

SAFETY DATA SHEET



Towerbrom® 90M Tablets

North America EN
SDS No.: M31041

Rev. Date: 02-Oct-2025
Rev. Num. 09

SECTION 1. CHEMICAL PRODUCT / COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 14555 Dallas Parkway, Suite 400 Dallas, Texas 75254-4300
24-Hour Emergency Telephone Number:	1-800-733-3665 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Product Identifier:	Towerbrom® 90M Tablets
Synonyms:	Trichlor/Sodium Bromide Blend; Trichloroisocyanuric acid; Trichloroisocyanuric Acid, Dry, Mixture; Trichloro-s-triazinetrione; 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione,1,3,5-trichloro-; Symclosene; Trichloroisocyanuric Acid (TCCA)
Product Use:	Microbicide for various industrial water treatment applications
Uses Advised Against:	- This is a pesticide product; do not use it in a pesticide application that is not included on its label
Restrictions on Use (United States):	<ul style="list-style-type: none">• This is a pesticide product; do not use in a pesticide application that is not approved by the EPA• EPA Reg. No. 935-75 (Towerbrom® 90M Tablets)• Tollers or Re-packers selling this product into the consumer market are responsible for obtaining EPA registration of their products
Restrictions on Use (EU):	NOT FOR SALE IN THE EUROPEAN UNION (EU).
Other Global Restrictions on Use:	This product is registered as a biocide in Canada under PCP Reg No. 25930. Other restrictions on use based on local, regional, or national regulations may exist

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and must be determined on a case-by-case basis.

Chemical Family: CHLORINATED ISOCYANURATES

Additional Information: Re-packers or formulators are responsible for obtaining and maintaining all required and applicable registrations of their products: (EPA, PMRA, BPD/BPR, state, etc.).

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: Health hazard classifications were performed using OSHA Hazard Communication 2024 (1910.1200) Appendix A and/or UN GHS Rev. 9 (2021). This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

HEALTH CANADA HPR REGULATORY STATUS: This material is considered hazardous by the Health Canada Hazardous Products Act's Hazardous Products Regulations (HPR) (SOR/2015-17).

EMERGENCY OVERVIEW:

Color: White
Physical State: Solid
Appearance: Tablet
Odor: Slight chlorine/bromine odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. CAUSES SERIOUS EYE DAMAGE. HARMFUL IF SWALLOWED. MAY CAUSE RESPIRATORY IRRITATION. CHRONIC ORAL EXPOSURE TO HIGH CONCENTRATIONS OF BORIC ACID IS SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD. SODIUM BROMIDE IS SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.

PHYSICAL HAZARDS: MAY INTENSIFY FIRE; OXIDIZER. Contact with acids liberates toxic gas.

AQUATIC TOXICITY: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS: Obtain, read, and follow all safety instructions before use. Do not breathe dusts or mists. Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves, protective clothing, eye, and face protection. Keep away from heat, sparks, open flames, hot surfaces - No smoking. Keep/Store away from clothing and other combustible materials. Take precautions to avoid mixing with combustibles, acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds.

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ADDITIONAL HAZARD INFORMATION: Do not get water inside container; damp or wet material may generate nitrogen trichloride, an explosion hazard. The product is an Oxidizer classified under GHS and/or CLP as hazard class 2 and may intensify fires. Contact with water slowly liberates irritating and hazardous chlorine containing gases. Products exceeding 225 °C (437 °F) will decompose with liberation of toxic gases and possible fire and explosion. May cause burns to moist skin if not promptly removed. There is no specific antidote. To treat contacted tissue, flush with water to dilute. Inhalation of respirable fraction (e.g., typically <10 microns) of this material may cause toxic effects. Sodium bromide at high doses affects the thyroid, adrenals and testes; may be an endocrine disruptor. The NOEL for sodium bromide is 300 mg/kg diet.

HAZARD CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	Oxidizing Solid - Category 2 - May intensify fire; oxidizer
GHS: CONTACT HAZARD - SKIN:	Category 1 - Causes severe skin burns and eye damage
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	- Category 3 - May cause respiratory tract irritation
GHS: REPRODUCTION TOXIN:	Category 2 - Suspected of damaging fertility or the unborn child
HAZARDS NOT OTHERWISE CLASSIFIED (HNO):	- AQUATIC TOXICITY - ACUTE: Category 1 (Very toxic to aquatic life) - AQUATIC TOXICITY - CHRONIC: Category 1 (Very toxic to aquatic life with long lasting effects)
GHS: SUPPLEMENTAL HAZARD:	- Contact with acids liberates toxic gas

Unknown Acute Oral Toxicity:

100% of this product consists of ingredient(s) of known acute oral toxicity.

Unknown Acute Dermal Toxicity:

100% of this product consists of ingredient(s) of known acute dermal toxicity.

Unknown Acute Inhalation Toxicity:

100% of this product consists of ingredient(s) of known acute inhalation toxicity.

GHS SYMBOL: Oxidizer, Corrosion, Health hazard, Exclamation mark, Environmental hazard



GHS SIGNAL WORD: DANGER

GHS HAZARD STATEMENTS:**GHS - Physical Hazard Statement(s)**

- May intensify fire; oxidizer

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GHS - Health Hazard Statement(s)

- Causes severe skin burns and eye damage
- Harmful if swallowed
- May cause respiratory irritation
- Suspected of damaging fertility or the unborn child

Additional Hazards - GHS Hazards Not Otherwise Classified (HNOC):

- ACUTE AQUATIC HAZARD - CATEGORY 1: Very toxic to aquatic life
- CHRONIC AQUATIC HAZARD - CATEGORY 1: Very toxic to aquatic life with long lasting effects

GHS - Precautionary Statement(s) - Prevention

- Obtain, read, and follow all safety instructions before use
- Keep away from heat
- Keep away from combustible materials
- Take precautions to avoid mixing with combustibles, acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds
- Do not breathe dusts or mists
- Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes
- Do not eat, drink, or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Wear protective gloves, protective clothing, eye, and face protection
- Avoid release to the environment

GHS - Precautionary Statement(s) - Response

- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- IF SWALLOWED: Get medical help
- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- IF INHALED: Get medical help if you feel unwell
- IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes
- IF ON SKIN: Get medical help immediately
- Wash contaminated clothing before reuse
- IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- IF IN EYES: Get medical help
- IF exposed or concerned, get medical advice
- Specific treatment for skin or eye contact (see "Notes to Physician" in Section 4 of the SDS)
- In case of fire: Use flooding with copious amounts of water to extinguish. Do not use ABC fire extinguishers. Do not use dry chemicals, carbon dioxide, or halogenated extinguishing agents
- Collect spillage

