

MATERIAL SAFETY DATA SHEET

Date prepared : 25 October 1996

1. Identification of the substance and of the company.
 - 1.1 Identification of the substance or preparation :

NISSAN TCCA

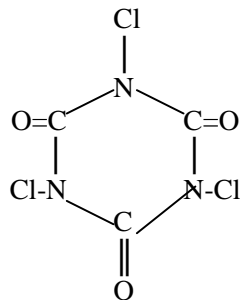
- 1.2 Company Identification

c/o Wisdah Sdn. Bhd.
No.74, Jalan Chow Kai
Taman Canning
31400 Ipoh, Perak.

- 1.3 Emergency telephone number : 05-547 2361

2. Composition / Information on ingredients.

distinction : sole product.
chemical name : trichloro-s-triazine-trione
molecular formula : $C_3Cl_3N_3O_3$
structural formula:



cas number : 87-90-1
eines number : 201-782-8
U.N. number : 2468
IMDG Code : page 5190, class 5.1, oxidizing agent
Common name/s: trichloroisocyanuric acid, TCCA.

3. Hazards Identification

On contact with moisture, TCCA readily decompose to chlorine, hypochlorous acid and cyanuric acid.

Chlorine and hypochlorous acid are known to be toxic wild lives, especially to fish.

DANGER : Mixing with sodium or calcium hypochlorite will cause explosive generation of nitrogen tichloride.

DANGER : Small amount of water react with TCCA to cause a violent generation of nitrogen trichloride.

HARMFUL IF INHALE, INGESTED or EXPOSED to skin or eyes.

4. First aid measures

Eye contact :

Immediately flush with water for at least 15 minutes. If irritation remains after flushing, call a physician at once.

Skin contact :

Promptly wash thoroughly with water for at least 15 minutes. If clothing Is contaminated with TCCA, remove the clothing immediately and wash it before reuse.

Ingestion :

Immediate medical attention is required.

Inhalation :

Remove to fresh air. Call a physician.

5. Fire-fighting measures

TCCA is not flammable itself, however, a thermal decomposition will occur at above 225°C. A thermal decomposition can be extinguished by flooding with copious amount of water or by isolating the decomposition material in open air and allow it to be consumed.

TCCA decomposes into hazardous gases in a fire. Use self contained breathing apparatus and goggles. Do not approach from leeward.

TCCA may generate nitrogen trichloride when it is left under damp condition. Do not use dry fire extinguishers containing ammonium compounds.

6. Accidental release measures

Refer to section 8 for personal protection when handling the spillage of TCCA. Any spillage of TCCA should be cleaned up as soon as possible to prevent contamination with foreign materials with which it may react. See section 10 – stability and reactivity. Sweepings or waste material should not be put into bins. Damp or contaminated material should not be repacked in containers.

See section 13 for disposal of spillage.

Do not release unneutralized TCCA to sewers, watersheds and water systems.

7. Handling and storage

Do not get into eyes, on skin and on clothing.

Do not breathe dust or fumes.

May be fatal if swallowed.

Use protective equipment recommended in section 8.

Store in a cool, dry and well-ventilated area.

Do not allow water to get into container.

Retie P.E. liner and close container tightly after each use.

Keep away from FIRE, HEAT, FLAME and DIRECT SUN LIGHT.

Keep away from incompatible materials listed in section 10.

Keep out of reach of children and domestic animals.

8. Exposure controls / personal protection

Respiratory protection :

Avoid breathing dust or vapor. Wear an officially approved respirator equipped with chemical cartridge for protection against chlorine gas and dust.

Ventilation :

Use local exhaust ventilation.

Eye protection :

Wear chemical splash goggles, wash eyes with clean water when there is potential eye contact.

Skin protection :

Wear protective gloves and protective clothing to prevent skin contact. Consult glove manufacturer to determine appropriate type of glove for handling TCCA.

9. Physical and chemical properties

Appearance	:	white crystalline solid
Odor	:	chlorine smell
pH (1% aqueous solution, 25°C)	:	2.7 – 3.3
Boiling point	:	nil
Melting point	:	approx. 225°C
Flash point	:	not flashing
Flammability	:	not flammable
Autoflammability	:	not autoflammable
Explosive properties	:	not explosive
Oxidizing properties	:	strong oxidizer
Vapor pressure	:	not detective
Relative density	:	ca. 95 g / 100 cc
Solubility :- water at 25°C	:	1.0 g / 100 g

10. Stability and reactivity

TCCA may be unstable under conditions below :

TCCA decomposes at temperature above 225°C forming hazardous gases.

Damp or slightly wet condition should be avoided.

Contact with small quantity of water may result an explosive reaction with the generation trichloride.

Materials to avoid (incompatible materials) :

Organic materials, oils, grease, sawdust, reducing agents, nitrogen containing compounds, sodium hypochlorite, calcium hypochlorite, other oxidizers, acids, alkalis.

11. Toxicological information

Route of entry : Inhalation, Skin contact and Ingestion

INHALATION of TCCA is irritating to the nose, mouth, throat and lung.

INGESTION of TCCA can cause irritation and / or burns to the gastrointestinal tract.

SKIN and EYE CONTACT with TCCA can cause severe irritation and / or burns, characterized by redness, swelling and scab formation. May cause impairment of vision and corneal damage.

Toxicological data	:	Acute toxicity
Oral Ld50 (Rat)	:	1,050 mg / kg.
Eye irritation (Rabbit, 24h)	:	Corrosive
Skin irritation (Rabbit, 24h)	:	Corrosive

Chronic toxicity

There are no known or reported effects from repeated exposure.

Carcinogenicity

This chemical is not considered to be carcinogenic by any reference source.

12. Ecological information

TCCA is highly toxic to fish. Do not discharge into lakes, ponds, stream or public water unless in accordance with the permit of official regulations.

13. Disposal considerations

Disposal should be done in accordance with all official regulations. If material is dry, incineration is recommended. In case disposal is done after melting the material by copious amount of water and neutralizing to a non-oxidizing residue, observe government and local regulations. Unneutralized material should not be disposed.

14. Transport information

Keep container strictly.

Keep away from FIRE, HEAT, FLAME and DIRECT SUN LIGHT.

Keep away from incompatible materials listed in section 10.

Keep out of reach of children and domestic animals.

Spilled materials should not be put into bins.

Spilled materials should not be repacked in containers.

This chemical is classified as OXIDIZING AGENT by IMDG.

<p>The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.</p>
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