SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS)

Product name	**Protech Dy-Chlor II Shock**
Product id	AS_2007QD_PT
Revision date	03/11/2015 **Revision:** 3
Supersedes	17/12/2014

1. Identification of the substance & the company

Chemical name	Sodium dichloroisocyanurate,dihydrate
Synonym(s)	Sodium dichlor; Sodium dichloroisocyanurate,dihydrate; Sodium dichloro-s-triazinetrione dihydrate; CDB Clearon; Troclosene sodium, dihydrate CDB 56
Chemical formula	$NaCl_2(NCO)_3 x2H_2O$
Chemical family	Chloroisocyanurate
Molecular weight	256
Type of product and use	Disinfectant, sanitizer, bactericide, and algaecide for pools, spas, and hot tubs.
Supplier	Clearon Corp. 95 MacCorkle Ave. SW, South Charleston, WV 25303, USA Toll Free Number: 1-800-811-2327
Emergency Telephone	Chemtrec: (800) 424-9300 Medical: (800) 420-9236

2. Hazards identification

GHS classification

Acute Tox. 4, H302 Harmful if swallowed
Eye Irrit. 2, H319 Causes serious eye irritation
STOT SE 3, H335 May cause respiratory irritation
Aquatic Acute 1, H400 - Very toxic to aquatic life
Aquatic Chronic 1, H410 - Very toxic to aquatic life with long lasting effects

Labels and other form of warning

Symbol(s)

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Signal Word WARNING

Hazard statements

H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects
EUH031 - Contact with acids liberates toxic gas

Precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P264 - Wash hands thoroughly after handling
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
P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
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
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P405 - Store locked up
P501 - Dispose of contents/container in accordance with national and international regulations

NFPA Ratings (Scale 0-4) Health = 2, Fire = 0, Reactivity = 1. Special Hazard Warning: OXIDIZER.

HMIS Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 1.

3. Composition / information on ingredients

Components	CAS No.	Weight %
SODIUM DICHLOROISO CYANURATE, DIHYDRATE	51580-86-0	99-100
SODIUM CHLORIDE	7647-14-5	0-1

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4. First-aid measures

Eye contact

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Get medical attention immediately.

Inhalation

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Ingestion

Call poison control center, or doctor immediately for treatment advice.
Have person sip a glass of water if able to swallow.
Do not induce vomiting unless told to do so by the poison control center or doctor.
Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, acute or delayed

- Eye Contact

Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.

- Skin contact

Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation.
Prolonged skin exposure may cause permanent damage.

- Inhalation

Irritating to the nose, mouth, throat and lungs.
It may also cause burns to the respiratory tract with the production of lung edema that can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function.
Inhalation of high concentrations can result in permanent lung damage from the corrosive action of the lung.

- Ingestion

Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.
Ingestion causes severe damage to the gastrointestinal tract with the potential to cause perforation.

Note to physician

Probable mucosal damage may contraindicate the use of gastric lavage.
No specific antidote.
Treat symptomatically and supportively.
In case of ingestion DO NOT induce vomiting.

5. Fire - fighting measures

Suitable extinguishing media

Water.

Extinguishing media not to be used

Do not use dry chemical extinguisher containing ammonia compounds.

Unusual fire and explosion hazards

When heated to decomposition, may release poisonous and corrosive fumes of nitrogen trichloride, chlorine and CO.

Fire fighting procedure

Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode. On small fires, use water spray or fog. On large fires, use heavy deluge or fog streams. Flooding amounts of water may be required before extinguishment can be accomplished.

6. Accidental release measures

Personal precautions

For small spills in a well-ventilated areas, wear a NIOSH approved half-face or full face tight fitting respirator or a loose fitting powered air purifying respirator equipped with chlorine cartridges. Chemical goggles should be worn when using a half-face respirator. In addition to respiratory protection, wear coveralls, chemical resistant gloves, chemical resistant footwear; and chemical resistant headgear for overhead exposure. For clean-up of large spills, or small dry spills in confined areas, wear full-face respirator with chlorine cartridges or a positive pressure supplied air respirator. Additionally, body protection should be impervious clothing covering entire body to prevent personal contact with material. CAUTION - Protection concerns must also address the following: If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.