GHS - Precautionary Statement(s) - Storage

- Store locked up

GHS - Precautionary Statement(s) - Disposal

- Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Physical Hazards of Significance Not Mentioned in GHS Classification

- Reacts in contact with water to evolve nitrogen trichloride, an explosion hazard
 - Do not get water inside container, wet or damp material may generate large quantities of nitrogen trichloride (NCl₃) in a short period of time, an explosive chemical with lachrymatory vapors
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- Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion
- The product can liberate toxic gases from 225 °C (437 °F) to its decomposition point ~247 °C (477 °F), raising the risk of fire or explosion
- This product is classified as a GHS Class 2 Oxidizer. A GHS Class 2 Oxidizer is a substance that can cause or contribute to the combustion of other materials, and while not necessarily combustible itself, it can moderately increase the burning rate of combustible materials when they come into contact

Health Hazards of Significance Not Mentioned in GHS Classification

- Contact with acids liberates toxic gas
- Damp or wet material may generate hazardous and toxic gases
- Contact with water liberates irritating and hazardous chlorine containing gases
- The product can liberate toxic gases from 225 °C (437 °F) to its decomposition point ~247 °C (477 °F), raising the risk of fire or explosion
- Inhalation of respirable fraction (e.g., typically <10 microns) of this material may cause toxic effects
- Chronic oral exposure to high concentrations of boric acid is suspected of damaging fertility or the unborn child
- Sodium bromide at high doses affects the thyroid, adrenals and testes; may be an endocrine disruptor. The NOEL for sodium bromide is 300 mg/kg diet

Additional Hazard Information

Boric acid treatment of lactating women resulted in the detection of boric acid in breast milk

Persistent, Bioaccumulative, and Toxic (PBT) and Very Persistent and Very Bioaccumulative (vPvB) Assessment:

This product does not fulfill the criteria for persistence, bioaccumulation, and toxicity. Therefore, this substance is not considered a PBT or a vPvB substance.

Component	U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing	EU - PBT / vPvB Status
Trichloro-s-triazinetrione	Not listed	Considered NOT to be an EU PBT
Sodium bromide (NaBr)	Not listed	PBT/PvBT assessment does not apply Considered NOT to be an EU PBT
Boric acid (H3BO3)	Not listed	PBT/PvBT assessment does not apply Considered NOT to be an EU PBT

Endocrine Disruptor Assessment:

The European Union (EU) has classified Boric Acid as a potential endocrine disruptor and a Substance of Very High Concern (SVHC). Sodium bromide and Boric acid are both listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system.

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Component	Endocrine Screening List	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation
Sodium bromide (NaBr)	TEDX Potential Endocrine List: Present	Not Listed as SVHC
Boric acid (H3BO3)	EU Endocrine Category: Category 1 EU Environmental Endocrine Category: Category 2 EU Health Endocrine Category: Category 1 TEDX Potential Endocrine List: Present	Reason for inclusion Toxic for reproduction, Article 57c (233-139-2)

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Systematic Chemical Name	Common name	CAS Number	Percent [%]
Trichloro-s-triazinetrione 87-90-1	1,3,5-tris(chloranyl)-1,3,5-triazinane-2,4,6-trione	Trichlorocyanuric acid	87-90-1	92-93
Sodium bromide (NaBr) 7647-15-6	Sodium bromide	Sedoneural	7647-15-6	7
Boric acid (H3BO3) 10043-35-3	Orthoboric Acid or Hydrogen Borate	Boric Acid	10043-35-3	<1

SECTION 4. FIRST AID MEASURES

General Advice: IF exposed or concerned, get medical advice.

EYE CONTACT: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF IN EYES: Get medical help. Specific treatment for eye contact (see "Notes to Physician" in Section 4 of the SDS).

SKIN CONTACT: IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. Wash contaminated clothing before reuse. See specific treatment for skin contact below in this Section Under "Notes to Physicians".

INHALATION: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: Get medical help if you feel unwell.

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INGESTION: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Get medical help. If exposed or concerned after ingestion: Get medical advice/attention.

MOST IMPORTANT SYMPTOMS/EFFECTS (ACUTE AND CHRONIC [DELAYED]):

Acute Symptoms/Effects:

Eye: Signs and symptoms of exposure to the eyes, include irritation and burns to the eyelids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to internal eye structures, including blindness.

Skin: Signs and symptoms of exposure to skin may include redness, irritation, burning sensation, swelling, blister formation, first, second, or third-degree burns. Dry material is less irritating than wet material.

Inhalation (Breathing): Exposure to the solid product or to free chlorine evolving from the product may cause respiratory system effects to include irritation, redness of upper and lower airways, coughing, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

Ingestion (Swallowing): Exposure by ingestion may cause gastrointestinal effects to include irritation, nausea, and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.

Chronic (Delayed) Symptoms/Effects: Repeated and prolonged skin contact may cause a dermatitis. Prolonged and repeated oral exposure to high concentrations of boric acid is suspected of causing reproductive effects.

Target Organ Effects: Reproductive system

Protection of First-Aid Responders: Protect yourself by avoiding contact with this material. Use personal protective equipment (PPE). Refer to Section 8 for specific PPE 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: Need of immediate medical attention. 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.

Interaction with Other Chemicals Which Enhance Toxicity: Contact with acids liberates toxic gas.

Medical Conditions Aggravated by Exposure: May aggravate preexisting 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.

SECTION 5. FIRE FIGHTING MEASURES

Fire Hazard: This material is classified as a Class 2 Oxidizer under GHS and/or CLP criteria. Class 2 Oxidizers will increase the burning rate of combustible materials with which they come in contact. In addition, they may cause

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spontaneous ignition when in contact with combustible material. The product can liberate toxic gases from 225 °C (437 °F) to its decomposition point ~247 °C (477 °F), raising the risk of fire or explosion.

Explosive properties: Damp or wet material may generate nitrogen trichloride, an explosion hazard. See Section 10 for stability and reactivity precautions.

Extinguishing Media: Flood with copious amounts of water.

Unsuitable Extinguishing Media: DO NOT use ABC or other dry chemical extinguishers. There is the potential for a violent reaction if extinguishing with ABC or other dry chemical extinguishers. DO NOT USE carbon dioxide as an extinguishing agent. DO NOT USE halogenated extinguishing agents.

