

SAFETY DATA SHEET



Revision date: 03-Sep-2020

Revision Number 6

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name TRICHLOROISOCYANURIC ACID

Product Code(s) 000031021401

Other means of identification

UN number 2468

CAS No. 87-90-1

Synonyms TICA, Stabilised pool chlorine tablets, Trichloroisocyanuric acid tablets, Trichlor, Trichloro-s-triazine trione, Trichloro-1,3,5-triazine trione

Recommended use of the chemical and restrictions on use

Recommended use Bleaching, sanitising, pool chemical.

Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier

Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226 Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700

Facimile: +64 9 368 2710

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

Emergency Telephone 0 800 734 607 (ALL HOURS)

2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

GHS Classification

SIGNAL WORD

Danger

Subclass 5.1.1 Category B (Oxidising Substances that are solids or liquids: medium hazard) - Oxidising Substances.

Subclass 6.1 Category D - Substances which are acutely toxic.
Subclass 6.3 Category A - Substances that are irritating to the skin.
Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
Subclass 9.2 Category D - Substances that are slightly harmful in the soil environment.
Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

Approval Number: HSR001359

Label elements



Hazard statements

H272 - May intensify fire; oxidizer
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H410 - Very toxic to aquatic life with long lasting effects
H423 - Harmful to the soil environment
H433 - Harmful to terrestrial vertebrates

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
Take any precaution to avoid mixing with combustibles
Avoid breathing dust / fume / gas / mist / vapours / spray
Wash hands thoroughly after handling
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
Wash contaminated clothing 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

In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Notice 2017. This may also include any method of disposal that must be avoided.

Other hazards which do not result in classification

Contact with acids liberates toxic gas

3. COMPOSITION/INFORMATION ON INGREDIENTS

| 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, New Zealand: 0800 764 766 Poisons Information Center, Australia: 13 11 26 |
| 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. Call a physician 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. Can cause corneal burns. |
|---------------------------|---|

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. 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.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

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.

Incompatible materials Combustible material. Acids. Water. Alkalis. Calcium hypochlorite. Nitrogen containing compounds. Sodium hypochlorite. Reducing agents. Ammonium compounds. Oils. Grease.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for particulate(s):

Particulates not otherwise classified: 8hr WES-TWA 10 mg/m³ (inhalable dust) or 3 mg/m³ (respirable dust)

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

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.

Hand protection

Impervious gloves.

Skin and body protection

Boots. Wear suitable protective clothing. Overalls.

Respiratory protection

If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator 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

Hazardous polymerization Hazardous polymerization does not occur.

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.

Conditions to avoid

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

Incompatible materials

Incompatible materials Combustible material. Acids. Water. Alkalis. Calcium hypochlorite. Nitrogen containing compounds. Sodium hypochlorite. Reducing agents. Ammonium compounds. Oils. Grease.

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 damage.

Skin contact Causes skin irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms Irritation.

Acute toxicity**Numerical measures of toxicity**

| 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.

Terrestrial ecotoxicity There is no data for this product.

| Chemical name | Algae/aquatic plants | Fish | 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

Other adverse effects No information available.

Endocrine Disruptor Information

| Chemical name | EU - Endocrine Disruptors 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 product in packaging in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste. Class 2, 3 and 4 substances - may not be disposed of into or onto a landfill or sewage facility. They may only be burnt in certain situations. Class 2.1.1, 3.1 and 4.1.1 substances may only be discharged into the environment as waste if the substance will not at any time come into contact with class 1 or class 5 substances; and there will be no ignition source in the vicinity of the disposal site at any time and if the substance were to ignite, no person, or place where a person may legally be, would be exposed to an unsafe level of heat radiation.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.

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****New Zealand**

National regulations See section 8 for national exposure control parameters

| Chemical name | New Zealand HSNO Chemical Classification |
|-------------------------------------|---|
| Trichloroisocyanuric acid - 87-90-1 | 5.1.1B,6.1D (All),6.1D (O),6.3A,8.3A,9.1A (All),9.1A (C),9.1A (F),9.2D,9.3B |

International Inventories

NZIoC This material is listed on the New Zealand Inventory of Chemicals.
TSCA Contact supplier for inventory compliance status.
DSL/NDSL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC Contact supplier for inventory compliance status.
KECL Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AICS This material is listed on the Australian Inventory of Chemical Substances.

Legend:

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
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

Prepared By

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

Issuing Date:

03-Sep-2020

Reason(s) For Issue:

5 Yearly Revised Primary SDS

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian Industrial Chemicals Introduction Scheme (AICIS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet