



# SAFETY DATA SHEET

**PRODUCT NAME:** HAMA-BROM 60

Issue Date: 20 April 2023

## IDENTIFICATION

**Product Name:** Hama-Brom 60  
**Other Names:** Bromine Tablets, Bromochloro-5, 5-Dimethylhydantoin, Acide 460  
**Product Code:** AHB6020  
**Uses:** As an aid in the control of bacterial, fungal and algae slimes in evaporation condensers, heat exchange water towers. Algaecide, fungicide, bactericide and/or slimicide for recirculating cooling water systems. Anti microbial for pulp and for manufacture of non food grades of paper and paperboard.  
**Restrictions:** Certified Handler Certificate required. Restricted to Workplace  
**Supplier:** HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton  
Phone: 07 974 4971 Web: [www.hamchem.nz](http://www.hamchem.nz) Email: info@hamchem.nz

- In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.
- In case of poisoning phone National Poisons Centre – 0800 764 766

## HAZARD IDENTIFICATION



### HSNO Classification

5.1.1B  
6.1B  
6.1D  
6.5B  
8.2C  
8.3A  
9.1A  
9.1A  
9.3B

### GHS Classification

Oxidising Solids Category 2  
Acute Inhalation Toxicity Category 2  
Acute Oral Toxicity Category 4  
Skin Sensitisation Category 1  
Skin Corrosion Category 1C  
Serious Eye Damage Category 1  
Hazardous to the Aquatic Environment Acute Category 1  
Hazardous to the Aquatic Environment Chronic Category 1  
Hazardous to Terrestrial Vertebrates

**Signal Word:** DANGER

### Hazard Statements

H272 – May intensify fire; oxidizer  
H302 – Harmful if swallowed  
H330 – Fatal if inhaled  
H314 – Causes severe skin burns and eye damage  
H318 – Causes serious eye damage  
H317 – May cause an allergic skin reaction  
H410 – Very toxic to aquatic life with long lasting effects  
H432 - Toxic to Terrestrial Vertebrates

### Prevention

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P220 – Keep away from clothing and other combustible materials  
P280 – Wear protective gloves/protective clothing/eye protection/face protection  
P264 – Wash hands thoroughly after handling  
P270 – Do not eat, drink or smoke when using this product  
P260 – Do not breathe dust, fumes or vapours  
P271 – Use only outdoors or in a well-ventilated area  
P284 – In case of inadequate ventilation, use respiratory protection  
P272 – Contaminated clothing should not be allowed out of the workplace  
P273 – Avoid release to the environment

#### Response

P370+P378 – In case of fire: Use ONLY water to extinguish.  
P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P310 – Immediately call a POISON CENTRE/Doctor  
P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (shower).  
P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.  
P363 – Wash contaminated clothing before reuse  
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.  
P310 – Immediately call a POISON CENTRE/Doctor  
P391 – Collect spillage

#### Storage

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

#### Disposal

P501 – Dispose of contents/container in accordance with local/regional/national regulations

<b>COMPOSITION &amp; INFORMATION ON INGREDIENTS</b>
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Chemical Entity	CAS No.	Proportion (%)
Bromochloro-5,5-dimethylhydantoin	16079-88-2	Min. 96%

<b>FIRST AID MEASURES</b>
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**If swallowed:** Rinse mouth with water. Give water to drink provided victim is conscious. Do NOT induce vomiting. Immediately call a POISON CENTRE/Doctor for advice.

**If on skin:** Remove contaminated clothing. Wash affected area with plenty of soap and water for 15 minutes. Wash clothing before reuse. Seek medical attention immediately.

**If inhaled:** Remove victim to fresh air and keep at rest, in a position comfortable for breathing. Immediately call a POISON CENTRE/Doctor for advice. Apply resuscitation if victim is not breathing – do not use direct mouth-to-mouth method if victim has ingested or inhaled the substance, use an alternative method or a proper respiratory device.

**If in eyes:** Immediately flush eyes with plenty of water for 15 minutes holding eyelids open. Remove contact lenses if present and easy to do so. Seek immediate medical attention. Continue flushing until advised to stop by POISON CENTRE or Doctor.

**Note to Physician:** Treat symptomatically based on individual reactions of patient and judgement of doctor.

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### **FIRE FIGHTING MEASURES**

**Extinguishing media:** In case of fire, the ONLY appropriate extinguishing media is WATER.

**Specific hazards:** Product is a strong oxidizer. Avoid generating dust. Contamination with moisture, organic matter, or other chemicals may start a chemical reaction with generation of heat, hazardous gas, and possible fire/explosion. Incompatible with strong oxidants reducing agents, combustible materials, water, acids (minerals, non-oxidizing/oxidizing, and organic), and ignition sources. When involved in a fire, this product may generate hydrogen chloride, nitrogen oxides, carbon monoxide, hydrogen bromide, or bromine, carbon dioxide, nitrogen and irritating/toxic fumes and gases.

**Special protective precautions & equipment:** Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources.

### **ACCIDENTAL RELEASE MEASURES**

**Containment:** 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.

**Emergency Procedures:** In the event of a 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/unnecessary 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.

**Clean-Up Method:** 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.

**Disposal Precautions:** Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work upwind or increase ventilation.

### **HANDLING & STORAGE**

**Storage:** 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 minimize contamination. Keep from extreme heat, sunlight and open flames. Avoid contact with incompatible substances as listed in Stability & Reactivity section of this SDS. 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.

**Handling:** Keep exposure to a minimum, and minimize quantities kept in work areas. See next section of this SDS with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of dust.