Specific Hazards: Contact with water slowly liberates irritating and hazardous chlorine containing gases.

Unusual Hazards: Material which appears undamaged, except for being damp on the outside, should be opened and inspected immediately. Use extreme caution when inspecting damaged packaging as damp or wet material may generate nitrogen trichloride, an explosion hazard and/or other hazardous and toxic gases.

Fire Fighting: Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard areas and deny entry. Move container from the fire area if it can be done without risk. Material which appears undamaged, except for being damp on the outside, should be opened and inspected immediately. DO NOT attempt to reseal contaminated drums. Damp material should be neutralized to a non-oxidizing state. Contact OxyChem for instructions for handling and disposal of damp material.

Advice for Firefighters: Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode.

Hazardous Combustion Products: In case of fires, hazardous combustion gases are formed: Nitrogen (NO₂); Hydrogen chloride (HCl); Chlorine (Cl₂); nitrogen trichloride (explosion hazard!); Isocyanic acid; Carbon monoxide and carbon dioxide

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not applicable

Auto-ignition Temperature: Not applicable

GHS: PHYSICAL HAZARDS:

- Oxidizing Solid - Category 2 - May intensify fire; oxidizer

Physical Hazards of Significance Not Mentioned in GHS Classification

- Reacts in contact with water to evolve nitrogen trichloride, an explosion hazard
 - Do not get water inside container, wet or damp material may generate large quantities of nitrogen trichloride (NCl₃) in a short period of time, an explosive chemical with lachrymatory vapors
 - Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation
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of heat, liberation of hazardous gases, and possible fire and explosion

- The product can liberate toxic gases from 225 °C (437 °F) to its decomposition point ~247 °C (477 °F), raising the risk of fire or explosion
- This product is classified as a GHS Class 2 Oxidizer. A GHS Class 2 Oxidizer is a substance that can cause or contribute to the combustion of other materials, and while not necessarily combustible itself, it can moderately increase the burning rate of combustible materials when they come into contact

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do not breathe dust, fumes, gas, mist, vapors, or spray. Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin or on clothing.

Personal Protective Equipment: Wear Personal Protective Equipment (PPE) for unknown or severely hazardous concentrations. See Section 8 for information on personal protective equipment.

Emergency Procedures: Evacuate unnecessary personnel and eliminate all sources of ignition. Isolate hazard areas and deny entry. Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release.

Environmental Precautions: This material is very toxic to aquatic life with long lasting effects. This material is acidic and may lower the pH of surface waters. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Methods and Materials for Containment, Confinement, and/or Abatement: Contain spill. DO NOT add water to spilled material.

Methods and Materials for Clean-up

Recovery: DO NOT attempt to reseal contaminated drums. DO NOT transport wet or damp material. Contain spilled material. Any spillage of ACL products should be cleaned up as soon as possible to prevent contamination with foreign materials with which it may react. Floor sweeping compounds should not be used. KEEP SPILLED MATERIAL DRY. If allowed to stand in damp or wet areas, tear producing vapors may result. Keep unneutralized products out of sewers, watersheds and water systems. Using clean, dedicated equipment, sweep and scoop up all spilled material, contaminated soil and other contaminated material and place into clean dry containers for disposal. Complete cleanup on a dry basis if possible. Sweeping compounds or other contaminants should not be mixed with the spilled product during this cleanup operation as fuming, fire or explosion may result. Follow all protective measures indicated in the "Personal Precautions and Personal Protective Equipment" sections of this document.

Neutralization: Damp material should be neutralized to a non-oxidizing state. The neutralization process involves the addition of waste products to alkaline aqueous solutions maintained at a pH of 10.5 (e.g. sodium hydroxide; sodium carbonate; or sodium sulfite). At this pH (10.5), the major fraction of chlorine is destroyed by chemical reactions between chlorine and cyanuric acid contained in the waste. THIS PROCESS SHOULD ONLY BE CARRIED OUT AFTER CAREFULLY REVIEWING THE ACL® WASTE NEUTRALIZING PROCEDURE PROVIDED BY OXYCHEM TECHNICAL SERVICE.

Final Disposal: For waste disposal, see section 13.

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Additional Disaster Prevention Measures: Contact OxyChem for instructions for handling and disposal of damp material.

SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for Safe Handling:

Do not smoke, eat, or drink while handling the product. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or dust when opening container. Avoid creation of dust. Wash thoroughly after handling. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. NEVER add water to this product. Always add product to large quantities of water. Use clean, dry utensils. Do not add the product to any dispensing device containing residuals of other products. Take any precaution to avoid mixing with combustibles or incompatible materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Technical measures/precautions: Due to the thermal decomposition properties of product, friction-producing equipment, such as screw conveyors or items with internal bearings, should be avoided whenever possible.

Other precautions:

Material which appears undamaged, except for being damp on the outside, should be opened and inspected immediately. Use extreme caution when inspecting damaged packaging as damp or wet material may generate nitrogen trichloride, an explosion hazard and/or other hazardous and toxic gases.

Prevention of contact: Provisions should be made to open and use ACL containers in well-ventilated work areas to protect handlers from excessive chlorine odor and dust. See Section 8, Exposure Controls and Personal Protection, for additional information.

Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep/Store away from clothing and other combustible materials. Store away from open flames, and combustibles. Store in original container and in a dry area where temperatures do not exceed 52 °C (125 °F) for 24 hours. 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).

Technical measures: Product should be stored in a cool (temperatures not to exceed 125°F), dry, well-ventilated area, segregated from incompatible chemicals. Storage conditions should comply with the requirements established by the National Fire Protection Association's NFPA 1 – Uniform Fire Code and/or NFPA 400 – Hazardous Materials Code and/or the International Code Council's (ICC) International Fire Code. Since both NFPA and ICC codes are used throughout the U.S., consult with local fire departments to determine which codes apply. This material is classified as a Class 2 Oxidizer under GHS and/or CLP criteria. Class 2 Oxidizers will increase the burning rate of combustible materials with which they come in contact. In addition, they may cause spontaneous ignition when in contact with combustible material.

