

### 1. Identification of Substance & Company

<b>Product</b>		
<b>Product name</b>	Bromine 20gm Tablets	
<b>Other names</b>	Bromo-chloro-dimethylhydantoin	
<b>HSNO approval</b>	HSR003431	
<b>Approval description</b>	Bromo-chloro-dimethylhydantoin	
<b>UN number</b>	3085	
<b>DG class</b>	5.1	
<b>Sub DG class</b>	8	
<b>Proper Shipping Name</b>	OXIDISING SOLID, CORROSIVE, n.o.s. (contains Bromo-chloro-dimethylhydantoin)	
<b>Packaging group</b>	II	
<b>Hazchem code</b>	1W	
<b>Uses</b>	Pool Chemical	
<b>Company Details</b>		
<b>Company</b>	<b>Poolquip 2018 Ltd</b>	
<b>Physical Address</b>	20 Ascot Rd, Mangere, Auckland 2022 New Zealand	PO Box 53090 Airport Oaks Auckland 2020 New Zealand
<b>Telephone</b>	+649 634 9097	
<b>Fax</b>	+649 634 1020	
<b>Website</b>	www.paramountpools.co.nz	

**Emergency Telephone Number: 0800 764 766**

### 2. Hazard Identification

#### Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO), approval HSR003431, Bromo-chloro-dimethylhydantoin. The substance has been assessed as hazardous according to the criteria in the Hazardous Substances (Hazard Classification) Notice 2020 and is classified as follows:

#### CLASSIFICATIONS

Classification Oxidising Solid 2  
 Classification Acute Toxicity 4 (oral)  
 Classification Acute Toxicity 4 (inhalation)  
 Classification Skin Corrosion 1B  
 Classification Eye Damage 1  
 Classification Skin Sensitisation 1  
 Classification Aquatic Acute 1  
 Classification Aquatic Chronic 1  
 Classification Hazardous to terrestrial vertebrates

#### HAZARD STATEMENTS

May intensify fire; oxidizer  
 Harmful if swallowed  
 Harmful if inhaled  
 Causes severe skin burns and eye damage  
 Causes serious eye damage - omitted  
 May cause an allergic skin reaction  
 Very toxic to aquatic life with long lasting effects

### SYMBOLS

## DANGER



### Other Classifications

There are no other classifications that are known to apply.

### Precautionary Statements

Keep out of reach of children.  
 Read carefully and follow all instructions.  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 Keep away from clothing and other combustible materials.  
 Avoid breathing dust or fumes.  
 Use only outdoors or in a well-ventilated area.  
 Wash hands thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Avoid release to the environment.  
 Wear protective clothing, gloves, and eye or face protection.  
 If medical advice is needed, have product container or label at hand.  
 IF SWALLOWED: Rinse mouth. Do NOT Induce vomiting. Call a POISON CENTRE or doctor if you feel unwell.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.  
 In case of fire: use any fire-suppressing agent to extinguish.  
 Collect spillage.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Dispose of contents and container in accordance with local, regional, national, and international regulations.

### 3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
1-Bromo-3-chloro-5,5-dimethylhydantoin	16079-88-2	Min 96%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

### 4. First Aid

#### General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

#### Recommended first aid facilities

Ready access to running water is required. Accessible eyewash is required.

### Exposure

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth. Do NOT Induce vomiting. Call a POISON CENTRE or doctor if you feel unwell.
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.
<b>Skin contact</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice.
<b>Inhaled</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.

### Advice to Doctor

Treat symptomatically.

## 5. Firefighting Measures

<b>Fire and explosion hazards:</b>	This product is an oxidiser. Oxidising materials can increase the intensity of fire. Fire decomposition products may be toxic if inhaled.
<b>Suitable extinguishing substances:</b>	Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.
<b>Unsuitable extinguishing substances:</b>	None known.
<b>Products of combustion:</b>	Bromine, chlorine, chlorine and bromine compounds, carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.
<b>Protective equipment:</b>	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
<b>Hazchem code:</b>	1W

## 6. Accidental Release Measures

<b>Containment</b>	If greater than 100kg is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.
<b>Emergency procedures</b>	In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).
<b>Clean-up method</b>	Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
<b>Disposal</b>	Not applicable
<b>Precautions</b>	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

## 7. Storage & Handling

<b>Storage</b>	Avoid storage of harmful substances with food. Store out of reach of children. Store locked up. Store in a cool ventilated place. Containers should be kept closed in order to minimise contamination. Keep from extreme heat, sunlight and open flames. Avoid contact with incompatible substances as listed in Section 10. Location compliance certificates must be available if storing >500kg (closed), 50kg (open). Containers (and outer packaging) must bear the prescribed labelling, including the Hazchem code, UN number, flammability warning and name of contents.
<b>Handling</b>	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of dust.

