

Yangzhou Sunchem Co.,Ltd.

Material Safety Data Sheet

Cyanuric Acid

I. PRODUCT IDENTIFICATION ALL CLEAR CYANURIC ACID DRY

Chemical Family: Isocyanurate

Formula: C₃H₃N₃O₃

Description: Chlorine stabilizer for swimming pool use.

OSHA Hazard Class: Irritant, skin irritant, eye irritant, kidney toxin.

TRANSPORTATION INFORMATION: THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

II. COMPONENT DATA

Chemical Name: Cyanuric Acid

CAS Number: 108-80-5

Percentage Range: 98-100

Hazardous per 29 CFR 1910.1200: No

Exposure Standards: None Established

Chemical Name: Sulfuric Acid

CAS Number: 7664-93-9

Percentage Range: 0-1

Hazardous per 29 CFR 1910.1200: Yes

Exposure Standards: OSHA PEL: 1.0 ppm mg/m³ ACGIH TLV: 1.0 ppm mg/m³

III. PRECAUTIONS FOR SAFE HANDLING AND STORAGE

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

Storage Conditions: Store in a cool, dry area.

DO not Store at Temperatures Above: 60°C (140°F)

Product Stability and Compatibility

Shelf Life Limitations: Unlimited

Incompatible Materials for Packaging: None Known

Incompatible Materials for Storage or Transport: None Known

IV. PHYSICAL DATA

Appearance and Odor: White granules or powder; odorless

Melting Point: Sublimes at 320-330°C

Bulk Density: 0.79-0.85 (g/cc) **Specific Gravity:** 2.5

Solubility in Water: 0.27% @ 25°C **pH:** 3.8-4.0

V. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Personal Protection for Routine Use of Product

Respiratory Protection: Respiratory protection not normally needed. If significant dusting occurs, wear a NIOSH/MSHA approved dust respirator.

Ventilation: Use local exhaust to minimize dust levels.

Skin Protection Equip: Wear gloves, chemical goggles, aprons or protective suit to avoid skin and eye contact.

Equipment Specifications

Respirator Type: Not normally needed

Glove Type: Neoprene

Boot Type: Not normally needed

Apron Type: Neoprene

Face Shield: Not normally needed

Protective Suit: Cloth material is normally considered safe.

VI. FIRE AND EXPLOSION HAZARD INFORMATION

Flammability Data: Nonflammable; Noncombustible; Nonpyrophoric

Flash Point: Not Applicable

Autoignition Temperature: Not Applicable

Flammability Limits in Air: Not Applicable

NFPA Ratings: Not Established

HMIS Ratings: Health-1, Flammability-0, Reactivity-0, Personal Protection-C

Extinguishing Media: Not Applicable

Fire Fighting Techniques: Use water to cool containers exposed to fire. Use extinguishing agent suitable for surrounding material.

VII. REACTIVITY INFORMATION

Conditions Under Which This Product May Be Unstable

Temperatures Above: 330°C (626°F)

Mechanical Shock or Impact: No

Electrical (Static) Discharge: No

Hazardous Polymerization: Will not occur

Incompatible Materials: Oxidizers

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide. Oxides of nitrogen, and cyanic acid.

Summary of Reactivity

Oxidizer: No **Pyrophoric:** No

Organic Peroxide: No **Water Reactive:** No

VIII. FIRST AID

Eyes: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

Skin: Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water. If irritation develops, call a physician. If clothing comes in contact with the product, the clothing should be removed immediately

and it should be laundered before reuse.

Ingestion: Immediately drink water to dilute. Call physician.

Inhalation: If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

IX. TOXICOLOGY AND HEALTH INFORMATION

Routes of Absorption: Eyes, skin

MAY BE HARMFUL UPON EYE OR SKIN CONTACT WITH SLIGHT IRRITATION

Odor Threshold: There are no available data for odor or irritation threshold.

Cyanuric acid is not immediately dangerous to life or health.

Signs, Symptoms, and Effects of Exposure

Eye: Contact with the eyes may cause slight irritation consisting of reversible redness of the conjunctiva. The irritation would be transient with no corneal damage or impairment of vision.

Skin: Skin contact may result in slight irritation with transient redness.

Any irritation would disappear in a time period of several hours to a day.

Inhalation/Ingestion: No significant effects to health would be expected from inhalation or ingestion.

Medical Conditions Aggravated by Exposure: There are no medical conditions known to be aggravated by exposure.

Interactions w/ Other Chemicals Which Enhance Toxicity: There are no chemicals known to enhance the toxicity of the product.

IX. TOXICOLOGY AND HEALTH INFORMATION - continued

Animal Toxicity

Acute Toxicity Inhalation LC₅₀ - No available data

Dermal LD₅₀ - > 2 g/kg (rabbit)

Oral LD₅₀ - > 5 g/kg (rat)

Slight eye irritant

Slight skin irritation

Toxicity to Wildlife (LD₅₀)

Rainbow Trout (96-hours exposure) - 1080 ppm

Bluegill Sunfish (96-hours exposure) - 1400 ppm

Daphnia Magna (48-hours exposure) - > 1000 mg/l

Mallard Duck (8-day dietary exposure) - > 2150 ppm

Bobwhite Quail (8-day dietary exposure) - > 10,000 ppm

Chronic Toxicity: based on data from toxicological investigations, cyanuric acid does not result in direct target organ 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 kidney, stones of cyanuric acid can form (calculi) resulting in mechanical damage which is secondary to stone formation. This effect would not pose a risk to humans during manufacturing, use as a disinfectant in swimming pools, and even in 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.

Reproductive Toxicity: Cyanuric acid does not affect reproductive function or fetal development.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA. Laboratory toxicological studies in rats and mice (lifetime exposure) indicate the material is not carcinogenic.

Mutagenicity: A battery of tests (Ames assay, mouse lymphoma, sister chromatid exchange, and chromosome aberration) indicate that cyanuric acid does not damage genetic material.

X. SPILL AND LEAKAGE PROCEDURES

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC 800-424-9300.

Reportable Quantity: None Established (Per 40 CFR 302.4)

Spill Mitigation Procedures: Air Release - Not Applicable.

Water Release - This material is heavier than water and is very slightly soluble in water.

Land Spill - Keep spill materials dry and free of all foreign matter. Containerize in a clean, dry container.

Spill Residues: Dispose of per Waste Disposal guidelines.

Personal Protection for Emergency Spill and Fire-Fighting: No extra protection required beyond that already listed. (In case of fire, use normal fire-fighting equipment).

XI. WASTE DISPOSAL

If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste in Subpart C, nor is it listed as a hazardous waste under Subpart D. As a nonhazardous solid waste, it should be disposed of in accordance with local, state, and federal regulations by disposal in a secure chemical landfill. Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

XII. ADDITIONAL REGULATORY STATUS INFORMATION

Toxic Substances Control Act: This substance is listed on the Toxic Substances Control Act inventory.

Superfund Amendment and Reauthorization Act Title III

Hazard Categories, Per 40 CFR 370.2: Health - Immediate (Acute)
Physical - None

Emergency Planning and Community Right To Know, Per 40 CFR 355, Appendix A Extremely Hazardous Substances Threshold Planning Qty: None Established
Supplier Notification Requirements, Per 40 CFR 372.45: This mixture or tradename 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. Chemicals listed are: Sulfuric Acid

XIII. ADDITIONAL INFORMATION

The information in this MSDS 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. We believe this information to be reliable and up to date as of the date of publication, but make no warranty that it is.