



## RICHINA DEVELOPMENT LIMITED

9J FIRST TRADE TOWER, 985 DONGFANG ROAD, PUDONG NEW AREA, SHANGHAI

TEL: (+86)21 68406551

# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name Sodium Dichloroisocyanurate  
CAS-No. 2893-78-9

### 1.2 Details of the supplier of the safety data sheet

Company RICHINA DEVELOPMEND LIMITED  
Address 9J First Trade Tower, 985 Dongfang Road,  
Pudong New Area, Shanghai. China  
Telephone +86- 021-68406551  
Fax +86- 021-68406551

### 1.3 Emergency telephone number

Emergency Phone +86- 021-68406551

## 2. HAZARDS IDENTIFICATION

OSHA Haz Com: CFR 1910.1200:

Acute Toxicity - Oral [Category 4]  
Eye Damage/Irritation [Category 2A]  
Specific Target Organ Toxicity (Single Exposure) [Category 3]  
Oxidizing Solids [Category 2]  
Aquatic Hazard (Acute) [Category 1]  
Aquatic Hazard (Long-Term) [Category 1]  
Skin Corrosion/Irritation [Category 1B]  
Danger  
Causes serious eye irritation  
Causes severe skin burns and eye damage  
Harmful if swallowed  
May intensify fire; oxidizer  
Very toxic to aquatic life  
Very toxic to aquatic life with long lasting effects  
May cause respiratory irritation.

Signal word

Hazard Statement(s):

Pictogram(s) or Symbol(s):



Precautionary Statement(s):

#### [Prevention]

Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Do not breathe dusts or mists. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye protection and face protection. Wear eye and face protection. Avoid breathing dusts or mists. Keep away from heat. Store away from clothing and other combustible materials. Wear protective gloves, eye protection and face protection.

#### [Response]

If swallowed: Immediately call a poison center or doctor. Rinse mouth. If swallowed: Rinse mouth. Do NOT



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induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. Call a poison center or doctor if you feel unwell. In case of fire: Use water spray, wet sand or wet earth to extinguish.

### **[Storage]**

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

### **[Disposal]**

Dispose of contents and container in accordance with US EPA guidelines for the classification and determination of hazardous waste listed in 40 CFR 261.3. (See Section 13)

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance/Mixture	Substance
Components	Sodium Dichloroisocyanurate
Percent	>97.0%(T)
CAS-No.	2893-78-9
Molecular Weight	219.94
Chemical Formula	$C_3Cl_2N_3NaO_3$
Synonyms	Dichloroisocyanuric Acid Sodium Salt

## **4. FIRST AID MEASURES**

### **Inhalation:**

Immediately call a poison center or doctor. Effects of exposure (inhalation) to substance may be delayed. Inhalation of vapors or contact with substance will result in contamination and potential harmful effects. Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

### **Skin contact:**

For severe burns, immediate medical attention is required. Immediately call a poison center or doctor. Effects of exposure (skin contact) to substance may be delayed. Remove and wash contaminated clothing before re-use. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

### **Eye contact:**

IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Contact with material may irritate or burn eyes. Call emergency medical service. Move victim to fresh air. Check for and remove any contact lenses. Keep victim warm and quiet. Treat symptomatically and supportively. Effects of exposure to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

### **Ingestion:**

Harmful if swallowed. Do not induce vomiting without medical advice. Effects of exposure (ingestion) to substance may be delayed. Call a physician or Poison Control Center immediately. Do not use mouth-to-mouth methods if victim ingested the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Loosen tight clothing such as a collar, tie, belt or



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waistband. If a person vomits place them in the recovery position so that vomit will not reenter the mouth and throat. Rinse mouth. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

### **Symptoms/effects:**

**Acute:** Pain. Redness.

**Delayed:** May have effects on the respiratory tract.

### **Immediate medical attention:**

WARNING: It might be hazardous to the person providing aid to give mouth-to-mouth respiration, because the inhaled material is harmful. WARNING: It might be hazardous to the person providing aid to give mouth-to-mouth respiration, because the inhaled material is corrosive. For severe burns, immediate medical attention is required. If breathing has stopped, perform artificial respiration. Use first aid treatment according to the nature of the injury. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## **5. FIREFIGHTING MEASURES**

### **Suitable extinguishing media:**

Use water. Carbon Dioxide (CO<sub>2</sub>) provides limited control Consult with local fire authorities before attempting large scale firefighting operations.

