Trichlor Pills/Tablets/Granules
Safety Data Sheet

1. Identification of Substance & Company

Product	
Product name	Trichlor Pills/Tablets/Granules
Other names	Trichloroisocyanurate Tablets/Pills/Granules
HSNO approval	HSR006483
Approval description	Trichloroisocyanuric acid, >25% in a non hazardous diluent
UN number	2468
DG class	5.1
Proper Shipping Name	TRICHLOROISOCYANURIC ACID, DRY
Packaging group	II
Hazchem code	1WE
Uses	For control of algae and bacteria in swimming pools

Company Details	
Company	**Poolwise Ltd**
Physical Address	93 Ireland Road, Mt Wellington, 1060, Auckland New Zealand
Telephone	09 527 0753
Fax	09 527 4189
Website	www.poolwise.co.nz

Emergency Telephone Number: 0800 764 766

2. Hazard Identification

Approval
This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR006483, Trichloroisocyanuric acid, >25% in a non hazardous diluent). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017 and is classified as follows:

Classes	Hazard Statements
5.1.1B	H270 - May intensify fire; oxidizer.
6.1D (oral)	H302 - Harmful if swallowed.
6.3A	H315 - Causes skin irritation.
8.3A	H318 - Causes serious eye damage.
9.1A	H410 - Very toxic to aquatic life with long lasting effects.
9.2D	H423 - Harmful to the soil environment.
9.3B	H432 - Toxic to terrestrial vertebrates.

SYMBOLS

DANGER

Other Classifications
There are no other classifications that are known to apply.

Precautionary Statements
P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.
P210 - Keep away from heat. No smoking.
P220 - Keep/Store away from clothing/combustible materials.
P221 - Take any precaution to avoid mixing with combustibles.
P264 - Wash hands thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/eye protection/face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P332+P313 - If skin irritation occurs: Get medical advice/ attention.
P362 - Take off contaminated clothing and wash before re-use.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTRE or doctor/physician.
P391 - Collect spillage.
P402 – Store in a dry place.
P405 – Store locked up.
P410 – Protect from sunlight.
P403+P233 – Store in a well-ventilated place. Keep container tighly closed.
P501 -

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Chlorine as Trichloroisocyanuric Acid	87-90-1	900g/kg
ingredients not contributing to HSNO classes	mixture	balance

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid facilities Ready access to running water is required. Accessible eyewash is required.

Exposure

Swallowed IF SWALLOWED: Do not induce vomiting. Rinse mouth with water. Call a POISON CENTRE or doctor/physician.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.

Skin contact IF ON SKIN: Brush away excess solid, wash with plenty of soap and warm water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before re-use.

Inhaled If irritation occurs, contact the Poison Centre or call a doctor. Remove the source of contamination or move the victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by a trained personnel, preferably on a doctor's advice. In severe cases, symptoms may be delayed up to 48 hours after exposure.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards: This product is an oxidiser. Oxidising materials can increase the intensity of fire. Fire decomposition products may be toxic if inhaled.

Suitable extinguishing substances: Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.

Unsuitable extinguishing substances: None known.

Products of combustion: Chlorine, chlorine compounds, oxides of nitrogen, hydrogen cyanide, carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. May form toxic mixtures in air

	and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.
Protective equipment:	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
Hazchem code:	1WE

6. Accidental Release Measures

Containment	If greater than 100kg is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.
Emergency procedures	In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).
Clean-up method	Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
Disposal	Not applicable
Precautions	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Store out of reach of children. Store locked up. Store in a cool ventilated place. Containers should be kept closed in order to minimise contamination. Keep from extreme heat, sunlight and open flames. Avoid contact with incompatible substances as listed in Section 10. Location compliance certificates must be available if storing >500kg (closed), 50kg (open). Containers (and outer packaging) must bear the prescribed labelling, including the Hazchem code, UN number, flammability warning and name of contents.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of dust.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m^3 for respirable particulates and 10mg/m^3 for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA*	WES-STEL
	Trichloroisocyanuric Acid	Data unavailable	Data unavailable
	Chlorine	0.5ppm, 1.5mg/m^3	1ppm, 2.9mg/m^3

* These workplace exposure standards are also Prescribed Exposure Standards (PES) under the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016.

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

Eyes

Protect eyes with goggles, safety glasses or full face mask. Avoid wearing contact lenses. Select eye protection in accordance with AS/NZS 1337.

Skin

Avoid any skin contact. Wear overalls, rubber boots and impervious gloves. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.

