

## Material Safety Data Sheet

### 1 Product And Company Identification

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### 2 Hazards Identification

Classification of the GHS

#### PHYSICAL HAZARDS

Self-reactive substances and mixtures Type G  
Oxidizing solids Category 2

#### HEALTH HAZARDS

Acute toxicity (Oral) Category 4  
Skin corrosion/irritation Category 2  
Serious eye damage/eye irritation Category 1

#### ENVIRONMENTAL HAZARDS

Hazardous to the aquatic environment (acute) Category 1  
Hazardous to the aquatic environment (chronic) Category 1

GHS label elements

Hazards symbols



Fire Defense Law of Japan:

Hazards Group I

Physical And Chemical Hazards

Danger:

Direct contact with the substances mentioned below may cause decomposition of material and fire or explosion.

Fire, heat, acid, alkali, organic solvent, reducing agent and other combustible material like oil&fat, grease.

Contact with those above may cause degradation of material and fire or explosion.

Contact with inorganic bleaching powder, ammonia and ammonium salt may generate hazardous and explosive gases.

Potential Health Effects:

Eye contact may cause irritation and pain burns.

Skin contact may cause irritation and prolonged contact may cause burns.

Inhalation may cause irritation, choking and damage to respiratory tract, mucous membranes.

Ingestion may cause damage to mucous membranes and digestive tract.

Potential Environmental Effects

Material is believed not to persist in the environment. Hydrolysis reaction occurs in water.

Odor: Chlorine-like odor

Classification: Oxidizing substance

### 3 Composition/Information on Ingredients

Product name:	TCCA-G	Trichloroisocyanuric acid, Granule
Chemical Name:	Trichloroisocyanuric acid	
Chemical Family:	Chlorinated isocyanurates	
Chemical formula or structural formula	C <sub>3</sub> N <sub>3</sub> O <sub>3</sub> Cl <sub>3</sub>	
Composition:	Trichloroisocyanuric acid	99%
	Other	1%
CAS No:	87-90-1	
Existing Chemicals Evaluation Act of Japan:	(5)-1044	

### 4 First Aid Measures

#### Eye Contact

Immediately wash thoroughly with running water, eyes and upper/lower lids for at least 15 minutes.

Immediately Get Medical Attention.

#### Skin Contact

Immediately wash contaminated area with running water.

Wash contaminated area with soap and running water for at least 15 minutes.

Immediately Get Medical Attention.

#### Inhalation

Immediately remove the victim to fresh air or uncontaminated area.

Call immediately emergency services and medical assistance.

#### Ingestion

Immediately get medical attention.

#### Note to Physician

No specific antidote.

#### Major Health Hazards

Corrosive.

May cause irreversible eye damage.

May cause burns to skin if not removed immediately.

#### Physical Hazards

Very Strong oxidizer.

### 5 Fire Fighting Measures

#### Fire And Explosion Hazards

##### Extinguish Media

Large amount of water.

Do not use any dry chemicals, carbon dioxide, halogenated extinguishing agent

##### In case of fire

Evacuate to the safe areas where supposed locations of upwind and high.

Move container from fire area if safety ensured.

If not, spray large amount of water to cool container to prevent from vapor/rupture.

Spraying water may also help gas/vapor disperse wider.

##### Extinguishing action

Extreme caution is needed if to do.

Wear thoroughly protective clothing and self-contained breathing apparatus.

Avoid inhalation of material and gas/vapor.

Gases might be chlorine, carbon dioxide, hydrogen chloride, nitrogen, carbon monoxide and nitrogen trichloride.

Nitrogen trichloride gas may cause explosion if density high.

Damp material must be neutralized thoroughly before waste and also contaminated water must be neutralized.

## 6 Accidental Release Measures

In case of spill

- Clean up immediately.
- Wear gloves when touch spilled material.

Action to clean up

- Wear appropriate protective clothing and equipment.
- Keep unnecessary person away.
- Do not use water to spilled material.
- Scoop spilled material into clean, dry container and sweep spilled area thoroughly.
- Extreme care to prevent from any contamination with combustible or organic material.
- Do not return spilled material to original container.
- Prevent material from get into sewers, waterways and rivers.

Caution to release

- Do not damp spilled material.
- Damp/wet material must be neutralized thoroughly before release.

## 7 Handling And Safety

Handling

- Wear appropriate protective clothing and equipment.
- Do not get in eyes, on skin, or on clothing.
- Avoid breathing vapor, hume, dust of material.
- Handle container with care not to damage.
- Avoid generate mist and dust.
- Ensure adequate ventilation.
- Prevent from contact with inorganic bleaching powder, ammonia and ammonium salt.
- Prevent from any contamination and contact with combustible or organic material.
- Prevent from contact with fire, heat, acid, alkali, grease.
- Wash thoroughly body and clothing after handling..

Storage

- Store in tightly closed container in clean, dry, cool and well-ventilated area.
- Do not allow water/humidity get into container.
- Store away from fire, heat, incompatible material and combustible material
- Store away from inorganic bleaching powder.
- Recommend to keep container on pallet, in dark place avoiding direct exposure to sunlight.

EU Risk Assessment Classification

R: 8-22-31-36/37

EU Safety and Health Classification

S: (2-)8-26-41

## 8 Exposure Controls And Personal Protection

Specific control

- Implement complete procedure of operation not to accumulate of dust.
- Control density: Not available

Ventilation

- Ensure adequate ventilation.
- Install local exhausting ventilator where mist or dust may generated.

Eye Protection

- Wear appropriate goggles to prevent eyes from contact with material.
- Install for emergency eye wash fountain and drench shower within the immediate work area.

