Safety Data Sheet

Section 01 - Identification

Product Identifier	Tabex Chlorinating Pucks
Other Means of Identification	Isocyanuric chloride, Trichloroisocyanuric acid, Trichloroisocyanurate, Symclosene, Trichloro-s-triazinetrione
Product Use and Restrictions on Use	Sanitizer to control bacteria and algae in swim pool water.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
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Section 02 - Hazard Identification

GHS-Classification

Acute Toxicity-Oral	Category 4
Eye Damage/Irritation	Category 2
STOT Single Exposure	Category 3

Physical Hazards

Oxidizing Solid	Category 2

Danger

Hazard Statements
H272 – May intensify fire; oxidiser.
H302 – Harmful if swallowed.
H319 – Causes serious eye irritation.
H335 – May cause respiratory irritation.

Pictograms

Precautionary Statements
P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.
P210 – Keep away from heat, sparks, open flames, and hot surfaces. — No smoking.
P220 – Keep/Store away from clothing, sunlight and combustible materials.

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P261 – Avoid breathing dust.
P271 – Use only outdoors or in a well-ventilated area.
P370 + P378 – In case of fire: Use carbon dioxide, dry chemical powder, water and appropriate foam for extinction.
P264 – Wash hands thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 – Rinse mouth.
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.
P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 – Call a POISON CENTER or doctor/physician if you feel unwell.
P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Trichloro-s-triazinetrione	87-90-1	99-100%	

Section 04 - First Aid Measures

Inhalation

Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention. Symptoms of pulmonary edema can be delayed up to 48 hours after.

Skin Contact / Absorption

Remove contaminated clothing. Brush loose particles off skin. Rinse skin with lukewarm, gently flowing water for 30 minutes. If skin irritation occurs, seek medical attention. Double bag, seal, label and leave contaminated clothing, shoes and leather goods at the scene. NOTE: Contaminated clothing may be a fire hazard. Keep contaminated clothing under water in a closed container until it can be safely cleaned or discarded.

Eye Contact

Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. If a contact lens is present, remove only if easy to do so. If eye irritation persists, seek medical attention.

Ingestion

Immediately call a POISON CENTER/doctor. Rinse mouth. If vomiting occurs naturally, rest on your side in the recovery position. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation or automated external defibrillation. Avoid mouth-to-mouth contact by using a barrier device.

Additional Information

Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media

Extinguish fire using extinguishing agents, suitable for the surrounding fire and not contraindicated for use wit trichloroisocyanuric acid. Trichloroisocyanuric acid is an oxidizing agent. Therefore, flooding quantities of water spray or fog streams should be used to fight fires involving this chemical.

Unsuitable Extinguishing Media

DO NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents), since explosive nitrogen trichloride can be formed. DO NOT use soda ash (sodium carbonate) that contains any water, since explosion decomposition can occur. DO NOT use carbon dioxide, dry chemical powder or other extinguishing agents that smother flames, since they are not effective in fires involving oxidizers.

Specific Hazards Arising From the Chemical	Trichloroisocyanuric acid decomposes at 225°C giving off chlorine, other chlorine-containing gases, including traces of phosgene, carbon monoxide and other hazardous gases. It decomposes in a fire to produce chlorine, hydrogen chloride, other chlorine-containing gases, including traces of phosgene, nitrogen oxides, oxides of carbon, cyanates, and other toxic and irritating gases. Closed containers may rupture violently due to rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time.
Special Protective Equipment and Precautions for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	Trichloroisocyanuric acid is an oxidizing agent and is a serious fire and explosion risk, especially when contaminated with dry combustible organic materials. Thermally unstable.

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.
Environmental Precautions	Prevent material from entering sewers or confined spaces.
Methods and Materials for Containment and Cleaning Up	Do not touch spilled material. Keep materials which can burn away from spilled material. Contain spill with earth, sand, or absorbent material which does not react with spilled material. SMALL SPILLS: Shovel into clean, dry, labelled containers and cover. Move containers from spill area. Flush area with water. DO not get water inside containers or on spilled material. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 07 - Handling and Storage

Precautions for Safe Handling	This material is an OXIDIZER, is TOXIC, and is an EYE AND SKIN IRRITANT. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Avoid breathing dusts, vapours or mists. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Avoid generating high concentrations of dusts, vapours or mists. Keep away from incompatible materials such as strong oxidizing materials. Keep containers closed when not in use. Empty containers are always dangerous. Assume that empty containers contain residues which are hazardous.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area out of direct sunlight, away from heat and ignition sources. Store away from incompatible materials. Inspect all incoming containers to make sure they are properly labelled and not damaged. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks.
Incompatibilities	Flammable and combustible materials, nitrogen-containing compounds, alkaline materials, cyanuric acid, sodium hydroxide, water, calcium hypochlorite, reducing agents, acids.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Trichloro-s-triazinetrione	Not Established		