Incompatible Substances: The product is a highly reactive oxidizing and chlorinating agent. Precautions should be taken to prevent the mixing of these products with other incompatible chemicals during storage, handling and

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manufacture. Some chemicals incompatible include (but are not limited to): Strong acids or bases; Amino Compounds (amines; amides; ammonia, and ammonium salts) and hydrazines; Acetic acid and acetic anhydride; Alcohols (methyl, ethyl, isopropyl, etc.) and phenols; Alkenes and acetylene; Biuret; Calcium hypochlorite; Ethers; Fungicides; Glycerin; Mineral reducing agents (sulfides, bisulfites, thiosulfates, nitrites, cyanide salts, etc.); Oils and paints; Organic or mineral oxidizers (peroxides, perborates, percarbonates); Petroleum products (gasoline, kerosene, etc.); Urea. Substances not listed must be evaluated for compatibility prior to use.

Packaging or Materials of Construction: Towerbrom products have excellent stability when they are properly packaged and stored; however, these materials can form enough chlorine-containing gases to cause deterioration of the container. Therefore, the standard shelf-life for packaged product (in bulk bags, plastic drums or pails) is two years. Note that local and/or national regulations must be consulted to verify if cardboard packaging is an approved specified packaging for the active ingredient due to shorter shelf-life of six months expected for this type of packaging. These guidelines are based on potential deterioration of packaging and not on degradation of product.

Additional Information:**GHS: PHYSICAL HAZARDS:**

- Oxidizing Solid - Category 2 - May intensify fire; oxidizer

Physical Hazards of Significance Not Mentioned in GHS Classification

- Reacts in contact with water to evolve nitrogen trichloride, an explosion hazard
- Do not get water inside container, wet or damp material may generate large quantities of nitrogen trichloride (NCl₃) in a short period of time, an explosive chemical with lachrymatory vapors
- Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion
- The product can liberate toxic gases from 225 °C (437 °F) to its decomposition point ~247 °C (477 °F), raising the risk of fire or explosion
- This product is classified as a GHS Class 2 Oxidizer. A GHS Class 2 Oxidizer is a substance that can cause or contribute to the combustion of other materials, and while not necessarily combustible itself, it can moderately increase the burning rate of combustible materials when they come into contact

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**REGULATORY EXPOSURE LIMIT(S):**

No United States Regulatory Exposure Levels; however, see Canadian Regulatory Exposure Level(s).

Component	Canada - TWAs	Canada - STELs	Canada - Ceilings
Boric acid (H ₃ BO ₃) 10043-35-3 (<1 %)	Ontario - 2 mg/m ³ (TWA) British Columbia - 2 mg/m ³ (TWA)	Ontario - 6 mg/m ³ (STEL)	-----

NON-REGULATORY EXPOSURE LIMIT(S):

One component of this product has ACGIH TLV value(s) recommended as advisory exposure limit(s). In addition, Occidental Chemical Corporation has established a Manufacturer Recommended Exposure Limit (REL) for Trichloroisocyanuric Acid, of 0.5 mg/m³ for an 8-hour time weighted average (TWA). Contact manufacturer for further information addressing appropriate exposure monitoring / sampling methods.

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Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	Skin Absorption - ACGIH	NIOSH RELs	AIHA WEELs	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Boric acid (H3BO3) 10043-35-3 (<1 %)	2mg/m ³ TWA inhalable particulate matter	6 mg/m ³ (STEL)	-----	-----	-----	-----	-----	-----	-----
Borate compounds, inorganic	2mg/m ³ TWA inhalable particulate matter								

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

Recommended Exposure Limits (REL's) are non-regulatory occupational exposure limits the manufacturer has established based on health effects data.

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
Trichloro-s-triazinetrione 87-90-1 (92-93 %)	0.5 mg/m ³	N/A	N/A

Additional Advice: Chlorine and chlorine compounds may be found in slight amounts in the headspace of containers of this product.

ENGINEERING CONTROLS: Use only in well-ventilated areas. Provide local exhaust ventilation where dust or mist may be generated. Conventional mixer types can be used for the formulation of these products but should be designed or modified to minimize attrition, dusting or spilling. Provisions should be made to collect any dust from the mixer in a suitable dust-collecting system. Note, the dust collection system for ACL products should not be used to collect dust from materials that will react with ACL products. All equipment should be thoroughly cleaned before and after mixing to prevent the possibility of undesired reactions or fire as a result of accidental contamination. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles with a face shield to protect against eye and skin contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

Skin and Body 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.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove manufacturer for assistance in

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selecting an appropriate chemical resistant glove.

Protective Material Types: Butyl rubber, Natural rubber, Neoprene, Nitrile, Polyvinyl chloride (PVC), Tyvek®.

Respiratory Protection: In case of inadequate ventilation, wear 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. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Other Protective Equipment: No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Tablet
Physical State:	Solid
Color:	White
Odor:	Slight chlorine/bromine odor
Odor Threshold [ppm]:	Not Available
Melting Point/Range:	246.8 ± 0.4°C decomposes at melting point
Freezing Point/Range:	Not applicable
Boiling Point °C	Not applicable
Evaporation Rate (ether=1):	Not applicable
Flammability (solid, gas):	Not highly flammable (EU method A.10)
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Explosion limits:	Not determined
Flash point:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	246.8 ± 0.4°C decomposes at melting point of about 200°C
pH:	3.0 - 3.5 @ 25 °C (1% solution)
Viscosity:	Not applicable
Kinematic Viscosity:	No data available
Water Solubility:	pH 3.5: 10,000 mg/L at 10 °C 14,000 mg/L at 20 °C 20,000 mg/L at 30 °C
Partition Coefficient (n-octanol/water):	Log Pow = 0.9445 (TCCA, calculated)
Vapor Pressure:	<0.002 Pa at 20°C
Density:	No data available
Relative Density/Specific Gravity (water=1):	No data available
Vapor Density (air=1):	Not applicable

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Particle Size Distribution: Not applicable, sold in tablet form

Other Information

Chemical Family:	CHLORINATED ISOCYANURATES
Explosive properties:	Not applicable.
Oxidizing properties:	The [U.S.] National Fire Protection Association (NFPA) Code 400 (2025) "Hazardous Material Code": NFPA Class 1 Oxidizer (• slightly increase the burning rate of combustible materials. • do not cause spontaneous ignition when they come in contact with them).
Bulk Density:	1.009 g/ml (63 lbs./ft ³)
Volatility:	Not applicable
Surface Tension:	No data available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and pressures.

Reactivity: Not reactive under normal temperatures and pressures.

