

# Safety Data Sheet

## Product Identifier

**Manufacturer's Name:** CAPO INDUSTRIES LTD.  
**Street Address:** 1200 Corporate Drive  
**City:** Burlington, Ontario, CANADA  
**Postal Code:** L7L 5R6  
**Emergency Telephone:** Canutec (613) 996-6666 (Collect)

### SECTION 1. IDENTIFICATION

**Product Identifier**  
Brominating Granules

**Other Means of Identification**  
Brominating granules

**Recommended Use**  
Swimming pool/spa additive, oxidizing agent, algaecide, disinfectant, sanitizer, bactericide, fungicide, microbicide/microbiostat

**Restrictions on Use**  
Do not use product for anything outside of the above-specified uses.

**Initial Supplier Identifier**  
Capo Industries Ltd.

**Emergency Telephone Number**  
Canutec (613) 996-6666 (Collect)  
Chemtrec 1-800-424-9300  
Chemtrec Int'l +1 703-527-3887

### SECTION 2. HAZARD IDENTIFICATION

**Classification**  
Oxidising solids - Category 2  
Acute Oral Toxicity - Category 4  
Eye Irritation - Category 2A  
Specific target organ toxicity (single exposure) - Category 3  
Acute Aquatic Toxicity - Category 1  
Chronic Aquatic Toxicity - Category 1  
**SIGNAL WORD:** DANGER

## Label Elements



### Hazard Statement(s):

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

### Precautionary Statement(s):

#### Prevention:

P210	Keep away from heat. No smoking.
P220	Keep and store away from clothing, incompatible materials, combustible materials.
P221	Take any precaution to avoid mixing with combustibles / incompatible materials.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P285	In case of inadequate ventilation wear respiratory protection.
P273	Avoid release to the environment.

#### Response:

P370+P378	In case of fire: Use water spray (large quantities) to extinguish.
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.
P310	Immediately call a POISON CENTER or doctor/physician.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P391	Collect spillage.

#### Storage:

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

#### Disposal:

P501	Dispose of contents and container in accordance with local, regional, national, international regulations.
------	--

### Other Hazards

Contact with acids liberates toxic gas.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration	Common name / Synonyms
Sodium dichloroisocyanurate	2893-78-9	50-90%	Dichlor; NaDCC; Dichloroisocyanuric acid, sodium salt
Sodium bromide	7647-15-6	1-20%	Not applicable

### Notes

No additional data available

## SECTION 4. FIRST-AID MEASURES

For advice, contact a Poisons Information Centre or a doctor.

### **Inhalation:**

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discoloration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

### **Skin Contact:**

Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry and shoes. Wash contaminated areas with large amounts of water. GET MEDICAL ATTENTION IMMEDIATELY. Thoroughly clean and dry contaminated clothing before reuse.

### **Eye Contact:**

Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present, then continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY.

### **Ingestion:**

If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. Never give anything by mouth to an unconscious or convulsive person. GET MEDICAL ATTENTION IMMEDIATELY.

### **Most Important Symptoms/Effects (Acute and Delayed):**

**Acute Symptoms/Effects:** Listed below.

#### **Inhalation (Breathing):**

Respiratory System Effects: Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

#### **Skin:**

Skin Corrosion. Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.

#### **Eye:**

Serious Eye Damage. Exposure to eyes may cause irritation and burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye.

#### **Ingestion (Swallowing):**

Gastrointestinal Effects: Exposure by ingestion may cause irritation, nausea, and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.

#### **Delayed Symptoms/Effects:**

Repeated and prolonged skin contact may cause dermatitis.

#### **Interaction with Other Chemicals Which Enhance Toxicity:**

Contact with acids liberates toxic gas.

**Medical Conditions Aggravated by Exposure:** May aggravate pre-existing conditions such as: eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin; and respiratory conditions including asthma and other breathing disorders.

**Protection of First-Aiders:**

Protect yourself by avoiding contact with this material. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. Avoid contact with skin and eyes. Do not ingest. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

**Notes to Physician:**

Treat as a corrosive substance. This material is more irritating to the skin and eyes in the presence of water. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no antidote. Cyanuric acid is readily removed from the body via the renal system, and is not bioaccumulated. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation.

## SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:**

Water spray (large quantities).

**Unsuitable Extinguishing Media:**

DO NOT USE the following as extinguishing media: Dry agent (carbon dioxide, dry chemical powder).

**Specific hazards arising from the chemical:**

Non-combustible, but will support combustion of other materials. Oxidizing substance. Decomposes on heating emitting toxic fumes including those of chlorine and hydrogen chloride.

**Special protective equipment and precautions for fire-fighters:**

Sodium dichloroisocyanurate is a powerful oxidising agent and decomposes violently upon heating liberating oxygen. In case of fire, area must be evacuated and specialist fire fighters called. Only large quantities of water should be used as an extinguishing agent. If excess water is not available, DO NOT attempt to extinguish the fire; use available water to prevent the spread of fire to adjacent property. Attending fire fighters should keep upwind if possible and wear full protective equipment including rubber boots and self-contained breathing apparatus. A fire in the vicinity of sodium dichloroisocyanurate should be extinguished in the most practical manner but avoid contaminating this material with the fire fighting agent, including water. Decomposes on contact with water evolving toxic chlorine gas and in the presence of small amounts of water, the explosive gas nitrogen trichloride. Once fire is extinguished, wash area thoroughly with excess water. Ensure that drains are not blocked with solid material. Maintenance of excess water during cleaning up operation is essential. Combustible material involved in the incident should be removed to a safe open area for controlled burning or for further drenching with water prior to collection for disposal.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Environmental Precautions and Emergency Procedures:**

Clear area of all unprotected personnel. Shut off all possible sources of ignition. Increase ventilation. If contamination of sewers or waterways has occurred advise local emergency services.

**Personal Precautions and Protective Equipment**

Wear protective equipment to prevent skin and eye contact and breathing in vapours. Air-supplied masks are recommended to avoid inhalation of toxic material.

**Methods for Containment and Cleaning Up**

DO NOT return spilled material to original container for re-use. DO NOT add small amounts of water to sodium

dichloroisocyanurate. Collect and transfer to large volume of water – do NOT use a metal container. To neutralise add sodium sulfite (2.4 kg/kg product). If no active chlorine remains, add soda ash (1.1 kg/kg product) to effect complete neutralisation. Where a spill has occurred in a confined space or an inadequately ventilated enclosure and the material is damp and evolving chlorine, the rate of chlorine evolution can be reduced by covering the thinly spread solid with soda ash.

## **SECTION 7. HANDLING AND STORAGE**

### **Precautions for Safe Handling**

Avoid skin and eye contact and breathing in dust. Keep out of reach of children.

### **Conditions for Safe Storage**

Store and handle in accordance with all current regulations and standards. (NFPA Oxidizer Class 2). Do not allow water to get in container. If liner is present, tie after each use. Keep container tightly closed and properly labeled. Store containers on pallets. Keep away from food, drink and animal feed. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet). Product has an indefinite shelf life if stored in original container in a cool, dry place.

### **Incompatibilities/ Materials to Avoid:**

Acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Appropriate Engineering Controls**

Ensure ventilation is adequate and that air concentrations of decomposition product(s) is/are controlled below quoted Exposure Standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

### **Individual Protection Measures**

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.

#### **Eye/Face Protection**

Wear safety glasses with side-shields. Wear chemical safety goggles with a face-shield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### **Skin Protection**

Wear protective clothing to minimize skin contact. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®. Contaminated clothing should be removed and laundered before reuse. Wear appropriate chemical resistant gloves. Consult a glove manufacturer for assistance in selecting an appropriate chemical resistant glove (butyl rubber, natural rubber, neoprene, nitrile, polyvinyl chloride (PVC), Tyvek®).

#### **Respiratory Protection**

A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. The added protection of a full face-piece respirator is required when visible dusty conditions are encountered and eye irritation may occur. Acid gas cartridges with N95 filters are required when fumes or vapor may be generated.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:**

White crystalline granule/powder

**Odour:**

Slight chlorine odor

**Odour Threshold (ppm):**

No data available.

**Decomposition Temperature:**

480°F (252°C)

**Boiling Point/Range:**

Not applicable

**Freezing Point/Range:**

Not applicable.