Respiratory

A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a respirator with a particulate filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	white granules in a tablet
Odour	sharp chlorine/bleach like odour
pH	2.7-2.9 (1% in water)
Vapour pressure	negligible
Viscosity	no data
Boiling point	no data
Volatile materials	no data
Freezing / melting point	decomposes at 225°C
Solubility	1.2% at 25°C
Specific gravity / density	no data
Flash point	no data
Danger of explosion	no data
Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	corrosive

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Oxidising substance - keep away from sources of ignition and flammable materials (see below).
Incompatible groups	Reducing agents, combustible materials, flammable substances,other substances that are readily oxidised
Substance Specific Incompatibility	none known
Hazardous decomposition products	Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form hydrogen chloride gas, other compounds of chlorine.
Hazardous reactions	none known

11. Toxicological Information

Summary

IF SWALLOWED: irritation of the mouth, throat and gastrointestinal tract. Harmful if swallowed. May cause a burning sensation in the mouth and throat.
IF IN EYES: may cause stinging, reddening and watering of the eyes. Lengthy exposures or delayed treatment may cause permanent eye damage.
IF ON SKIN: may cause irritation. Symptoms may include, itchiness and reddening of the skin.

IF INHALED: dust may be irritating to the respiratory tract. Symptoms may include headaches, irritation of the nose and throat and increased secretion of mucous.

Supporting Data

Acute	**Oral**	Using LD_{50}'s for ingredients, the calculated LD_{50} (oral, rat) for the mixture is between 300 and 2000 mg/kg. Data considered includes: Trichloroisocyanuric Acid 406mg/kg (rat).
	Dermal	No evidence of dermal toxicity.
	Inhaled	No evidence of acute inhalation toxicity. Dust may be irritating.
	Eye	Trichloroisocyanuric acid is considered an eye corrosive.
	Skin	Trichloroisocyanuric acid is considered a skin irritant.
Chronic	**Sensitisation**	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	Reproductive / Developmental	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic	No ingredient present at concentrations > 1% is considered a target organ toxicant.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

This substance is considered very toxic towards aquatic organisms, harmful in the soil environment and toxic towards terrestrial vertebrates.

Supporting Data

Aquatic	Using EC_{50}'s for ingredients, the calculated EC_{50} for the mixture is < 1 mg/L. Data considered includes: Trichloroisocyanuric Acid LC_{50}: 0.08mg/L (static, 96hr, rainbow trout), 0.17mg/L (static, 48hr, Daphnia magna), toxic to aquatic organisms after decomposition in water (to form chlorine). 0.05mg/L toxic to fish.
Bioaccumulation	Log Pow = 0.9
Degradability	No data
Soil	EPA has classified the substance as slightly harmful to the soil environment, with a soil ecotoxicity value between 10 and 100 mg/kg and a soil DT50 value of ≤ 30 days.
Terrestrial vertebrate	The mixture has been classified by EPA as ecotoxic to terrestrial vertebrates. Using the LD_{50}'s for ingredients, the calculated LD_{50} (oral, rat) for the mixture is between 50 and 500 mg/kg. Data considered includes: Trichloroisocyanuric Acid 406mg/kg (rat).
Terrestrial invertebrate	No evidence of toxicity towards terrestrial invertebrates.
Biocidal	no data
Environmental effect levels	No EELs are available for this mixture or ingredients

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
Contaminated packaging	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is renedered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number:	2468	**Proper shipping name:**	TRICHLOROISOCYANURIC ACID, DRY
Class(es)	5.1	**Packing group:**	II
Precautions:	Oxidiser	**Hazchem code:**	1WE

Marine Pollutant

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR006483, Trichloroisocyanuric acid, >25% in a non hazardous diluent.
All ingredients appear on the NZIoC.

Specific Controls

Key workplace requirements are:	
SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substa decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 100kg is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 100kg is stored.
Signage	Required if > 100kg is stored.
Location compliance certificate	Required if > 500kg (closed) and >50kg (open) is stored.
Flammable zone	Must be established if any quantity is stored in any one location.
Fire extinguisher	If > 200kg present.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

16. Other Information

Abbreviations

Approval Code	Approval HSR006483, Trichloroisocyanuric acid, >25% in a non hazardous diluent Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
Ceiling	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
Controls Matrix	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
EC_{50}	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
EPA	Environmental Protection Authority (New Zealand)
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL/UEL	Lower Explosive Limit/ Upper Explosive Limit
LD_{50}	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC_{50}	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
NZIoC	New Zealand Inventory of Chemicals
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
PES	Prescribed Exposure Standard means a WES or a biological exposure standard that is prescribed in a regulation, a safe work instrument or an approval under HSNO (including group standards).
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical

	agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls	EPA notices, www.epa.govt.nz, Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz
WES	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz.
Other References:	Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus

Review

Date	**Reason for review**
June 2018	Not applicable – new SDS

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: ***+64 9 940 30 80.***