Possibility of Hazardous Reactions: Do not get water inside container. Wet material may generate nitrogen trichloride, an explosion hazard. Avoid contact with easily oxidizable organic material. Contact with acids liberates toxic gas. Towerbrom in the presence of ammonia gas or aqueous solutions of ammonia will generate hazardous amounts of explosive nitrogen trichloride. Towerbrom may decompose in the presence of oils or greases to form CO₂, Cl₂, and/or other toxic gases. Towerbrom may react violently with hydrogen peroxide, liberating oxygen gas.

Conditions to Avoid (e.g., static discharge, shock, or vibration): The material in itself is very stable to static discharge, shock or vibration. It does not present a dust explosion hazard.

Incompatible Substances: The product is a highly reactive oxidizing and chlorinating agent. Precautions should be taken to prevent the mixing of these products with other incompatible chemicals during storage, handling and manufacture. Some chemicals incompatible include (but are not limited to): Strong acids or bases; Amino Compounds (amines; amides; ammonia, and ammonium salts) and hydrazines; Acetic acid and acetic anhydride; Alcohols (methyl, ethyl, isopropyl, etc.) and phenols; Alkenes and acetylene; Biuret; Calcium hypochlorite; Ethers; Fungicides; Glycerin; Mineral reducing agents (sulfides, bisulfites, thiosulfates, nitrites, cyanide salts, etc.); Oils and paints; Organic or mineral oxidizers (peroxides, perborates, percarbonates); Petroleum products (gasoline, kerosene, etc.); Urea. Substances not listed must be evaluated for compatibility prior to use.

Hazardous Decomposition Products: In case of fires, hazardous combustion gases are formed: Nitrogen (NO₂); Hydrogen chloride (HCl); Chlorine (Cl₂); nitrogen trichloride (explosion hazard!); Isocyanic acid; Carbon monoxide and carbon dioxide.

Hazardous Polymerization: Not expected to occur.

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SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

TOXICITY:

Monosodium cyanurate was administered via drinking water to rats for 104 weeks at concentrations of 0, 400, 1200, 2400, and 5375 ppm (solubility limit). No compound-related effects on body weights, clinical signs of toxicity or food or water consumption were noted during the study. An increased incidence of gross lesions in the urinary tract, calculi in the kidney and lesions in the heart were observed in males receiving the highest dose level of 5375 ppm (solubility limit). The health effects seen in this study were due to precipitation of the test substance in the urinary tract when the test substance was fed at the solubility limit. Adverse health effects were not seen at lower doses where precipitation did not occur.

ACUTE TOXICITY:

Eye contact: Exposure to material may cause serious eye damage. Significant and prolonged contact may cause damage to the internal eye structures.

Skin contact: Exposure to solids 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.

Inhalation: 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 0.2% by weight. 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, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

Ingestion: Ingestion is not a likely route of exposure; however, the material is harmful if swallowed.

CHRONIC TOXICITY:

Chronic Effects: None identified for the parent chemical. Based on animal studies, exposure to concentrations of monosodium cyanurate at the solubility limit may cause cardiovascular, kidney and urinary bladder effects. Based on animal studies, oral exposure to high concentrations of boric acid may affect the reproductive system. SODIUM BROMIDE: Studies show sodium bromide can cause reproductive toxicity in rats due to thyroid disruption, but this effect is not relevant to humans. Human research finds no evidence of reproductive risk at typical exposure levels. At high levels, sodium bromide can accumulate in the body and cause neurological symptoms known as bromism.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Exposure to the solid product or to free chlorine evolving from the product may cause respiratory system effects to include irritation, redness of upper and lower airways, coughing, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

Skin: Signs and symptoms of exposure to skin may include redness, irritation, burning sensation, swelling, blister formation, first, second, or third-degree burns. Dry material is less irritating than wet material.

Eye: Signs and symptoms of exposure to the eyes, include irritation and burns to the eyelids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to internal eye structures, including blindness.

Ingestion (Swallowing): Exposure by ingestion may cause gastrointestinal effects to include irritation, nausea, and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local

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ulceration, and may cause gastrointestinal bleeding.

Interaction with Other Chemicals Which Enhance Toxicity: Contact with acids liberates toxic gas.

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - SKIN: Category 1 - Causes severe skin burns and eye damage
GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage
GHS: ACUTE TOXICITY - ORAL: Category 4 - Harmful if swallowed
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):
 Category 3 - May cause respiratory tract irritation
GHS: REPRODUCTION TOXIN: Category 2 - Suspected of damaging fertility or the unborn child

TOXICITY DATA:

PRODUCT TOXICITY DATA: Data is from studies conducted internally.

<u>LD50 Oral:</u>	<u>LD50 Dermal:</u>	<u>LC50 Inhalation:</u>
787 - 868 mg/kg bw (male and female rat)	> 2000 mg/kg bw (male and female rabbit)	Between 0.09 mg/L and 0.29 mg/L (male and female rat; dust inhalation)

COMPONENT TOXICITY DATA: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given

Component	Oral LD50	Dermal LD50	Inhalation LC50
Trichloro-s-triazinetrione 87-90-1	406 mg/kg (Rat)	>5000 mg/kg (Rat)	> 5.35 mg/L (Rat) 4 h
Sodium bromide (NaBr) 7647-15-6	3500 mg/kg (Rat)	>2000 mg/kg (Rabbit)	No data available
Boric acid (H3BO3) 10043-35-3	2660 mg/kg (Rat)	>2000 mg/kg (Rabbit)	> 2.12 mg/L (Rat) 4 h ≥ 2120 mg/m ³ (Rat) 4 h

EYE IRRITATION/CORROSION: Multiple in vivo studies found that Trichloroisocyanuric acid (TCCA) causes severe, irreversible eye irritation and damage in rabbits.

Standard Draize (Eye): PRIMARY EYE IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr.).

SKIN IRRITATION/CORROSION: Exposure of rabbit skin to Trichloroisocyanuric acid (TCCA) caused varying degrees of erythema, edema, and other corrosive dermal effects, confirming TCCA may be corrosive to skin if not removed promptly.

Standard Draize (Skin): PRIMARY SKIN IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)

SKIN ABSORBENT/DERMAL ROUTE: NO.

Not expected to cause health effects upon potential absorption.

RESPIRATORY OR SKIN SENSITIZATION: The sensitization potential of Trichloroisocyanuric acid (TCCA) was investigated in male guinea pigs using the Magnusson and Kligman maximization method. The test material produced a 0% (0/10) sensitization rate and is therefore not considered to be a skin sensitizer.

