



Sodium Dichloroisocyanurate, dihydrate

Safety Data Sheet

1. Identification of Substance & Company

Product

Product name	Sodium Dichloroisocyanurate, dihydrate
Other names	Safe-T-chlor, Sodium Dichloroiso-s-triazinetrione Dihydrate
HSNO approval	HSR002684
Approval description	Water Treatment Chemicals (Subsidiary Hazard) Group Standard 2020
UN number	3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sodium Dichloroisocyanurate, Dihydrate)
DG class	9
Packaging group	III
Hazchem code	3Z
Uses	Pool Chemical

Company Details

Company	Argo International Ltd
Physical Address	9 St Benedicts St, Eden Terrace, Auckland
Telephone	+64 9 377 5061
Fax	+64 9 309 1992
Email	argo@argoint.co.nz
Website	Argoint.co.nz

Emergency Telephone Number: 0800 764 766 (National Poison Centre)

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002684, Water Treatment Chemicals (Subsidiary Hazard) Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2017.

Classes

Acute toxicity cat 4 (oral)
STOT SE cat 3
Eye irritation cat 2
Aquatic Acute cat 1
Aquatic Chronic cat 1

Hazard Statements

H302 - Harmful if swallowed.
H335 - May cause respiratory irritation.
H319 - Causes serious eye irritation.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

SYMBOLS

WARNING



Classes

Hazard Statements

6.1D (oral)	H302 - Harmful if swallowed.
6.1E (respiratory irritation)	H335 - May cause respiratory irritation.
6.4A	H319 - Causes serious eye irritation.
9.1A	H410 - Very toxic to aquatic life with long lasting effects.
	H400 - Very toxic to aquatic life.
9.3C	H433 - Harmful to terrestrial vertebrates.

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.
P261 - Avoid breathing dust/fume.
P264 - Wash hands thoroughly after handling.



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P270 - Do not eat, drink or smoke when using this product."
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTRE or doctor/physician if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Sodium dichloroisocyanurate, dihydrate (SDIC)	51580-86-0	>98%
Ingredients not contributing to HSNO classes	Proprietary	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 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. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. If eye irritation persists: Get medical advice.

Skin contact Wash immediately with plenty of water. Remove contaminated clothing. If irritation occurs, seek medical attention.

Inhaled IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards: It is not classed as flammable. However there is a risk of dust explosion. The anhydrous material is considered oxidising and can intensify a fire. An ambient fire may liberate toxic vapours (chlorine, hydrogen chloride, NOx)

Suitable extinguishing substances: Do not use drychemical, carbon dioxide or halogenated extinguishing agents.

Unsuitable extinguishing substances: Unknown.

Products of combustion: Chlorine, Hydrogen chloride, hydrogen cyanide, Nitrous gases, phosgene. 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, protective clothing.

Hazchem code: 3Z

6. Accidental Release Measures

Containment If greater than 1000kg is stored, emergency plans to manage any potential spills must be in place. Prevent spillage from spreading or entering soil, waterways or drains.

Emergency procedures In the event of spillage alert the fire brigade to location and give brief description of



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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 on concentrate. 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). Collect (sweep or vacuum) and seal in properly labelled containers or drums for disposal. Avoid the creation of dust. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Disposal

Sweep up or vacuum and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.

Precautions

Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours/dusts. Work up wind or increase ventilation.

7. Storage & Handling

Storage

Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open.

Handling

Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements.

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/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	Sodium dichloroisocyanurate, dihydrate:	no data	no data
	chlorine gas	0.5ppm, 1.5mg/m ³	1ppm, 2.9mg/m ³

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

General

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate.

Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

Eyes



Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible.

Skin

Protective gloves and clothing are not normally necessary. However, it is prudent to wear gloves when handling chemicals in bulk or for an extended period of time. Nitrile, NBR or PVC gloves are recommended. Replace frequently. Gloves should be checked for tears or holes before use.

Respiratory



A respirator when airborne concentrations approach the WES (section 8). Use a full face 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.