### **Unsuitable extinguishing media:**

Do NOT use dry chemicals or foams.

### **Specific hazards arising from the chemical**

**Hazardous combustion products:** These products include: Carbon oxides Nitrogen oxides Halogenated compounds Metallic oxides

**Other specific hazards:** WARNING: Highly toxic HCl gas is produced during combustion.

### **Special precautions for fire-fighters:**

Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Move containers from fire area if you can do it without risk.

### **Special protective equipment for fire-fighters:**

Wear positive pressure self-contained breathing apparatus (SCBA). Structural fire fighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations. Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions:**

Avoid contact with skin, eyes, and clothing. Keep people away from and upwind of spill/leak. Use spark-proof tools and explosion-proof equipment. Remove all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (Section 8). Warn unnecessary personnel to move away. Stop leak if you can do it without risk. Ensure adequate ventilation. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

### **Personal protective equipment:**

Wear eye protection (splash goggles) and face protection (full length face shield). Lab coat. Dust respirator. Be



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sure to use a MSHA/NIOSH approved respirator or equivalent. Wear protective gloves (nitrile).

### **Emergency procedures:**

Prevent dust cloud. Do not clean-up or dispose except under supervision of a specialist. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in the immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Warn personnel to move away. Prevent entry into sewers, basements or confined areas; dike if needed.

### **Methods and materials for containment and cleaning up:**

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if without risk. Keep away from combustible materials, reducing agents, acids, metal powders, light, heat, and sources of ignition. Do not get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Use clean non-sparking tools to collect absorbed material. Dike far ahead of spill; use dry sand to contain the flow of material. Ventilate the area.

### **Environmental precautions:**

Keep away from living quarters. Environmental hazard. Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Water runoff can cause environmental damage. Prevent entry into sewers, basements or confined areas; dike if needed.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling:**

Avoid inhalation of vapor or mist. Manipulate under an adequate fume hood. Do not ingest. Avoid contact with skin and eyes. Avoid contact with combustible material (wood, paper, oil, clothing...) Keep away from heat and sources of ignition. Good general ventilation should be sufficient to control airborne levels. Keep container dry. Handle and open container with care. Wear suitable protective clothing, gloves and eye/face protection. When using does not eat, drink, or smoke. Keep away from sources of ignition.

### **Conditions for safe storage:**

Store locked up. Keep containers tightly closed in a cool, well-ventilated place. Keep away from combustible materials. Keep away from sources of ignition. Store and use away from heat, sparks, open flame, or any other ignition source. Keep away from incompatibles. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid prolonged storage periods.

### **Storage incompatibilities:**

Combustible substances, Reducing Agents

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure limits:** No data available

### **Appropriate engineering controls:**

Good general ventilation should be sufficient to control airborne levels. Ventilation is normally required when handling or using this product. Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance. Follow safe industrial engineering/laboratory practices when handling any chemical.

### **Personal protective equipment**

**Respiratory protection:** Dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent.

**Hand protection:** Wear protective gloves.

**Eye protection:** Safety glasses.

**Skin and body protection:** Lab coat.



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state (20°C):** Solid

**Form:** Crystal - Powder

**Color:** White - Almost white

**Odor:** Chlorine

**Odor threshold:** No data available

**Partition coefficient:** No data available

n-octanol/water (log  $P_{ow}$ )

**Flammability (solid, gas):** No data available

**pH:** No data available

**Vapor pressure:** No data available

**Evaporation rate:** No data available

(Butyl Acetate = 1)