**Melting Point/Range:**

Decomposes without melting @ 252°C

**Vapor Pressure:**

<0.06 Pa @ 20°C

**Vapor Density (air=1):**

Not applicable

**Relative Density/Specific Gravity (water=1):**

6.50 typical @ 20°C

**Bulk Density:**

964 kg/m<sup>3</sup>

**Water Solubility:**

24.3 g/100 g @ 25°C

**pH:**

6 - 7 @ 25°C (1% solution)

**Volatility:**

Not applicable

**Evaporation Rate (ether=1):**

Not applicable

**Partition Coefficient (n-octanol/water):**

K<sub>ow</sub> = 0

**Flash point:**

Not applicable

**Flammability (solid, gas):**

Not flammable

**Lower Flammability Level (air):**

Not flammable

**Upper Flammability Level (air):**

Not flammable

**Auto-ignition Temperature:**

Not determined

**Viscosity:**

Not applicable

**SECTION 10. STABILITY AND REACTIVITY****Reactivity**

Oxidising, avoid contact with reducing agents. Reacts with reducing agents. Contact with acids liberates toxic gas.

**Chemical Stability**

Powerful oxidizing agent. Sodium dichloroisocyanurate reacts with water and acids evolving toxic chlorine gas and in the presence of small amounts of water, the explosive gas nitrogen trichloride. Decomposes in alkaline conditions evolving carbon dioxide, nitrogen and chloramine gases. Slightly hygroscopic.

**Possibility of Hazardous Reactions**

Sodium dichloroisocyanurate reacts with water and acids evolving toxic chlorine gas and in the presence of small amounts of water, the explosive gas nitrogen trichloride. Decomposes in alkaline conditions evolving carbon dioxide, nitrogen and chloramine gases.

**Conditions to Avoid**

Avoid exposure to moisture. Avoid exposure to heat. Avoid exposure to direct sunlight. Avoid contact with other chemicals.

**Incompatible Materials**

Incompatible with combustible materials, ammonium salts, nitrogenous materials, acids and water. Incompatible with reducing agents.

**Hazardous Decomposition Products**

Chlorine, chlorine, nitrogen, nitrogen trichloride, cyanogen chloride, oxides of carbon, phosgene

**Hazardous Polymerization:**

Will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION****Likely Routes of Exposure**

Inhalation  Skin contact  Eye contact  Ingestion

**Acute Toxicity**

LC<sub>50</sub> (inhalation, rat, 4h)

0.27-1.17 mg/mL

**LD<sub>50</sub>** (oral, rat)  
1823 mg/kg

**LD<sub>50</sub>** (dermal, rabbit)  
> 2000 mg/kg

**Notes**

No additional data available

**Skin Corrosion / Irritation**

Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns. Dry material is less irritating than wet material. This material is not a skin sensitizer based on studies with guinea pigs.

**Serious Eye Damage / Irritation**

Eye exposures may cause burns to the eye lids, conjunctivitis, corneal edema and corneal burn. Significant and prolonged contact may cause damage to the internal contents of eye.

**Aspiration Hazard**

Material is irritant to the mucous membranes of the respiratory tract (airways). Inhalation of high concentrations may result in shortness of breath, chest pain, severe headache and lung damage including pulmonary oedema. Effects may be delayed.

**Respiratory Sensitization**

This material in the form as sold is not expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

**Ingestion**

Exposure by ingestion may cause irritation, nausea, and vomiting. May cause local tissue damage to epiglottis, mucus membranes of the mouth, esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.

**STOT (Specific Target Organ Toxicity) - Single Exposure**

Category 3 - Respiratory Tract Irritation

**STOT (Specific Target Organ Toxicity) - Repeated Exposure**

No data available

**Carcinogenicity**

This product is not classified as a carcinogen by NTP, IARC or OSHA.

**Notes**

No additional data available.

**Reproductive Toxicity**

Not classified as a reproductive toxin per GHS criteria. There are no known or recorded effects on reproductive function or fetal development.



### **Germ Cell Mutagenicity**

Not classified as a mutagen per GHS criteria. Not mutagenic in 5 *Salmonella* strains and 1 *E. coli* strain with or without mammalian microsomal activation.

