

MATERIAL SAFETY DATA SHEET**I - PRODUCT IDENTIFICATION**

Product: Sodium dichlor 63%
Synonyms: sodium dichloroisocyanurate, sodium dichloro-s-triazinetriene
Chemical Family: chloroisocyanurate

II - TRANSPORTATION DATA**U.S. Department of Transportation - 49 CFR**

Proper Shipping Name: Dichloroisocyanuric Acid Salts
Hazard Class/Division Number: 5.1
ID Number: UN 2465
Packing Group: II
Placard Required: Oxidizer (5.1)
Label Required: Oxidizer (5.1)
ERG Number: 141
Emergency Telephone Number: Chemtrec 800-424-9300

* Transportation by water and air must have the same markings as above

Reportable Quantity: not applicable
Emergency Guide Number: ~~141~~ 140

III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Chemical Name: sodium dichloroisocyanurate
CAS Number: 2893-78-9
Percentage Range: 99-100%
Hazardous Per 29 CFR 1910.1200: yes
Exposure Standards: none established

Chemical Name: sodium chloride
CAS Number: 7647-14-5
Percentage Range: 0-1%
Hazardous Per 29 CFR 1910.1200: no
Exposure Standards: none established

IV - PHYSICAL/CHEMICAL CHARACTERISTICS

Odor: none to mild chlorine-like
Appearance: white

Total acidity (1% solution):	6.0-6.4
Physical state:	granules
Freezing Point:	N/A
Solubility in Water:	25% at 30°C
Vapor Density (Air=1):	N/A
Molecular Weight:	220
Specific Gravity (H ₂ O=1):	0.96 at 20°C
Bulk Density:	0.9-0.95 g/cc
Vapor Pressure (mm Hg):	N/A
Percent volatile by volume:	N/A
Boiling Point (@ 760 mm Hg):	N/A
Melting Point:	230-250°C
Coefficient of Oil/Water Dist.:	N/A
Decomposition Temperature:	240-250°C (464-482°F)
Product is:	not cryogenic and not a compressed gas

V - FIRE AND EXPLOSION HAZARD DATA

Flammability Data:

Flammable: no

Combustible: no

Pyrophoric: no

Flash Point:

N/A

Auto-ignition Temperature:

N/A

Flammable Limits

LEL: N/A

UEL: N/A

Extinguishing Media:

Not applicable

Special Fire-fighting Procedures:

Use water to cool containers exposed to fire. 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. Do not use dry chemical extinguisher containing ammonium compounds

VI - REACTIVITY DATA

Stability:

() Unstable (X) Stable

Stable under normal conditions of storage, shipment and/or use. Do not package in paper or cardboard. Avoid temperatures above 240-250°C (464-482°F)

NOTE – contact with small amounts of water may result in an exothermic reaction with the liberation of toxic fumes

Incompatibility:

Other oxidizers, organic materials, reducing agents, acids, bases, nitrogen containing compounds organics, dry fire extinguishers containing mono-ammonium phosphates

Hazardous Decomposition or By-Products:

Nitrogen trichloride, chlorine, carbon monoxide

Hazardous Polymerization:

() May Occur (X) Will Not Occur

Summary of Reactivity:

Oxidizer:	Yes	Pyrophoric:	No
Organic Peroxide:	No	Water Reactive:	No

VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Personal Protection for Emergency Spill and Fire-fighting Situations:

Response to the material requires the use of a full, encapsulated suit and a NIOSH/MSHA approved positive pressure supplied air respirator. Compatible material for response to this material is neoprene

CAUTION – protection concerns must also address the following: if the material becomes damp/wet or contaminated in a container the formation of nitrogen trichloride gas may occur and an explosive condition may exist.

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

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.

Air Release:

Vapors may be suppressed by the use of water fog

Water Release:

This material is heavier than water. Stop flow of material into water source as soon as possible. Begin monitoring for available chlorine and pH immediately

Land Spill:

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.