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirator if the exposure limits are unknown.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Solid tablet
Colour	White
Odour	Chlorine-like odour
Odour Threshold	Not Available

Property

pH	2.7-3.3 (1% solution)
Melting Point/Freezing Point	Decomposes
Initial Boiling Point and Boiling Range	Not Applicable
Flash Point	> 250°C (open cup)
Evaporation Rate	Not Applicable
Flammability	Non-Flammable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable

Vapour Pressure (mm Hg, 20°C)	Extremely low
Vapour Density (Air=1)	Not Applicable
Relative Density	Not Available
Solubility(ies)	Moderately soluble in water (1.2g/100mL at 25°C) Soluble in chlorinated and highly polar solvents.
Partition Coefficient: n-octanol/water	Log K_{ow} = 0.94
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	225°C
Viscosity	Not Applicable
Explosive Properties	Product is an oxidizing agent and is a serious fire and explosion risk, especially when contaminated with dry combustible organic materials.
Specific Gravity (Water=1)	Not Available
% Volatiles by Volume	Not Available
Formula	$C_3Cl_3N_3O_3$
Molecular Weight	232.41

Section 10 - Stability and Reactivity

Reactivity	Trichloroisocyanuric acid is an NFPA Class 1 Oxidizer. Class 1 Oxidizers do not moderately increase the burning rate of combustible materials with which they come into contact.
Stability	Stable when dry and uncontaminated. Reacts slowly with water to form hypochlorous acid and cryanuric acid. Contact with small amounts of water may result in an exothermic reaction and the formation of explosive nitrogen trichloride.
Possibility of Hazardous Reactions	None reported.
Conditions to Avoid	Temperatures greater than 225°C, moisture, humidity, storing wet or moist material particularly in closed containers, contamination with combustible and easily oxidized materials, acidic and basic conditions.
Incompatible Materials	Flammable and combustible materials, nitrogen-containing compounds, alkaline materials, cyanuric acid, sodium hydroxide, water, calcium hypochlorite, reducing agents, acids.
Hazardous Decomposition Products	Nitrogen trichloride, chlorine gas, hypochlorous acid

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Trichloro-s-triazinetrione	406mg/kg (rat)	>2000mg/kg (rabbit)	>0.09mg/L, <0.29mg/L (rat, 4hr)

Chronic Toxicity – Carcinogenicity

Component	IARC
Trichloro-s-triazinetrione	Not known to be a carcinogen.

Skin Corrosion/Irritation	Can become corrosive when in contact with moisture on the skin. Severe skin irritant. Capable of producing severe burns, blisters, ulcers and permanent scarring.
Ingestion	Toxic and severe irritant. May cause burns to the lips, tongue, throat and stomach; abdominal pain; nausea; vomiting; diarrhea and death.
Inhalation	Toxic. Dust absorbs moisture from the air to form corrosive/irritating hypochlorous acid and cyanuric acid. These vapours can cause severe irritation of the nose, throat and upper respiratory tract, with mucous formation and coughing.
Serious Eye Damage/Irritation	Severe eye irritant.
Respiratory or Skin Sensitization	Not classified as a skin or respirtatory sensitizer.
Germ Cell Mutagenicity	Trichloroisocyanuric acid is not known to be mutagenic.
Reproductive Toxicity	Trichloroisocyanuric acid is not known to cause reproductive effects.
STOT-Single Exposure	Severe exposures could cause a life-threatening accumulation of fluid in the lungs.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Trichloro-s-triazinetrione	Not Available	LC_{50}(Oncorhynchus mykiss, 96hrs): 0.08mg/L LC_{50}(Lepomis macrochirus, 96hr): 0.2mg/L	EC_{50}(Daphnia magna, 48hrs): 0.17mg/L

Biodegradability	Biodegradable data not available. Reacts with water to form isocyanuric acid, which is confirmed to be biodegradable.
Bioaccumulation	An estimated BCF of 3.1 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility	If released to soil, expected to have very high mobility based upon an estimated Koc of 25.
Other Adverse Effects	Not Available

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	UN2468
UN Proper Shipping Name	TRICHLORIISOCYANURIC ACID, DRY
Transport Hazard Class(es)	5.1

Packaging Group	II
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available
Transport in Bulk	Not Available

Additional Information

Packing Group	Limited Quantity Index
II	1 Kg

TDG

Other Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date August 14, 2015

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA

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