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CARCINOGENICITY: Trichloroisocyanuric acid (TCCA) is unstable in the body, particularly the stomach, because the free available chlorine is rapidly reduced. Cyanuric acid (CYA), or its salt, is the stable degradation product. Therefore, CYA, or its sodium salt, is the substance of interest for carcinogenicity studies. A 2-year carcinogenicity study in rats and mice was carried out according to EU method B.33. The study showed that the monosodium salt of cyanuric acid was non-oncogenic by the oral route. Based on available data, the classification criteria are not met. Not classified as a carcinogen per GHS and/or CLP criteria.

Component	NTP:	IARC (GROUP 1):	IARC (GROUP 2):	OSHA:	ACGIH (American Conference of Governmental Industrial Hygienists)	NIOSH - Pocket Guide - Carcinogens
Boric acid (H3BO3)	Not listed	Not listed	Not listed	Not Listed	A4 - Not Classifiable as a Human Carcinogen (listed under Borate compounds)	Not listed

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): Category 3 - Respiratory Tract Irritation.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Trichloroisocyanuric acid (TCCA) quickly converts to cyanuric acid (CYA) in the body, so long-term toxicity is attributed to CYA, not the original compound. Repeated oral and inhalation exposure studies show high NOAEL values and no evidence of carcinogenicity, while dermal absorption is minimal due to the corrosive nature of TCCA. Chronic oral studies in rodents confirm that significant adverse effects only occur at much higher doses than those typically encountered. The substance is not classified as a specific target organ toxicant upon repeated exposure per GHS and/or CLP criteria.

INHALATION HAZARD: Although the LC50 results of >0.09 - <0.29 mg/L (4 hour - Rat) would indicate that the material would be fatal if inhaled, in the study the test material was ground to ensure a respirable powder. This product is sold in a solid tablet form. Because it is in this form, product is not generally respirable and therefore does not typically pose an inhalation risk. The "form or physical shape" and "reasonably expected use" of a substance is relevant for classification according to Article 5(1) of 1.2 of the Guidance to the CLP. Therefore, the result from the inhalation study is not considered to be applicable for classification and labelling purposes and the product is not classified as acutely toxic by inhalation.

INGESTION HAZARD: LD50 Acute Toxicity Estimates meet the GHS and/or CLP classification criteria of greater than 300 mg/kg and less than or equal to 2000 mg/kg. Therefore, this mixture is classified as Category 4 Acute Toxin Oral (harmful if swallowed).

IN-VITRO / IN-VIVO GENOTOXICITY: Trichloroisocyanuric acid (TCCA) is unstable in the body, particularly the stomach, because the free available chlorine is rapidly reduced. Cyanuric acid (CYA), or its salt, is the stable degradation product. Therefore, CYA, or its sodium salt, is the substance of interest for the genotoxicity toxicity studies. Extensive genotoxicity studies in both bacteria and mammalian cells indicate that cyanuric acid and its salts are not genotoxic or cytotoxic, with no adverse effects observed. Not classified as a mutagen per GHS and/or CLP criteria.

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REPRODUCTIVE TOXICITY: BORIC ACID has been shown to cause reproductive toxicity in laboratory animals, particularly affecting male fertility at high exposure levels, but similar effects have not been observed in humans, including those with occupational exposure. Studies indicate humans have much higher concentrations of zinc in reproductive tissues than animals, which appears to offer protection against boric acid's toxic effects. Comparative research consistently finds human boron exposure levels are lower than those causing toxicity in animal studies, with no clear evidence of developmental or fertility effects in exposed human populations. As a result, the total weight of evidence supports classifying boric acid as a Category 2 reproductive toxicant (suspected human reproductive toxicant), due to the lack of robust human evidence and the presence of protective biological factors.

SODIUM BROMIDE

Sodium bromide exhibits reproductive toxicity in rats at high doses, but primarily through the disruption of thyroid function rather than direct reproductive toxicity. Sodium bromide exhibits reproductive toxicity in rats at high doses, but primarily through the disruption of thyroid function rather than direct reproductive toxicity. Rats are particularly sensitive to thyroid hormone imbalance and are not considered a reliable model for predicting human reproductive toxicity risk in this context. Human studies do not support the view that sodium bromide poses a reproductive hazard at doses relevant to environmental or therapeutic exposure. In summary, while sodium bromide can cause reproductive effects in animal studies—most notably in rats—the mechanism is species-specific and not relevant to humans. Human studies have shown no evidence of reproductive toxicity at doses far exceeding typical exposure levels. Therefore, based on the current body of scientific evidence, sodium bromide should be classified as a Category 2 designation (possible risk, based on animal data but not supported by human evidence).

DEVELOPMENTAL TOXICITY: There was no evidence of teratogenicity in the absence of maternal toxicity.

ASPIRATION HAZARD: Not applicable.

TOXICOKINETICS: TCCA is unstable in the body, particularly the stomach because the free available chlorine is rapidly reduced. CYA, or its salt, is the stable degradation product. Therefore, CYA or its sodium salt is the substance of interest for toxicokinetic studies. Studies on the toxicokinetic of radiolabeled sodium cyanurate show high absorption (over 98%) from the gastrointestinal tract in dogs and rats, with no metabolism or accumulation. This finding is supported by a human study where over 98% of cyanuric acid was recovered in urine within 24 hours. Dermal absorption studies indicate minimal absorption through human skin, suggesting oral ingestion as the primary route of exposure. BORIC ACID is absorbed through the digestive tract, distributed throughout the body, and primarily excreted unchanged via urine. SODIUM BROMIDE is rapidly absorbed after ingestion. Bromide ions distribute throughout the body. The biological half-life of bromide is influenced by chloride intake, with a higher chloride intake leading to faster elimination of bromide. There is no bioaccumulation potential for the product.

METABOLISM: See Toxicokinetics above.

BIOLOGICAL DISTRIBUTION: See Toxicokinetics above.

PATHOGENICITY AND ACUTE INFECTIOUSNESS (ORAL, DERMAL, AND INHALATION): Not applicable.

ENDOCRINE DISRUPTOR: Exposure to sodium bromide can lead to thyroid activation and other complex changes in the endocrine system. Chronic bromide exposure, primarily documented in animal studies, can negatively impact reproductive organs by disrupting the endocrine system, leading to decreased fertility in females and reduced sperm count and prostate function in males. Sodium bromide is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system. Boric Acid is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research

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demonstrating effects on the endocrine system.