### 8. Exposure Controls / Personal Protective Equipment

#### WORKPLACE EXPOSURE CONTROLS

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m<sup>3</sup> for respirable particulates and 10mg/m<sup>3</sup> for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds.	Ingredient	WES-TWA*	WES-STEL
	1-Bromo-3-chloro-5,5-dimethylhydantoin	data unavailable	data unavailable

\* These workplace exposure standards are also Prescribed Exposure Standards (PES) under the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016.

#### Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

#### Personal Protective Equipment

##### Eyes



Protect eyes with goggles, safety glasses or full face mask. Avoid wearing contact lenses. Select eye protection in accordance with AS/NZS 1337.

##### Skin



Avoid any skin contact. Wear overalls, rubber boots and impervious gloves. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.

##### Respiratory

A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. ). Use a respirator with a particulate filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

#### WES Additional Information

Not applicable

### 9. Physical & Chemical Properties

Appearance	white tablets
Odour	halogen odour (bromine, chlorine)
pH	3.4-3.6 (1g/L at 20°C)
Vapour pressure	no data
Viscosity	no data
Boiling point	no data
Volatile materials	no data
Freezing / melting point	decomposes before melting >145°C
Solubility	1.5g/L at 20°C
Specific gravity / density	0.96g/cm <sup>3</sup>
Flash point	no data
Danger of explosion	non explosive
Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	corrosive

### 10. Stability & Reactivity

<b>Stability</b>	Stable
<b>Conditions to be avoided</b>	Oxidising substance - keep away from sources of ignition and flammable materials (see below). Corrosive substance – keep away from other oxidisers, and alkalis.
<b>Incompatible groups</b>	Reducing agents, combustible materials, flammable substances, other substances that are readily oxidized, acids & alkalis.
<b>Substance Specific Incompatibility</b>	none known
<b>Hazardous decomposition products</b>	Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. Hydrogen chloride, other compounds of chlorine and bromine.
<b>Hazardous reactions</b>	none known

## 11. Toxicological Information

### Summary

IF SWALLOWED: may cause burns to the mouth and gastrointestinal tract.

IF IN EYES: may cause eye damage.

IF ON SKIN: prolonged skin contact can cause burns, particularly if skin is damp or wet. Skin contact may cause sensitisation.

IF INHALED: Highly toxic if inhaled. Dust may cause respiratory irritation.

### Supporting Data

<b>Acute</b>	<b>Oral</b>	LD <sub>50</sub> (oral) for 1-bromo-3-chloro-5,5-dimethylhydantoin- 485mg/kg (rat).
	<b>Dermal</b>	LD <sub>50</sub> (dermal, rat) for 1-bromo-3-chloro-5,5-dimethylhydantoin >2000mg/kg.
<b>Chronic</b>	<b>Inhaled</b>	LC <sub>50</sub> (inhalation, rat) for 1-bromo-3-chloro-5,5-dimethylhydantoin 1.11 mg/L (4hr)
	<b>Eye</b>	1-bromo-3-chloro-5,5-dimethylhydantoin is corrosive to the eye.
	<b>Skin</b>	1-bromo-3-chloro-5,5-dimethylhydantoin is considered an skin corrosive.
	<b>Sensitisation</b>	1-bromo-3-chloro-5,5-dimethylhydantoin is a contact sensitizer.
	<b>Mutagenicity</b>	No ingredient present at concentrations > 0.1% is considered a mutagen.
	<b>1.11mg/L (4hr)Carcinogenicity</b>	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	<b>Reproductive / Developmental</b>	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	<b>Systemic</b>	No ingredient present at concentrations > 1% is considered a target organ toxicant.
	<b>Aggravation of existing conditions</b>	None known.

