SAFETY DATA SHEET
according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

HTH Spa Bromine Tablets

Version 1.0 Revision Date 2021.06.09 Print Date 2021.07.19

SECTION 1. IDENTIFICATION

Product name : HTH Spa Bromine Tablets

Manufacturer or supplier's details

Company : Innovative Water Care, LLC
1400 Bluegrass Lakes Parkway
Alpharetta, GA
30004

Telephone : 1-800-511-6737 (Outside the USA: 1-423-780-2347)
E-mail address : sds@sigurawater.com
Emergency telephone number : 1-800-654-6911 (Outside the USA: 1-423-780-2970)

Recommended use of the chemical and restrictions on use

Recommended use : Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements	:	H272 May intensify fire; oxidizer. H302 + H332 Harmful if swallowed or if inhaled. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation.
Precautionary statements	:	**Prevention:** P210 Keep away from heat. P220 Keep/ Store away from clothing/ combustible materials. P221 Take any precaution to avoid mixing with combustibles. P260 Do not breathe dust or mist. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. P306 + P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P363 Wash contaminated clothing before reuse. P370 + P378 In case of fire: Use water spray to extinguish. **Storage:** P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. **Disposal:** P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione	16079-88-2	50 - 60
1,3-Dichloro-5,5-dimethylhydantoin	118-52-5	25 - 35
1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	89415-87-2	10 - 20

SECTION 4. FIRST AID MEASURES

General advice : Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

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

In case of skin contact : IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

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

Most important symptoms and effects, both acute and delayed : None known.

Notes to physician : Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water only.

Specific hazards during firefighting : May intensify fire; oxidizer.
During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Potential dust explosion hazard.

Further information	:	Use water spray to cool unopened containers. In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus. Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing dust.
Conditions for safe storage	:	Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed.
Materials to avoid	:	Refer to Section 10, "Incompatible Materials."
Recommended storage temperature	:	99 °F / 37 °C
Further information on storage stability	:	Maximum storage temperature:

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

1,3-Dichloro-5,5-dimethylhydantoin	118-52-5	TWA	0.2 mg/m3	ACGIH
		STEL	0.4 mg/m3	ACGIH
		REL	0.2 mg/m3	NIOSH/GUIDE
		STEL	0.4 mg/m3	NIOSH/GUIDE
1,3-Dichloro-5,5-dimethylhydantoin	118-52-5	TWA	0.2 mg/m3	ACGIH
		STEL	0.4 mg/m3	ACGIH
		REL	0.2 mg/m3	NIOSH/GUIDE
		STEL	0.4 mg/m3	NIOSH/GUIDE

Engineering measures : Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Personal protective equipment

Respiratory protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.
A NIOSH approved air purifying respirator with organic vapor cartridge and N95 particulate filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Hand protection

Remarks : Impervious gloves When exposure to high concentrations are prolonged or repeated use protective boots and apron in addition to gloves.

Eye protection : Chemical resistant goggles must be worn.

Skin and body protection : Impervious clothing
Neoprene

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : tablet

Colour : off-white

Odour : slight, pungent

Odour Threshold : no data available

pH : 3.6 (77.0 °F / 25.0 °C)
Concentration: 10.0 g/l

Melting point/freezing point : 248 - 298 °F / 120 - 148 °C

Boiling point/boiling range : Not applicable

Flash point : > 200.01 °F / > 93.34 °C

Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Combustible above 93 deg. C / 200 deg. F.
Flammability (liquids)	:	no data available
Self-ignition	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	Not applicable
Relative vapour density	:	no data available
Relative density	:	no data available
Density	:	no data available
Water solubility	:	5.4 g/l (77 °F / 25 °C)
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	no data available
Oxidizing properties	:	Product has oxidizing properties.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Stable under normal conditions. Product will not undergo hazardous polymerization. Product is an NFPA Class 2 Oxidizer which can cause a moderate increase in fire intensity.
Conditions to avoid	:	Heat, flames and sparks. Exposure to moisture
Incompatible materials	:	Strong acids and strong bases Oxidizing agents Reducing agents Organic materials Avoid moisture.
Hazardous decomposition products	:	Carbon oxides Bromine Chlorine Nitrogen

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eyes
Ingestion
Inhalation
Skin

Acute toxicity

Acute oral toxicity : LD50 (Rat): = 468 - 477 mg/kg

Acute dermal toxicity : LD50 (Rabbit): Believed to be > 2,000 mg/kg

Acute toxicity (other routes of administration) : Remarks: Corrosive to the eyes and mildly to moderately irritating to the skin and respiratory tract.

