Safety Data Sheet

Product identifier

Product Name	TRICHLOROISOCYANURIC ACID
Product Code(s)	000031021401
Synonyms	TICA, Stabilised pool chlorine tablets, Trichloroisocyanuric acid tablets, Trichlor, Trichloro-s-triazine trione, Trichloro-1,3,5-triazine trione
Recommended use	Bleaching, sanitising, pool chemical.
Supplier Address	Central Pacific Chemicals Pte Ltd Lot 1, Wailada Industrial Estate P.O. Box 3255, Lami, Fiji Telephone: +679 3361144 Fax: +679 3361500

2. HAZARDS IDENTIFICATION

GHS Classification

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Oxidizing solids	Category 2
Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

SIGNAL WORD
Danger

Label elements

Flame over circle
Exclamation mark
Environment

Hazard statements
H272 - May intensify fire; oxidizer
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep away from clothing and other combustible materials
Wash hands thoroughly after handling
Avoid breathing dust / fume / gas / mist / vapours / spray
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves / protective clothing / eye protection / face protection
Use personal protective equipment as required
Avoid release to the environment
Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see First aid on this SDS)
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/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet for extinction.
Collect spillage
Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Precautionary Statements - Disposal
Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification
AUH031 - Contact with acids liberates toxic gas
General Hazards

Poisons Schedule (SUSMP) 6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No.	Weight-%
Trichloroisocyanuric acid	87-90-1	>90.0
Water	7732-18-5	<0.5

4. FIRST AID MEASURES

Description of first aid measures

General advice For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

Emergency telephone number Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

Inhalation Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact	Wash skin with soap and water. Get medical attention immediately if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical	Oxidizer. Promotes the combustion (oxidizer). Can cause fire and explosion when in contact with flammable substances. Any material contaminated with the product (e.g. clothes) ignites easily and burns vigorously - increased fire hazard. Containers may explode when heated.
Hazardous combustion products	Carbon oxides. Nitrogen oxides. Chlorine gas.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
Hazchem code	1W

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin and eyes. Avoid generation of dust. Ensure adequate ventilation. Evacuate personnel to safe areas. Wash thoroughly after handling.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Never return spill or leaks to original containers for re-use.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Avoid breathing dust / fume / gas / mist / vapours / spray. Avoid contact with skin and eyes. Avoid generation of dust.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store away from foodstuffs. Calcium hypochlorite (dry or hydrated) and its mixtures are incompatible with, and must be stored away from, dichloroisocyanuric acid, ammonium nitrate, trichloroisocyanuric acid, or any chloroisocyanurate, strong acids, aluminium, iron, lead, magnesium, zinc. Keep container closed when not in use.

This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

Incompatible materials

Combustible materials , acids , water , alkalis , calcium hypochlorite (dry or hydrated) , nitrogen compounds , sodium hypochlorite , reducing agents, ammonium compounds, oils, greases.

Poisons Schedule (SUSMP)

6

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls

Engineering controls

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.

Eye/face protection	Goggles.
Skin and body protection	Overalls. Wear suitable protective clothing. Boots.
Hand protection	Impervious gloves.
Respiratory protection	If determined by a risk assessment an inhalation risk exists, wear a dust mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Environmental exposure controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Crystalline Powder or Granules or Tablets
Color	White
Odor	Chlorine
Odor threshold	No information available.

Property	**Values**	**Remarks • Method**
pH	3-3.5 (1% solution @25°C)	None known
Melting point / freezing point	249-251°C	None known
Boiling point / boiling range	No data available	None known
Flash point	225°C	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	ca. 1.05 @20°C	None known
Water solubility	Sparingly soluble	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	225°C	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

10. STABILITY AND REACTIVITY

Reactivity

Reactivity	Contact with acids liberates toxic gas.

Chemical stability

Stability	Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

Possibility of hazardous reactions

Possibility of hazardous reactions	On contact with nitrogen compounds, fumes of nitrogen trichloride can be formed, which are very explosive. Contact with acids liberates toxic gas. Heating causes rise in pressure with risk of bursting.
Hazardous polymerization	Hazardous polymerization does not occur.

Conditions to avoid

Conditions to avoid	Dust formation. Exposure to water. Moisture. Heat.

Incompatible materials

Incompatible materials	Combustible materials , acids , water , alkalis , calcium hypochlorite (dry or hydrated) , nitrogen compounds , sodium hypochlorite , reducing agents, ammonium compounds, oils, greases.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides. Chlorine gas.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

Product Information	No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:
Inhalation	Irritating to respiratory system.

Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms	Irritation.

Numerical measures of toxicity - Product Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloroisocyanuric acid	= 406 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	0.09 - 0.29 mg/L (Rat) 4 h
Water	> 90 mL/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Irritating to eyes.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity Keep out of waterways. Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea

Trichloroisocyanuric acid	-	LC50: 0.13 - 0.5mg/L (96h, Lepomis macrochirus) LC50: 0.06 - 0.11mg/L (96h, Oncorhynchus mykiss)	-	EC50: =0.21mg/L (48h, Daphnia magna) EC50: 0.16 - 0.18mg/L (48h, Daphnia magna)

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

Other adverse effects

Endocrine Disruptor Information

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Trichloroisocyanuric acid	Group III Chemical	-	-

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

14. TRANSPORT INFORMATION

ADG

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN number 2468
Proper shipping name TRICHLOROISOCYANURIC ACID, DRY
Hazard class 5.1
Packing group II
Hazchem code 1W

IATA

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN number 2468
UN proper shipping name TRICHLOROISOCYANURIC ACID, DRY
Transport hazard class(es) 5.1
Packing group II

IMDG

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number	2468
UN proper shipping name	TRICHLOROISOCYANURIC ACID, DRY
Transport hazard class(es)	5.1
Packing group	II
IMDG EMS Fire	F-A
IMDG EMS Spill	S-Q
Marine pollutant	Yes

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

AICS	This material is listed on the Australian Inventory of Chemical Substances.
NZIoC	This material is listed on the New Zealand Inventory of Chemicals.

Legend:
AICS - Australian Inventory of Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. OTHER INFORMATION

Supplier Safety Data Sheet 02/ 2019

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