### **EXPOSURE CONTROLS & PERSONAL PROTECTION**

**Exposure standards:** No exposure standard has been established for this product, however, the exposure standard for Bromine (7726-95-6) TWA 0.1ppm or 0.66mg/m<sup>3</sup> and STEL 0.3ppm and 2mg/m<sup>3</sup> (Worksafe, Workplace Exposure Standards)

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**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/NZS2210.1. 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. Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NZS 1715. Use a respirator with a particulate filter. If using a respirator, ensure the cartridges are correct for the potential air contamination and are in good working order. Fit testing, clear guidelines, training for use and maintenance of PPE is necessary.

<b>PHYSICAL &amp; CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	White or Creamish white Solid
<b>Odour:</b>	Strong halogen odour, or faint odour of bromine.
<b>Specific Gravity:</b>	0.96g/cm <sup>3</sup>
<b>Solubility in water:</b>	1.5g/L at 20°C (in water)
<b>Flash point:</b>	N/A
<b>Flammability limits:</b>	N/A
<b>Boiling point:</b>	N/A
<b>Melting point:</b>	decomposes before melting at >145°C
<b>pH:</b>	3.4-3.6 (1g/L at 20°C)

<b>STABILITY &amp; REACTIVITY</b>
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**Stability:** Product is stable under normal conditions of use, storage and temperature.

**Hazardous decomposition products:** When involved in a fire, this product may generate hydrogen chloride, nitrogen oxides, carbon monoxide, hydrogen bromide or bromine, carbon dioxide, nitrogen, irritating and highly toxic fumes and gases.

**Hazardous polymerization:** Hazardous Polymerization has not been reported.

**Incompatibles:** Incompatible with strong oxidants, reducing agents, combustible materials, water, and ignition sources.

**Conditions to avoid:** Avoid excessive heat, sparks, flame, direct sunlight, static charges, generating dust, moisture, and high temperatures.

<b>TOXICOLOGICAL INFORMATION</b>
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<b>Toxicity data:</b>	Acute toxicity LD <sub>50</sub> , Oral (rat)	485mg/kg
	Acute toxicity LD <sub>50</sub> , Skin (rat)	>2000mg/kg
	Acute toxicity LC <sub>50</sub> , Inhalation (rat)	1.11mg/L (4hr)

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**Acute Toxicity:** Harmful if swallowed. Corrosive on ingestion; causes chemical burns to the mouth, throat, oesophagus and gastrointestinal tract. Risk of perforation of the oesophagus and stomach.

**Skin Corrosion/Irritation:** Causes severe skin burns. The amount of tissue damage depends on length of contact. Skin contact can cause inflammation and blistering. Prolonged exposure may result in skin burns and ulcerations.

**Eye Damage/Irritation:** Causes serious eye damage. Corrosive to eyes. Eye contact can result in corneal damage or blindness.

**Respiratory/Skin Sensitisation:** May cause an allergic skin reaction.

<b>ECOLOGICAL INFORMATION</b>
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This substance is very ecotoxic towards aquatic organisms and ecotoxic towards terrestrial vertebrates.

**Supporting Data:**

Aquatic	LC50	0.4mg/L (96hr, Rainbow Trout)
	LC50	2.25mg/L (96hr, Fathead Minnow)
	LC50	0.46mg/L (96hr, Bluegill Sunfish)
	LC50	13mg/L (grass shrimp)
	LC50	20mg/L (96hr, Sheepshead Minnow)
	LC50	>640mg/L (American Oyster)
	LC50	0.75mg/L (48hr, Daphnia Magna)

**Terrestrial Vertebrates**

LD50	485mg/kg (Rat)
LD50	1839mg/kg (Bobwhite Quail)
LD50	>5620ppm (dietary, Bobwhite Quail)
LD50	>5620ppm (dietary, Mallard Duck)

<b>DISPOSAL CONSIDERATIONS</b>
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**Restrictions:** There are no product specific restrictions, however local council and resource consent conditions may apply, including requirements of trade waste consents.

**Disposal Method:** 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.

**Contaminated Packaging:** 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 substances 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.

<b>TRANSPORT INFORMATION</b>
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<b>UN Number:</b>	3085
<b>Proper Shipping name:</b>	OXIDIZING SOLID CORROSIVE N.O.S (BROMOCHLORO-5, 5-DIMETHYLHYDANTOIN)
<b>Dangerous Goods Class:</b>	5.1 - Oxidiser
<b>Sub Class:</b>	8 - Corrosive
<b>Packing group:</b>	III
<b>Hazchem Code:</b>	2W

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<b>REGULATORY INFORMATION</b>
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**HSNO Classifications:** 5.1.1B, 6.1B, 6.1D, 6.5B, 8.2C, 8.3A, 9.1A, 9.3C

**EPA Approval #:** HSR003431

**Approvals:** MPI Approved C 62 (All animal product, except dairy)

**Restrictions:**

**Restricted to Workplace only:** 3-Bromo-1chloro-dimethylhydantion (HSR003431) has a Acute Toxicity (Inhalation) – Category 2 classification, this means this product is RESTRICTED TO WORKPLACE only by the Hazardous Substances (Hazardous Property Controls) Notice 2020.

**Certified Handler:** 3-Bromo-1chloro-dimethylhydantion (HSR003431) has a Acute Toxicity (Inhalation) – Category 2 classification (6.1B), this means the product is required to be under the personal control of a Certified Handler (Health & Safety at Work (Hazardous Substances) Regulations 2017, 13.9)

<b>OTHER INFORMATION</b>
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**End of SDS.**