes and respiratory system

NFPA Rating: Not established

HMIS Rating: Health = 1, Fire = 0, Reactivity = 0.

**XVI - ADDITIONAL INFORMATION**

**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.

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Revised: 07/31/2003