### **Interactive Effects**

No data available

## **SECTION 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

This material is very toxic to aquatic life. This material is very toxic to aquatic life with long lasting effects. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

#### **Fish Toxicity:**

LC<sub>50</sub> Bluegill sunfish: 0.25-1.0 mg/L (96 hour)

LC<sub>50</sub> Rainbow trout: 0.13-0.36 mg/L (96 hour)

LC<sub>50</sub> Inland silversides: 1.21 mg/L (96 hour)

#### **Invertebrate Toxicity:**

LC<sub>50</sub> Water flea: 0.196 mg/L (48 hour)

LC<sub>50</sub> Mysid shrimp: 1.65 mg/L (96 hour)

#### **Other Toxicity:**

LD<sub>50</sub> Mallard duck (oral): 1,916 mg/kg

LD<sub>50</sub> N. Bobwhite Quail (oral): 1,732 mg/kg

LD<sub>50</sub> Mallard duck (diet): >10,000 ppm

LD<sub>50</sub> N. Bobwhite Quail (diet): >10,000 ppm

### **Persistence and Degradability**

This material is believed not to persist in the environment. Free available chlorine is rapidly consumed by reaction with organic and inorganic materials to produce chloride ion. The stable degradation products are chloride ion and cyanuric acid.

### **Bioaccumulative Potential**

This material hydrolyses in water liberating free available chlorine and cyanuric acid. These products are not bioaccumulative.

### **Mobility in Soil**

No data available

### **Other Adverse Effects**

This product is very toxic to fish and aquatic organisms. This product is very toxic to aquatic life with long lasting effects. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of appropriate regulatory requirements (e.g. permit and the permitting authority has been notified in writing prior to discharge). Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your local or regional regulatory water boards and/or other appropriate regulatory offices.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose of material through a licensed waste contractor. Add sodium dichloroisocyanurate into dilute solution of sodium hydroxide or soda ash with stirring gradually and neutralize that solution with reduction agents such as sodium sulfite and sodium thiosulfate. Adjust pH with sulfuric acid or hydrochloric acid to make neutral solution and dispose.

## SECTION 14. TRANSPORT INFORMATION

### Road and Rail Transport



**UN No:** 2465

**Transport Hazard Class:** 5.1 Oxidizing Agent

**Packing Group:** II

**Proper Shipping Name or**

**Technical Name:** DICHLOROISOCYANURIC ACID SALTS

### Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

**UN No:** 2465

**Transport Hazard Class:** 5.1 Oxidizing Agent

**Packing Group:** II

**Proper Shipping Name or**

**Technical Name:** DICHLOROISOCYANURIC ACID SALTS

### Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

**UN No:** 2465

**Transport Hazard Class:** 5.1 Oxidizing Agent

**Packing Group:** II

**Proper Shipping Name or**

**Technical Name:** DICHLOROISOCYANURIC ACID SALTS

## 15. REGULATORY INFORMATION

### Classification of the chemical:

Oxidising solids - Category 2

Acute Oral Toxicity - Category 4

Eye Irritation - Category 2A

Specific target organ toxicity (single exposure) - Category 3

Acute Aquatic Toxicity - Category 1

Chronic Aquatic Toxicity - Category 1

### Hazard Statement(s):

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H410 Very toxic to aquatic life with long lasting effects.

**National Inventory Status:**

**U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):**

All components are listed or exempt.

**TSCA 12(b):**

This product is not subject to export notification.

**Canadian Chemical Inventory:**

All components of this product are listed on either the DSL or the NDSL.

<b>SECTION 16. OTHER INFORMATION</b>
--------------------------------------

**Prepared By (Group, Department):** Quality Control

**Telephone:** (905) 332-6626

**Preparation Date:** 1-February-2019

**Date of Latest Revision:** 1-December-2020

**Additional Notes or References:**

**While Capco Industries Ltd. believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which Capco Industries Ltd. assumes legal responsibility. They are offered solely for your consideration and verification. Any use of this data and information must be determined by the user to be in accordance with applicable Federal, Provincial/State and local laws and regulations.**