**Flammability or explosive limits: Lower:** No data available

**Upper:** No data available

**Solubility(ies):**      **Water:** Soluble

**Melting point/freezing point:** No data available

**Boiling point/range:** No data available

**Decomposition temperature:** No data available

**Relative density:** No data available

**Kinematic viscosity:** No data available

**Flash point:** No data available

**Vapor density:** No data available

**Dynamic Viscosity:** No data available

**Autoignition temperature:** No data available

### 10. STABILITY AND REACTIVITY

**Reactivity:** Not Available.

**Chemical Stability:** Stable under recommended storage conditions. (See Section 7)

**Possibility of Hazardous Reactions:** Oxidizing agents may form explosive peroxides.

**Conditions to avoid:** Avoid excessive heat and light.

**Incompatible materials:** Oxidizing agents

**Hazardous Decomposition Products:** No data available

### 11. TOXICOLOGICAL INFORMATION

**RTECS Number:** XZ1900000

**Acute Toxicity:** orl-hmn LDLo: 3570 mg/kg

orl-mam LD50:1670 mg/kg

orl- rat LD50:1420 mg/kg

orl-rbt LDLo:2500 mg/kg

**Skin corrosion/irritation:** No data available

**Serious eye damage/irritation:** No data available

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** No data available

**Carcinogenicity:** No data available

**IARC:** No data available      **NTP:** No data available      **OSHA:** No data available

**Reproductive toxicity:** orl-mus TDLo: 4 gm/kg(6-15D preg)

**Routes of Exposure:** Inhalation, Eye contact, Ingestion, Skin contact.

**Symptoms related to exposure:** Overexposure may result in serious illness or death. Skin contact may produce burns. Skin contact may result in inflammation; characterized by itching, scaling, reddening, or occasionally blistering. Eye contact may result in redness or pain. Inhalation causes irritation of the lungs and



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respiratory system.

**Potential Health Effects:** Skin and eye contact may result in irritation. Inhalation causes irritation of the lungs and respiratory system.

**Target organ(s):** May cause respiratory irritation.

### **12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

**Fish:** No data available

**Crustacea:** No data available

**Algae:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential (BCF):** No data available

**Mobility in soil:** No data available

**Partition coefficient:** No data available

n-octanol/ water (log  $P_{ow}$ )

**Soil adsorption (K<sub>oc</sub>):** No data available

**Henry's Law:** No data available

constant (PaM<sup>3</sup>/mol)

### **13. DISPOSAL CONSIDERATIONS**

#### **Disposal of product:**

Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.

#### **Disposal of container:**

Dispose of as unused product. Do not re-use empty containers.

#### **Other considerations:**

Observe all federal, state and local regulations when disposing of the substance.

### **14. TRANSPORT INFORMATION**

#### **DOT (US)**

UN number:	2465
Class or division:	5.1 Oxidizer
Packing group:	II
Proper shipping name:	Dichloroisocyanuric acid salts

#### **IMDG**

UN number:	2465
Class or division:	5.1 Oxidizer
Packing group:	II
Proper shipping name:	Dichloroisocyanuric acid, salts

#### **IATA**



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UN number:	2465
Class or division:	5.1 Oxidizer
Packing group:	II
Proper shipping name:	Dichloroisocyanuric acid, salts
EmS number:	F-A, S-Q

### **15. REGULATORY INFORMATION**

#### **Toxic Substance Control Act (TSCA 8b.):**

This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

#### **US Federal Regulations**

##### **CERCLA Hazardous substance and Reportable Quantity:**

**SARA 313:** Not Listed

**SARA 302:** Not Listed

#### **State Regulations**

##### **State Right-to-Know**

**Massachusetts:** Not Listed

**New Jersey:** Not Listed

**Pennsylvania:** Not Listed

**California Proposition 65:** Not Listed

#### **Other Information**

##### **NFPA Rating:**

**Health:** 2

**Flammability:** 0

**Instability:** 2

##### **HMIS Classification:**

**Health:** 2

**Flammability:** 0

**Instability:** 2

#### **International Inventories**

**WHMIS hazard class:** C: Oxidizing Material.

E: Corrosive material.

D2A: Materials causing other toxic effects. (Very Toxic)

**EC-No:** 220-767-7

### **16. OTHER INFORMATION**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. RICHINA DEVELOPMENT LIMITED shall not be held liable for any damage resulting from handling or from contact with the above product.