Methods for cleaning up

Hazardous concentrations in air may be found in local spill area and immediately downwind. If spill material is still dry, do not put water directly on this product as a gas evolution may occur.

Environmental precautions

- **Soil** — Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container.
- **Water** — This material is heavier than and soluble in water. Stop flow of material into water as soon as possible. Begin monitoring for available chlorine and pH immediately.
- **Air** — Vapors may be suppressed by the use of water fog.

7. Handling and storage

Handling Do not take internally. Avoid contact with skin, eyes, and clothing. Upon contact with skin or eyes, wash off with water.

Storage Store in a dry, cool, well-ventilated area. away from incompatible materials (see "materials to avoid"). Do not store at temperatures above 60°C/140°F. Product has an indefinite shelf-life limitation.

8. Exposure controls / personal protection

Exposure Limits :

Components	ACGIH-TLV Data	OSHA (PEL) Data
SODIUM DICHLOROISO CYANURATE, DIHYDRATE 51580-86-0	Not determined	Not determined
SODIUM CHLORIDE 7647-14-5	Not determined	Not determined

Ventilation requirements Use local exhaust ventilation to minimize dust and chlorine levels where industrial use occurs. Otherwise, ensure good general ventilation.

Personal protective equipment:

- **Respiratory protection** — When dusty conditions are encountered, wear a NIOSH/OSHA full-face respirator with chlorine cartridges for protection againts chlorine gas and dust/mist pre-filter.
- **Hand protection** — Neoprene gloves (0.67 mm)
- **Eye protection** — Use chemical safety glasses to avoid eye contact. Where industrial use occurs, chemical goggles may be required.
- **Skin and body protection** — Impervious body covering clothes, boots and neoprene apron

Hygiene measures Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.

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9. Physical and chemical properties

Appearance	White granules or tablet-form product
Odor	Mild chlorine-like.
Odor threshold	Not determined
pH	Not determined
Melting point/range	Not applicable
Boiling point/range	Not applicable
Flash point	Not applicable
Evaporation rate (ether=1)	Not applicable under standard conditions
Flammability (solid, gas)	Not determined
Flammable/Explosion limits	Not determined
Vapor pressure	Not applicable under standard conditions
Vapor density	Not applicable under standard conditions
Density	tap density= 0.974 g/mL pour density= 1.083 g/mL
Solubility:	
- Solubility in water	24-25 g/100g
Partition coefficient (n-octanol/water)	LogP - -0.0056 (estimated)
Auto-ignition temperature	Not self-ignitable
Decomposition temperature	Begins to lose 1 mole water at approximately 50°C; second mole water at 95°C; Decomposes at 240-250°C
Viscosity	Not applicable
Explosive properties	Not determined
Oxidising properties	Not oxidising
Particle size	Non- inhalable

10. Stability and reactivity

Reactivity	Begins to lose one mole of water at approximately 50°C.
Stability	Stable under normal conditions
Possibility of hazardous reactions	If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.
Conditions to avoid	Heating above decomposition temperature. Do not package in paper or cardboard.
Materials to avoid	Organic materials, reducing agents, nitrogen containing materials, other oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.
Hazardous decomposition products	Nitrogen trichloride, chlorine, carbon monoxide

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11. Toxicological information

Likely Routes of Exposure	Skin Inhalation Ingestion Eye contact
Acute toxicity:	
- Rat oral LD50	1671 mg/kg
- Rat dermal LD50	>5000 mg/kg
- Dermal irritation (rabbit)	Severe irritant
- Eye irritation (rabbit)	Severe irritant
Dermal sensitization	Not a sensitizer
Immediately Dangerous to Life or Health (IDLH)	No level has been established for the components or the product itself.
Chronic toxicity	Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.
Mutagenicity	Not mutagenic in five Salmonella strains with or without metabolic activation.
Carcinogenicity	Not classified by IARC, OSHA, EPA. Not included in NTP 13th Report on Carcinogens
Reproductive toxicity	Sodium dichloroisocyanuric acid when given orally to pregnant mice from day 6 to day 15 of gestation, did not induce any significant teratogenic effects.