NEUROTOXICITY: Sodium bromide can be neurotoxic in high amounts, causing a condition known as bromism. It interferes with neuronal transmission and accumulates in the body, leading to neurological symptoms such as confusion, mood instability, and even psychosis.

IMMUNOTOXICITY: No relevant information available.

Health Hazards of Significance Not Mentioned in GHS Classification

- Contact with acids liberates toxic gas
- Damp or wet material may generate hazardous and toxic gases
- Contact with water liberates irritating and hazardous chlorine containing gases
- The product can liberate toxic gases from 225 °C (437 °F) to its decomposition point ~247 °C (477 °F), raising the risk of fire or explosion
- Inhalation of respirable fraction (e.g., typically <10 microns) of this material may cause toxic effects
- Chronic oral exposure to high concentrations of boric acid is suspected of damaging fertility or the unborn child
- Sodium bromide at high doses affects the thyroid, adrenals and testes; may be an endocrine disruptor. The NOEL for sodium bromide is 300 mg/kg diet

OTHER HAZARDS:

- Boric acid treatment of lactating women resulted in the detection of boric acid in breast milk

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY (EC, IC, and LC):

Ecotoxicity - Available LOLI Data for Components: The component ecotoxicity data is populated by the LOLI database and may differ from the product ecotoxicity data given

Component:	Freshwater Fish:	Invertebrate Toxicity:	Algae Toxicity:	Other Toxicity:
Trichloro-s-triazinetrione 87-90-1 (92-93 %)	LC50 Bluegill sunfish: 0.23 - 0.40 mg/l (96 hr.) Rainbow trout: 0.24 - 0.37 mg/l (96 hr.)	LC50 Water flea: 0.17-0.80 mg/L (48 hour)	No data available	No data available
Sodium bromide (NaBr) 7647-15-6 (7 %)	*LC50 Oryzias latipes: 24000 - 96000 mg/L 96h flow-through *LC50 Oryzias latipes: 24000 mg/L 96h semi-static *LC50 Poecilia reticulata: 16000 - 24000 mg/L 96h flow-through *LC50 Poecilia reticulata: 16000	*EC50 Daphnia magna: 5800 - 48000 mg/L 48h *EC50 Daphnia magna: 5700 - 10800 mg/L 48h	*EC50 Scenedesmus pannonicus (96 h) 5800 - 24000 mg/L	*LC50 Anas platyrhynchos (5 Days Diet) >5633 ppm *LC50 Colinus virginianus (5 Days Diet) >5633 ppm *NOEC Anas platyrhynchos (5 Days Diet) =1784 ppm *NOEC Colinus virginianus (5 Days

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	mg/L 96h semi-static *LC50 Pimephales promelas: 15614 - 17428 mg/L 96h static *LC50 Lepomis macrochirus: 1000 mg/L 96h static *LC50 Oncorhynchus mykiss: 0.054 - 0.081 mg/L 96h flow-through *LC50 Oncorhynchus mykiss: 1000 mg/L 96h static			Diet) =1784 ppm *LD50 Colinus virginianus >2250 mg/kg
Boric acid (H3BO3) 10043-35-3 (<1 %)	No data available	*EC50 Daphnia magna: 115 - 153 mg/L 48h	No data available	*LC50 Anas platyrhynchos (5 Days Diet) >5620 ppm *LC50 Colinus virginianus (5 Days Diet) >5620 ppm

Fish Toxicity:

LC50 Bluegill sunfish: 0.23 - 0.40 mg/l (96 hr.)
LC50 Rainbow trout: 0.24 - 0.37 mg/l (96 hr.)

Algae Toxicity:

LC50 Green algae: <0.5 mg/L (3 hour)

Invertebrate Toxicity:

LC50 Water flea: 0.17 - 0.80 mg/L (48 hr.)

Other Toxicity:

LD50 Mallard duck (oral): 1,630 mg/kg
LD50 N. Bobwhite Quail (oral): 1,647 mg/kg
LC50 Mallard duck (diet): >10,000 ppm
LC50 N. Bobwhite Quail (diet): >7,422 ppm

FATE AND TRANSPORT:

PERSISTENCE: Trichloroisocyanuric acid (TCCA) rapidly hydrolyses to hypochlorous acid (HOCl) and cyanuric acid (CYA) on contact with water. As the free available chlorine is reduced by reaction with various impurities in the water it is converted into chloride ions and additional free chlorine is released from the chlorinated isocyanurates in solution. Once all the available chlorine has been reduced, stable reaction products are cyanuric acid or its salts and chloride salts. Cyanuric acid degrades readily under a wide variety of natural conditions.

BIODEGRADATION: This material is subject to hydrolysis. Cyanuric acid produced by hydrolysis is biodegradable.

BIOCONCENTRATION: No bioaccumulation data is available for isocyanuric acid in fish or aquatic organisms, but it is not expected to bioaccumulate due to its low octanol-water partition coefficient.

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BIOACCUMULATIVE POTENTIAL: No experimental data. Calculated BCF value: 3.12 (BCF v2.17). Log Pow = 0.9445 (TCCA, calculated).

MOBILITY IN SOIL: Substance hydrolyses rapidly in soil.

ADDITIONAL ECOLOGICAL INFORMATION:

Persistent, Bioaccumulative, and Toxic (PBT) and Very Persistent and Very Bioaccumulative (vPvB) Assessment:

This product does not fulfill the criteria for persistence, bioaccumulation, and toxicity. Therefore, this substance is not considered a PBT or a vPvB substance.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:

Use or reuse if possible. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash. DO NOT transport wet or damp material. Damp material should be allowed to thoroughly dry or be neutralized to a non-oxidizing state. Contact manufacturer for instructions for handling and disposal of damp material.

Container Management:

See product label for container disposal information. Dispose of product and container with product residues as hazardous waste in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

Status: Regulated: Non-bulk packages by ground and air shipments are regulated as oxidizers. Bulk packaging or shipments by vessel are regulated as follows:
UN NUMBER: UN2468
PROPER SHIPPING NAME: Trichloroisocyanuric Acid, Dry, Mixture
HAZARD CLASS/ DIVISION: 5.1
PACKING GROUP: II
LABELING REQUIREMENTS: 5.1, Marine Pollutant
MARINE POLLUTANT: Marine Pollutant (Trichloroisocyanuric Acid)

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

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Status: Regulated: Non-bulk packages by ground and air shipments are regulated as oxidizers. Bulk packaging or shipments by vessel are regulated as follows:
UN NUMBER: UN2468
SHIPPING NAME: Trichloroisocyanuric Acid, Dry, Mixture
CLASS OR DIVISION: 5.1
PACKING/RISK GROUP: II
LABELING REQUIREMENTS: 5.1, Marine Pollutant
CAN. MARINE POLLUTANT: Marine Pollutant (Trichloroisocyanuric Acid)

MARITIME TRANSPORT (IMO / IMDG)

Status - IMO / IMDG: Shipment by Vessel: Regulated.