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WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	white granules
Odour	chlorine
pH	6.1-7 at 25°C (1% aqueous solution)
Vapour pressure	no data
Viscosity	no data
Boiling point	no data
Volatile materials	0%
Freezing / melting point	no data
Solubility	285g/L in water at 25°C
Specific gravity / density	900-1000kg/m ³ at 20°C
Flash point	no data
Danger of explosion	no data
Auto-ignition temperature	decomposition: 240-250°C
Upper & lower flammable limits	non flammable
Corrosiveness	non corrosive

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames.
Incompatible groups	organic compounds, ammonia, urea, ammonium compounds, bases, acids, reducing agents.
Substance Specific Incompatibility	Heat will cause decomposition.
Hazardous decomposition products	Chlorine, hydrogen chloride. Hydrogen cyanide, Oxides of nitrogen, nitrogen chloride compounds, phosgene.
Hazardous reactions	Decomposition occurs with heat, acids and/or water to liberate toxic gases.

11. Toxicological Information

Summary

IF SWALLOWED: harmful if swallowed.

IF IN EYES: causes serious eye irritation.

IF ON SKIN: not classed as an irritant, but if left on skin for some time, irritation may develop.

IF INHALED: may be harmful if inhaled. May cause respiratory irritation.

CHRONIC SYMPTOMS: no known chronic effects. This substance is not considered a carcinogen, mutagen or reproductive/developmental effector.

Supporting Data

Acute	Oral	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: Sodium dichloroisocyanurate, dihydrate 500-1600mg/kg (rat).
	Dermal	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: Sodium dichloroisocyanurate, dihydrate >5000mg/kg (rabbit).
	Inhaled	Using LC ₅₀ 's for ingredients, the calculated LC ₅₀ (inhalation, rat) for the mixture is >5,000 ppm. Data considered includes: Sodium dichloroisocyanurate, dihydrate no data available.
	Eye	The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form.
	Skin	The mixture is not considered to be 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.	



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12. Ecological Data

Summary

This substance is considered very toxic towards aquatic organism and harmful towards terrestrial vertebrates.

Supporting Data

Aquatic	Data considered includes: Sodium dichloroisocyanurate, dihydrate 0.25mg/L (96hr, Rainbow trout), 0.28mg/L (48hr, Daphnia magna).
Bioaccumulation	No evidence of bioaccumulation.
Degradability	Not rapidly degradable.
Soil	EPA has not classified the substance as ecotoxic in the soil environment. The soil toxicity value for the mixture is ≥ 100 mg/kg.
Terrestrial vertebrate	The substance has been classified by EPA as harmful to terrestrial vertebrates. Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral) for the mixture is between 500 and 2,000 mg/kg. Data considered includes: Sodium dichloroisocyanurate, dihydrate 500-1600mg/kg (rat), 1776mg/kg (14days, Colinus virginianus)
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 rendered 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:	3077	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sodium Dichloroisocyanurate, Dihydrate)
Class(es)	9	Packing group:	III
Precautions:	Ecotoxic.	Hazchem code:	3Z
IMDG			
UN number:	3077	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sodium Dichloroisocyanurate, Dihydrate)
Class(es)	9	Packing group:	III
Precautions:	Ecotoxic.	EMS	F-A, S-F
IATA			
UN number:	3077	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sodium Dichloroisocyanurate, Dihydrate)
Class(es)	9	Packing group:	III
Precautions:	Ecotoxic.	Guide	171



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15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002684, Water Treatment Chemicals (Subsidiary Hazard) Group Standard 2020. 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 substances that have been 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.
Bundling & secondary containment	Not required for the dry substance. (solid). Wetted substance must comply if >1000kg present.
Signage	Required if > 100kg is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

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 HSR002684, Water Treatment Chemicals (Subsidiary Hazard) Group Standard 2020, Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC₅₀	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)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals, 7 th revised edition, 2017, published by the United Nations.
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	Lower Explosive Limit
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	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)
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
STOT RE	System Target Organ Toxicity – Repeated Exposure
STOT SE	System Target Organ Toxicity – Single Exposure
TWA	Time Weighted Average – generally referred to as WES averaged over typical work day (usually 8 hours)
UEL	Upper Explosive Limit
UN Number	United Nations Number



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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, GESTIS

Review

Date

February 2019
23 July 2021

Reason for review

New SDS
Review HSNO to GHS 7, new Group Standard

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**.