Skin corrosion/irritation

Remarks: Expected to be irritating

Serious eye damage/eye irritation

Result: Corrosive to eyes

Respiratory or skin sensitisation

Remarks: May cause allergic skin sensitization in some individuals.

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA#s list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Repeated dose toxicity

Remarks: Not known or reported to cause subchronic or chronic toxicity.

Further information
Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): = 0.5 mg/l Exposure time: 96 h LC50 (Lepomis macrochirus (Bluegill sunfish)): = 1.2 mg/l Exposure time: 96 h LC50 (Cyprinodon variegatus (sheepshead minnow)): = 1.4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): = 0.4 mg/l Exposure time: 48 h LC50 (Mysid shrimp): = 0.93 mg/l Exposure time: 96 h EC50 (Crassostrea virginica (Eastern oyster)): = 0.84 mg/l Exposure time: 96 h

Persistence and degradability
no data available

Bioaccumulative potential

Components:

1,3-Dichloro-5,5-dimethylhydantoin:

Partition coefficient: n-octanol/water	:	Remarks: no data available

Mobility in soil
no data available

Other adverse effects

Ozone-Depletion Potential	:	Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B) Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	Highly toxic to fish and other aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. As a hazardous solid waste, it must be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number	:	3085
Proper shipping name	:	Oxidizing solid, corrosive, n.o.s. (Halogenated hydantoins)
Transport hazard class	:	5.1
Packing group	:	III
Labels	:	5.1 (8)
Emergency Response Guidebook Number	:	140
Environmental hazards	:	yes

TDG

UN number	:	3085
Proper shipping name	:	OXIDIZING SOLID, CORROSIVE, N.O.S. (Halogenated hydantoins)
Transport hazard class	:	5.1
Packing group	:	III
Labels	:	5.1 (8)
Environmental hazards	:	yes

IATA

UN number	:	3085
Proper shipping name	:	Oxidizing solid, corrosive, n.o.s. (Halogenated hydantoins)
Transport hazard class	:	5.1
Packing group	:	III
Labels	:	5.1 (8)
Environmental hazards	:	yes

IMDG

UN number	:	3085
Proper shipping name	:	Oxidizing solid, corrosive, n.o.s. (Halogenated hydantoins)
Transport hazard class	:	5.1
Packing group	:	III
Labels	:	5.1 (8)
EmS Number 1	:	F-A
EmS Number 2	:	S-Q
Environmental hazards	:	Marine pollutant: yes

ADR

UN number	:	3085
Proper shipping name	:	OXIDIZING SOLID, CORROSIVE, N.O.S. (Halogenated hydantoins)
Transport hazard class	:	5.1
Packing group	:	III
Classification Code	:	OC2
Hazard Identification Number	:	58
Labels	:	5.1 (8)
Environmental hazards	:	yes

RID

UN number	:	3085
Proper shipping name	:	OXIDIZING SOLID, CORROSIVE, N.O.S. (Halogenated hydantoins)
Transport hazard class	:	5.1
Packing group	:	III
Classification Code	:	OC2
Hazard Identification Number	:	58
Labels	:	5.1 (8)
Environmental hazards	:	yes
Special precautions for user	:	none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency 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.

EPA Registration number	:	1258-1404
Signal word	:	DANGER!
Hazard statements	:	Highly Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Irritating to nose and throat. This pesticide is toxic to fish.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
1,3-Dichloro-5,5-dimethylhydantoin	118-52-5

Pennsylvania Right To Know

Components	CAS-No.
1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione	16079-88-2
1,3-Dichloro-5,5-dimethylhydantoin	118-52-5
1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	89415-87-2

New Jersey Right To Know

Components	CAS-No.
1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione	16079-88-2
1,3-Dichloro-5,5-dimethylhydantoin	118-52-5
1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	89415-87-2
Sodium chloride	7647-14-5

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian lists

NPRI

Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

The components of this product are reported in the following inventories:

TSCA : This is an EPA registered pesticide.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : US. ACGIH Threshold Limit Values
NIOSH/GUIDE : US. NIOSH: Pocket Guide to Chemical Hazards, as amended

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Date format : yyyy/mm/dd
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