UN NUMBER: UN2468
PROPER SHIPPING NAME: Trichloroisocyanuric Acid, Dry, Mixture
HAZARD CLASS / DIVISION: 5.1
Packing Group: II
LABELING REQUIREMENTS: 5.1, Marine Pollutant
MARINE POLLUTANT: Trichloroisocyanuric Acid

AIR TRANSPORT (ICAO / IATA)

Special Instructions CAO: IATA Certificate for shipping personnel is required

NOTE: When shipping by vessel or when shipping in bulk quantities (greater than 882 pounds), add "MARINE POLLUTANT (Trichloroisocyanuric Acid)" at end of basic shipping description, and display a Marine Pollutant label on the container

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:

Health hazard classifications were performed using OSHA Hazard Communication 2024 (1910.1200) Appendix A and/or UN GHS Rev. 9 (2021). This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

Not regulated.

SARA EHS Chemical (40 CFR 355.30)

Not regulated.

Acute Health Hazard, Chronic Health Hazard

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Physical Hazard - Oxidizer (liquid, solid or gas)
Health Hazard - Acute Toxin (any route of exposure)
Health Hazard - Skin Corrosion or Irritation

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Health Hazard - Serious eye damage or eye irritation
 Health Hazard - Specific Target Organ Toxicity (STOT) Single Exposure (SE)
 Health Hazard - Reproductive Toxin

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated.

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):

No components in this material are regulated under DHS

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated.

FIFRA REGULATIONS: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). EPA Reg. No. 935-75 (Towerbrom® 90M Tablets).

FIFRA LABELING REQUIREMENTS: - This chemical is a pesticide product registered by the United States Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

- FIFRA Signal Word - DANGER
- Corrosive
- Causes irreversible eye damage
- Causes skin irritation
- Harmful if swallowed
- This pesticide is toxic to fish and aquatic organisms
- Strong oxidizing agent
- Contact with water slowly liberates irritating and hazardous chlorine containing gases
- Decomposes at temperatures above 464 °F with liberation of harmful gases
- When ignited will burn with the evolution of chlorine and equally toxic gases
- NEVER add water to product
- Always add product to large quantities of water
- Use only clean and dry utensils
- DO NOT add this product to any dispensing device containing remnants of any other product
- Such use may cause a violent reaction leading to fire or explosion
- Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Component(s) not listed on impacted regulatory lists.

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

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA/Section 4	TSCA/Section 5	TSCA/Section 6	TSCA/Section 8
Trichloro-s-triazinetrione 87-90-1 (92-93 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Not listed
Sodium bromide (NaBr)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Not listed

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7647-15-6 (7 %)							
Boric acid (H3BO3) 10043-35-3 (<1 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Not listed

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.

Component	DSL	NDSL
Trichloro-s-triazinetriene 87-90-1 (92-93)	Listed	Not Listed
Sodium bromide (NaBr) 7647-15-6 (7)	Listed	Not Listed
Boric acid (H3BO3) 10043-35-3 (<1)	Listed	Not Listed

STATE REGULATIONS**California Proposition 65:**

This product is not listed on the California Governor's current list of Carcinogens, Reproductive Toxicants, and/or Candidate Carcinogens (Proposition 65), but it may contain trace amounts of impurities that are listed. For additional information, contact Occidental Chemical Corporation Customer Service (1-800-752-5151 or 1-972-404-3700).

Component	U.S. - California - Proposition 65 - Carcinogens List	CA. Prop. 65 Teratogen	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	Rhode Island Right to Know Hazardous Substance List
Trichloro-s-triazinetriene 87-90-1 (92-93 %)	Not listed	Not listed	Not Listed	Not Listed	Listed	Listed
Sodium bromide (NaBr) 7647-15-6 (7 %)	Not listed	Not listed	Not Listed	Not Listed	Not Listed	Not Listed
Boric acid (H3BO3) 10043-35-3 (<1 %)	Not listed	Not listed	Considered, but not listed as of the January 03, 2025, OEHHA Prop 65 List (see https://oehha.ca.gov/proposition-65/proposition-65-list)	Considered, but not listed as of the January 03, 2025, OEHHA Prop 65 List (see https://oehha.ca.gov/proposition-65/proposition-65-list)	Not Listed	Not Listed

Component	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List
Trichloro-s-triazinetriene	1892	Not Listed	Not Listed	Listed	Not Listed	Not Listed
Sodium bromide (NaBr)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Boric acid (H3BO3)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Workplace Hazardous Materials Information System (WHMIS 2015) which includes the amended Hazardous Products Act (HPA) and the Hazardous Product Regulations (HPR).

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Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - Greenhouse Gases (GHG) Subject to Mandatory Reporting	Canadian Chemical Inventory:	NDSL
Trichloro-s-triazinetrione 87-90-1 (92-93)	Not Listed	Not Listed	Not Listed	Listed on inventory	Not Listed
Sodium bromide (NaBr) 7647-15-6 (7)	Schedule 1, Part 3 Substance	Not Listed	Not Listed	Listed	Not Listed
Boric acid (H3BO3) 10043-35-3 (<1)	Not Listed	Not Listed	Not Listed	Listed	Not Listed

PCP Registration:

- This product is registered as a pesticide in Canada under PCP Reg No. 25930

SECTION 16. OTHER INFORMATION

Prepared by: Occidental Chemical Corporation - HES&S Product Stewardship Department

Rev. Date: 02-Oct-2025

Reason for Revision:

- Scheduled review
- SDS format adopts revisions to the Hazardous Products Regulations (HPR) to include revisions to “Section 9: Physical and chemical properties” and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised edition (Revision 8)
- SDS format adopts revisions to the OSHA's 2024 Hazard Communication Rule 29CFR 1910.1200 and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised edition (Revision 8)

IMPORTANT:

Important: The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our current knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal, and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Occidental Chemical Corporation assumes no liability whatsoever for the use of or reliance upon this information. Appropriate handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws.

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees.

End of Safety Data Sheet