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Supersedes	17/12/2014	

12. Ecological information

Aquatic toxicity :

- 96 Hour-LC50, Fish	0.22 mg/l (rainbow trout) 0.28 mg/l (bluegill sunfish)
- 48 hour-LC50, Daphnia magna	0.2 mg/l

Avian toxicity:

- Oral LD50, Bobwhite quail	730 mg/kg
- Oral LD50, Mallard duck	3300 mg/kg
- Dietary LC50, Mallard duck	>10,000 ppm
- Dietary LC50, Bobwhite quail	>10,000 ppm
Persistence and degradability	Not readily biodegradable. Rapidly hydrolyses in water into Cyanuric acid
Bioaccumulative potential	Not expected to bioaccumulate
Mobility in soil	The degradation product, Cyanuric acid, is weakly adsorbed to and highly mobile in all soils

13. Disposal considerations

Waste disposal	Care must be taken to prevent environmental contamination from the use of this material. Observe all federal, state and local environmental regulations when disposing of this material.
Disposal of Packaging	Empty containers should be disposed of in accordance with all applicable laws and regulations

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Revision date	03/11/2015 **Revision:** 3
Supersedes	17/12/2014

14. Transportation information

DOT

NOT REGULATED FOR ROAD TRANSPORTATION

For Vessel only:
UN No. 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s (Sodium Dichloroisocyanurate,dihydrate)
Class: 9 - Miscellaneous Hazardous Material
Label: 9
Marking: Marine Pollutant
Packing Group: III
Note: Certain shipping modes or package sizes may have exceptions from the transport regulations and may be classified as Consumer Commodity and Limited Quantity. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.

IMDG

UN No. 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s (Sodium Dichloroisocyanurate,dihydrate)
Class: 9 - Miscellaneous Dangerous Substances and Articles
Label: 9
Mark: MARINE POLLUTANT
Packing Group: III

ICAO/IATA

UN No. 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s (Sodium Dichloroisocyanurate,dihydrate)
Class: 9
Hazard label(s): Miscellaneous
Packing group: III
Marking: Environmentally hazardous substance

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15. Regulatory information

USA	All the components of this substance are listed on or are exempt from the inventory This product is registered under FIFRA
- EPA Registration no.	69470-20-64921
- Emergency overview in accordance to EPA Master Label	DANGER Hazards to humans and domestic animals Corrosive Causes irreversible eye damage May be fatal if inhaled Harmful if swallowed or absorbed through skin Strong oxidizing agent This pesticide is toxic to fish and aquatic organisms.
- SARA (311, 312)	This product is categorized as an immediate health hazard, and fire and reactivity physical hazard
- Massachusetts Right-to-Know Hazardous Substances list	Listed
- Pennsylvania Right-to-Know Hazardous Substances list	Listed
- California-Prop 65	This product does not contain any ingredient known to the State of California to cause cancer or reproductive toxicity as listed under the State drinking Water and Toxic Enforcement Act of 1986.
- Waste Classifications	If this product becomes a waste as defined under 40 CFR 261, it may meet the criteria of a hazardous waste. Please check with all federal, state and local regulations to determine if this product meets the definition of a hazardous waste listed under 40 CFR 262.11.
EU	Reported in EINECS
Japan	ENCS no. (5)-1043 ISHL no. (5)-1043
Australia	Listed in AICS
New Zealand Inventory	Listed in NZIoC
China	

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According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS)

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Revision date	03/11/2015	**Revision:** 3
Supersedes	17/12/2014	

- China inventory	Listed
Philippines	Listed in PICCS

16. Other information

This data sheet contains changes from the previous version in section(s)
1, 14, 15

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Clearon Corp. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Clearon Corp. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANT ABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

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End of safety data sheet