Waste Disposal Method:

If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly. As a hazardous solid waste, it must be disposed of in accordance with local, state, and federal regulations in a permitted hazardous waste treatment, storage and disposal facility by treatment

Care must be take 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 non-hazardous wastes

Precautions to Be Taken in Handling and Storage:

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

Store in a cool, dry, well ventilated area. Do not store at temperatures above 60°C/140°F. Product has a shelf-life of three to four years if stored in a cool, dry area

VIII - HEALTH HAZARD DATA

OSHA Hazard Classification:

Oxidizer, corrosive, lung toxin, skin and eye hazard, highly toxic by inhalation

NFPA-HMIS Ratings:

Health:	3	3
Flammability:	0	0
Reactivity:	2	2
Special Hazard:	oxidizer	

Personal Protection:

Primary Route(s) of Entry:

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

Medical Conditions Aggravated By Exposure:

Asthma, respiratory and cardiovascular disease

Primary Health Hazards:

Harmful if inhaled or ingested. Harmful if exposed to skin or eyes. Corrosive to all tissues contacted

Immediately Dangerous to Life or Health:

Sodium dichloroisocyanurate has the potential to be immediately dangerous to life and health

Signs & Symptoms of Exposure:

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

Skin: dermal exposure can cause severe irritation and/or burns characterized by redness, swelling, and scab formation. Prolonged skin exposure may cause permanent damage. Effects from chronic skin exposure would be similar to those from single exposure except for effects secondary to tissue destruction

Inhalation: irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory tract with the production of lung edema which can result in shortness of breath, wheezing, choking, chest

pain, and impairment of lung function. Inhalation of high concentration can result in permanent lung damage. Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.

Ingestion: irritation and/or burns can occur to the gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration

Emergency and First Aid Procedures:

Ingestion: immediately drink large quantities of water. DO NOT induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions

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 protection before the person returns to work

Skin Contact: immediately flush with water for at least 15 minutes. Call a physician. If clothing comes in contact with the product, the clothing should be removed immediately and should be laundered before reuse

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

IX - CONTROL MEASURES

Exposure Control/Personal Protection:

Respiratory: a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. When duty conditions are encountered, wear a NIOSH/MSHA approved full face-piece respirator equipped with chlorine cartridges and a dust/mist type pre-filter

Ventilation: use local exhaust ventilation to minimize dust levels

Skin: avoid contact with skin. Neoprene gloves should be worn when using this substance. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical

- breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water
- Eye: use chemical safety glasses (ANSI Z87.1 or approved equivalent). Where industrial use occurs chemical goggles may be required
- Hygiene: eye wash station and safety shower should be provided. Do not eat, drink or smoke until showering and changing clothes
- Other: for industrial use, wear chemically resistant (neoprene) apron and full impermeable suit or other impervious clothing to avoid skin and eye contact

X - TOXICOLOGICAL INFORMATION

Acute Toxicity:

- Inhalation LC50: 0.877 – 0.950 mg/l (rats, 1-hour exposure)
Oral LD50: 735 mg/kg (rat)
Dermal LD50: > 2 g/kg (rabbit)
Irritation: causes burns to eyes and skin

Chronic Toxicity:

There are no known or reported effects from repeated exposure. Toxicological investigation indicates no significant effects from chronic exposure except lung damage from inhalation exposure

Reproductive Toxicity:

There are no known or reported effects on reproductive function or fetal development. Toxicological investigation indicates sodium dichloroisocyanurate does not impair 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

Mutagenicity:

This product is not known or reported to be mutagenic

XII – ECOLOGICAL INFORMATION

Aquatic Toxicity:

- Rainbow trout (96-hour LC50): 0.22 mg/l
Bluegill sunfish (96-hour LC50): 0.28 mg/l
Daphnia magna (48-hour LC50): 0.20 mg/l

Avian Toxicity:

- Bobwhite quail (Oral LD50): 730 mg/kg
Bobwhite quail (8-day dietary LC50 exposure): >10,000 ppm
Mallard duck (Oral LD50): 3.3 g/kg
Mallard duck (8-day dietary LC50 exposure): >10,000 ppm

XIII – REGULATORY INFORMATION

Workplace Classification:

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

SARA Title III, Section 311/312 Categorization (40 CFR 370.2):

This product is categorized as an immediate health hazard, and fire physical hazard

SARA Title III, Section 313 Information (40 CFR 372):

This product does not contain a chemical which is listed in Section 313 at or above de minimus concentrations

Waste Classification:

If the 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

United States:

This product is subject to regulation under the US Toxic Substances Control Act Inventory listing requirements

XIV- 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 XIII 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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