Respiratory

- Wear full face protective mask of dust-free or anti halogen-gas
- Specific respirator may be used.

Gloves

- Wear suitable gloves made of rubber

Clothing

- Wear protective clothing to prevent skin contact.

## 9 Physical And Chemical Properties

Appearance	Granular
Color	White
Odor	Chlorine-like odor
Decomposition point	249–251°C
Solubility in water	Approx. 1g/100g (25°C)
pH	2.5–3.3 (1% solution)
Corrosiveness	Almost same level as chlorine gas

## 10 Stability And Reactivity

### Stability:

Stable if dry. React with water to produce hypochlorous acid

### Hazardous thermal decomposition/combustion:

Hazardous and produce gases of chlorine, carbon monoxide, nitrogen trichloride

### Water:

Contact with water generate hypochlorite.

Wet material accumulate reactive heat within material and may cause fire or generate hazardous gases.

### Air:

Not applicable

### Contamination:

Cause hazardous decomposition.

Especially with acid, alkali, reducing material, oil&fat, oxidizing material like calcium hypochlorite, sodium hypochlorite

Decomposition produce hazardous gases of chlorine, carbon monoxide, nitrogen trichloride.

Nitrogen trichloride gas may cause explosion if density high.

### Incompatible:

Avoid contamination/contact with other material, heat and high humidity

## 11 Toxicological Information

### Acute Toxicity

Oral	Rat LD <sub>50</sub>	406mg/kg
Skin	Rabbit LDLo	5010mg/kg
Inhalation	Rat LC	> 2g/m <sup>3</sup> /1H

### Irritation

Skin	Rabbit	500mg/24H:	Moderate
Eye	Rabbit	500mg:	Severe

### Effects to human

#### Eyes

May cause severe irritation to mucous membranes, pain, burns and conjunctivis

#### Skin

May cause severe irritation, pain, dermatitis and burns

#### Inhalation

May cause severe irritation, choking and damage to respiratory tract, mucous membranes,

## 12 Ecological Information

### Ecotoxicity

#### Degradation

0% by BOD. Material is not biodegradable or will be dechlorinated to isocyanuric acid.

#### Fish toxicity

Material is believed and identified as below by Existing Chemicals Evaluation Act of Japan

Bioconcentration: None or negligible

Bioaccumulation: None or negligible

### 13 Disposal Consideration

Dispose in accordance with all applicable regulations.

Caution to dispose

1. Do not dispose in trash or waste bin.

Do not dispose together with inorganic bleaching powder.

2. ① Dissolve in water to neutralize by reducing agents, like Hypo(Sodium thiosulfate), Sodium sulfite etc.

② Dilute with large amount of water and dispose to waterways.

or

① Dissolve combustible solvent.

② Incinerate in incinerator equipped after-burner and scrubber.

3. Used container, bag must be thoroughly cleaned/neutralized as per above.

### 14 Transport Information

Caution to transport

1. Handle container with enough care not to damage container.

Do not drop container or give shock/impact and avoid any damage onto container

Keep container dry and do not get wet.

Keep away from exhaust gas out of truck/car.

2. Keep container upright and properly tighten not to fall down.

Make sure not to allow water/humidity get into container.

Avoid direct exposure of sunlight.

3. Do not put together with inorganic bleaching powder.

4. Do not put together with hazardous material controlled Fire Defense Law.

i.e. Group: II, III, IV, V (Fire Defense Law of Japan)

5. Prevent any contact with water, acid, other chlorine material, reducing agents, oil&fat, grease and any other combustible material.

ID No	UN2468	Trichloroisocyanuric acid, dry
	Hazard Class	5.1
	Packing group	II

### 15 Regulatory Information

1. Fire Defense Law of Japan

Hazards Group: Group I Chlorinated isocyanuric acid, Class 3 Oxidizing solid (1,000kg)

2. Port and Harbor Law of Japan

Enforcement regulation: Article 12, Hazardous material, Oxidizing material

3. Aviation Law of Japan

Enforcement regulation: Article 194, Notification List No 7, Oxidizing material

4. Rules and Regulations for Dangerous Goods Transport by Ship and Storage:

Article 3, Notification List No 7, Oxidizing material

5. Japan Railways Freight Transport Regulation:

Dangerous goods

6. EPA TSCA Inventory: Appears

7. EINECS: 2017828

8. PRTR Regulation: Not applicable

9. ICAO/IATA: Class 5.1, Grade II, PAT508(5kg), Y508(2.5kg), CAO511(25kg)

10. IMO/IMDG: Class 5.1, Packaging group II

11. FIFRA regulations Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Reg. No. 33980-1

12. FIFRA labeling requirements FIFRA Signal Word – DANGER

Corrosive

Causes irreversible eye damage and skin burns

May be fatal if swallowed

May be harmful if absorbed through skin

This pesticide is toxic to fish and aquatic organisms

Strong oxidizing agent

Do not contaminate water, flood or feed by storage or disposal

Flood with large volumes of water if necessary.

Use clean dry utensils.

DO NOT add this product to any dispensing device containing remnants of any other product

Such use may cause a violent reaction leading to fire or explosion

Contamination with moisture, organic material, or other

chemicals may start a chemical reaction with generation of

heat, liberation of hazardous gases, and possible generation of

fire and explosion

## 16 Additional Information

### Important

This information is believed to be correct but it is provided without representation, guarantee or warranty, expressed or implied as to the accuracy or correctness, reliability or completeness of the information.

It does not assume any responsibility for injury, damage or loss arising from the use of the material.

The information is intended for use of appropriate and safety precautions and handling.

In case of special handling, new directions and rules are necessary for safety protection.

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