

Material Safety Data Sheet

1 Product And Company Identification

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2 Composition/Information on Ingredients

Product name: TCCA-G Trichloroisocyanuric acid, Granule
 Chemical Name: Trichloroisocyanuric acid
 Chemical Family: Chlorinated isocyanurates
 Chemical formula or structural formula $C_3N_3O_3Cl_3$
 Composition: Trichloroisocyanuric acid 100%
 CAS No: 87-90-1
 Existing Chemicals Evaluation Act of Japan: (5)-1044

3 Hazards Identification

Fire Defense Law of Japan: Hazards Group

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

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, fume, 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

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

RTECS

Inhalation	Rat LC	> 2g/m ³ /1H
Oral	Rat LC ₅₀	406mg/kg
Skin	Rabbit LDLo	5,010g/kg

Irritation

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

Effects to human

Eyes

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

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

Dilute with large amount of water and dispose to waterways.

or

Dissolve combustible solvent.

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: , , , (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	

15 Regulatory Information

1. Fire Defense Law of Japan
Hazards Group: Group 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 , PAT508(5kg), Y508(2.5kg), CAO511(25kg)
10. IMO/IMDG: Class 5.1, Packaging group

16 Additional Information

Important

These 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 assumed 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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