## 12. Ecological Data

### Summary

This substance is very ecotoxic towards aquatic organisms and ecotoxic towards terrestrial vertebrates.

### Supporting Data

<b>Aquatic</b>	LC <sub>50</sub> for 1-bromo-3-chloro-5,5-dimethylhydantoin: 0.4mg/L (96hr, rainbow trout), 2.25mg/L (96hr, fathead minnow), 0.46mg/L (96hr, Bluegill sunfish), 13mg/L (grass shrimp), 20mg/L (96hr, Sheepshead minnow), >640mg/L (American oyster), 0.75mg/L (48hr, Daphnia magna).
<b>Bioaccumulation</b>	No data
<b>Degradability</b>	No data
<b>Soil</b>	No evidence of soil toxicity.
<b>Terrestrial vertebrate</b>	This substance is considered ecotoxic to terrestrial vertebrates. LD50: 1-bromo-3-chloro-5,5-dimethylhydantoin 485mg/kg (rat). 1839mg/kg (bobwhite quail), >5620ppm (dietary, bobtail quail), >5620ppm (dietary, mallard duck).
<b>Terrestrial invertebrate</b>	No evidence of toxicity towards terrestrial invertebrates.
<b>Biocidal</b>	no data
<b>Environmental effect levels</b>	No EELs are available for this mixture or ingredients

## 13. Disposal Considerations

<b>Restrictions</b>	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
<b>Disposal method</b>	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
<b>Contaminated packaging</b>	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

### 14. Transport Information

**Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007**

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

<b>UN number:</b>	3085	<b>Proper shipping name:</b>	OXIDISING SOLID, CORROSIVE, n.o.s. (contains Bromo--chloro-dimethylhydantoin)
<b>Class(es)</b>	5.1, subclass 8	<b>Packing group:</b>	II
<b>Precautions:</b>	OXIDISER, CORROSIVE, ECOTOXIC	<b>Hazchem code:</b>	1W

### 15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR003431, Bromo-chloro-dimethylhydantoin. All ingredients appear on the NZIoC.

#### Specific Controls

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances manufactured for own use or have been supplied.
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if >100kg is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 100kg is stored.
Signage	Required if > 100kg is stored.
Location compliance certificate	Required if > 500kg (closed), >50kg (open) is stored.
Flammable zone	Must be established.
Fire extinguisher	If > 200kg present.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

#### Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

### 16. Other Information

#### Abbreviations

<b>Approval Code</b>	Approval HSR003431, Bromo-chloro-dimethylhydantoin
<b>Controls</b>	EPA. <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>
<b>CAS Number</b>	Unique Chemical Abstracts Service Registry Number
<b>Ceiling</b>	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
<b>Controls Matrix</b>	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
<b>EC<sub>50</sub></b>	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
<b>EPA</b>	Environmental Protection Authority (New Zealand)
<b>HAZCHEM Code</b>	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
<b>HSNO</b>	Hazardous Substances and New Organisms (Act and Regulations)
<b>IARC</b>	International Agency for Research on Cancer
<b>LEL/UEL</b>	Lower Explosive Limit/ Upper Explosive Limit
<b>LD<sub>50</sub></b>	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
<b>LC<sub>50</sub></b>	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
<b>NZIoC</b>	New Zealand Inventory of Chemicals
<b>MSDS (SDS)</b>	Material Safety Data Sheet (or Safety Data Sheet)

<b>PES</b>	Prescribed Exposure Standard means a WES or a biological exposure standard that is prescribed in a regulation, a safe work instrument or an approval under HSNO (including group standards).
<b>STEL</b>	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
<b>TWA</b>	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
<b>UN Number</b>	United Nations Number
<b>WES</b>	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

### References

<b>Data</b>	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
<b>Controls</b>	EPA notices, <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> , Health and Safety at Work (Hazardous Substances) Regulations 2017, <a href="http://www.legislation.govt.nz">www.legislation.govt.nz</a>
<b>WES</b>	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – <a href="http://www.worksafe.govt.nz">www.worksafe.govt.nz</a> .
<b>Other References:</b>	Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus

### REVIEW

<b>Date</b>	<b>Reason for review</b>
June 2018	Not applicable – new SDS
August 2023	5 yearly review, HSNO to GHS 7

### DISCLAIMER

This SDS is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological).