

# SAFETY DATA SHEET



<b>Product Name:</b>	<b>BROMINE TABLETS</b>	<b>SDS Reference</b>	<b>016</b>
<b>Version No.</b>	4	<b>Revision date</b>	08-11-2004
		<b>Initial authorisation date</b>	March 25th, 2006

## 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY

**Product Name** BROMINE TABLETS  
**Synonym (s)** HALOBROM.  
**Use(s)** For sanitising water  
**Company Identification** PLASTICA LTD  
Perimeter House,  
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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Chemical Characterisation** DISINFECTANT CONTAINING HALOGENATED HYDANTOIN

<u>Chemical name</u>	<u>CAS-No</u>	<u>EINECS/ELINCS</u>	<u>Classification</u>	<u>Concentration</u>
BROMOCHLORO-5,5-DIMETHYL HYDANTOIN	32718-18-6	251-171-5	T: R23 (see s 16) Xn: R22, R31 C: R34 Xi: R43 N: R50	89-97%

## 3. HAZARDS IDENTIFICATION



**Physical & Chemical:** CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE

**OXIDISING**



**Health:** HARMFUL IF SWALLOWED.  
CONTACT WITH ACIDS LIBERATES TOXIC GAS  
CAUSES BURNS.  
MAY CAUSE SENSITISATION BY SKIN CONTACT

**CORROSIVE**



**Environmental:** VERY TOXIC TO AQUATIC ORGANISMS.

**DANGEROUS  
FOR THE  
ENVIRONMENT**

**4. FIRST AID MEASURES**

<b>General information</b>	Remove contaminated clothing immediately, to be disposed of or washed before reuse.
<b>Inhalation</b>	Remove casualty to fresh air and provide warmth and rest. If necessary seek medical advice.
<b>Skin contact</b>	Immediately wash contaminated skin with soap and large quantities of water. If necessary seek medical advice.
<b>Eye contact</b>	Immediately wash out eye thoroughly with plenty of water until irritation subsides. If irritation persists, CONSULT AN EYE SPECIALIST/OPHTHALMOLOGIST )
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water and if necessary seek medical advice. Beware of aspiration if vomiting does occur.
<b>Further information</b>	First aiders should avoid contact with the product.

**5. FIRE FIGHTING MEASURES**

<b>General hazard</b>	THE PRODUCT WILL BURN IN A FIRE
<b>Extinguishing media</b>	To suit local surroundings (water spray, foam, carbon dioxide, dry chemical powder)
<b>Extinguishing media not to be used</b>	
<b>Special exposure hazards</b>	The thermal decomposition products released should be considered toxic if inhaled.
<b>Protective equipment</b>	Wear self-contained breathing apparatus.
<b>Further information</b>	Cool endangered containers with water (to prevent container explosion). Avoid run-off water entering the drains (e.g. use barriers)

**6. ACCIDENTAL RELEASE MEASURES**

<b>Methods for cleaning up</b>	Adhere to personal protective measures. Take up mechanically (e.g. sweep or vacuum up) into a suitable container. Label container and dispose of as prescribed.
<b>Environmental considerations</b>	Do not allow the product to enter ground or waste water. If this occurs, inform the local water authority at once.
<b>Further information</b>	

**7. HANDLING & STORAGE**

<b>Advice on safe handling</b>	Handle in accordance with good hygiene and safety practice. Keep the raising and deposition of dust to a minimum. Keep away from combustible materials (e.g. organic substances). The formation of explosive air mixtures is possible with combustible, organic or other easily oxidisable substances. Keep away from sources of ignition - NO SMOKING!
<b>Storage conditions</b>	Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool (20-30°C) and dry. Keep away from sunlight and incompatible materials.
<b>Further information</b>	

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>Exposure controls</b>	Monitoring of the workplace should be considered in accordance with EH40 (or equivalent) controls LTEL (8 hour TWA): ppm 0.1 mg/m <sup>3</sup> Manufacturer's recommendation STEL (15 min): ppm 0.3 mg/m <sup>3</sup> Based on LTEL
<b>Engineering controls</b>	Ensure adequate ventilation of working area (e.g. local exhaust ventilation).
<b>Personal protection</b>	Observe normal standards for handling chemicals. Avoid breathing dust and eye and skin contact. Wash thoroughly after handling (shower if necessary) It is recommended that those with a medical history of sensitisation should not handle this product. Wear personal protective equipment appropriate to the task (see below)
<b>Eye protection</b>	Safety goggles or face shield (i.e. EN 166 approved)
<b>Skin protection</b>	Natural rubber latex gloves (also consider your own risk assessment; e.g. breakthrough times, rates of diffusion and degradation, tasks undertaken)
<b>Respiratory protection</b>	When dusty conditions are encountered, wear a NIOSH/OSHA full face respirator with chlorine cartridge and dust prefilter.
<b>Other protection</b>	Protective overall, boots

**9. PHYSICAL & CHEMICAL PROPERTIES**

<b>Physical form</b>	Solid
<b>Colour</b>	White to off-white
<b>Odour</b>	Faintly halogen-like
<b>pH</b>	Not determined
<b>Boiling pt / range</b>	°C
<b>Melting pt / range</b>	> 160 °C (decomposes)
<b>Flash point</b>	°C
<b>Specific gravity</b>	1.8-2.0 g/cm <sup>3</sup>
<b>Explosive limits</b>	Lower: % (v/v) Higher: % (v/v)
<b>Water solubility</b>	2 g/l @ 25°C
<b>Vapour pressure</b>	9.35 x 10 <sup>-3</sup> Pa. @ 25°C
<b>Additional information</b>	Solubility in benzene @ 25°C: 25 g/l

**10. STABILITY & REACTIVITY**

<b>Stability</b>	Stable under normal conditions of handling.
<b>Thermal decomposition</b>	> 160°C
<b>Conditions to avoid</b>	Heating above 160°C
<b>Material to avoid</b>	The product is incompatible with oxidising agents, bases and combustible organic materials.
<b>Hazardous reactions</b>	Hazardous polymerisation will not occur.
<b>Hazardous decomposition products</b>	Bromine, HBr, HCl, oxides of carbon and nitrogen

**11. TOXICOLOGICAL INFORMATION**

<b>Acute toxicity</b>	LD <sub>50</sub> rat (oral)	1500 mg/kg	data for bromochloro-5,5-dimethylhydantoin
	LC <sub>50</sub> rat (inhal)	0.53 mg/l	4 hrs, data for bromochloro-5,5-dimethylhydantoin *
	LD <sub>10</sub> rat (skin)	2000 mg/kg	data for 3-bromo-1-chloro-5,5-dimethylhydantoin
<b>Dermal compatibility</b>	Rabbit skin: 500 mg 24 hrs SEV (data for 3-bromo-1-chloro-5,5-dimethylhydantoin) **		
<b>Mucous membrane compatibility</b>	Rabbit eye: 100 mg 30 sec SEV (data for 3-bromo-1-chloro-5,5-dimethylhydantoin) **		
<b>Further information</b>	Additional data for data for bromochloro-5,5-dimethylhydantoin: mild sensitiser (guinea pig); mutagenic <u>in vitro</u> (Ames Test); no indication of carcinogenicity. * Data for the untabletted product ** does not reach corrosivity for assigning R34 under the CHIP Regulations, but product is registered as a corrosive biocide		

**12. ECOLOGICAL INFORMATION**

<b>Acute toxicity</b>	LC <sub>50</sub>	Fish (rainbow trout)	0.4 mg/l	96 hour, static
	LC <sub>50</sub>	Fish (bluegill sunfish)	0.46 mg/l	96 hour static
	LC <sub>50</sub>	Daphnia magna	0.75 mg/l	48 hour, static
<b>Degradability</b>	No data available (assumed to be biodegradable)			
<b>Further information</b>	Do not allow to get into waste water or waterways; if this occurs, inform the relevant water authority at once.			

**13. DISPOSAL CONSIDERATIONS**

<b>Advice on disposal</b>	In accordance with national and local authority regulations, e.g. The Hazardous Waste (England & Wales) Regulations 2005.
<b>Contaminated packaging</b>	Treat empty containers in the same way as the product or if possible wash out thoroughly and recycle.

**14. TRANSPORT INFORMATION**

<b>United Nations number</b>	UN 3085
<b>Packaging group</b>	II
<b>IMDG code</b>	5.1/3085/II
<b>RID / ADR</b>	5.1, II
<b>ICAO / IATA</b>	5.1/3085/II
<b>Marine pollutant</b>	The product should be marked as a marine pollutant.
<b>Proper shipping name</b>	OXIDISING SOLID, CORROSIVE, N.O.S. (BROMOCHLORO-5,5-DIMETHYL HYDANTOIN)
<b>Emergency action code</b>	2W
<b>Further information</b>	

**15. REGULATORY INFORMATION****Classification & labelling**

The product is classified in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulations [CHIP 3.1] Contains bromochloro-5,5-dimethyl hydantoin

**OXIDISING****CORROSIVE****DANGEROUS  
FOR THE  
ENVIRONMENT****Risk phrases**

R8	CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE
R22	HARMFUL IF SWALLOWED.
R31	CONTACT WITH ACIDS LIBERATES TOXIC GAS
R34	CAUSES BURNS.
R43	MAY CAUSE SENSITISATION BY SKIN CONTACT.
R50	VERY TOXIC TO AQUATIC ORGANISMS.

**Safety phrases**

S1/2	KEEP LOCKED UP AND OUT OF THE REACH OF CHILDREN.
S8	KEEP CONTAINER DRY
S26	IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S36/37/39	WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
S45	IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW LABEL WHERE POSSIBLE).
S61	AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/SAFETY DATA SHEET.

**16. OTHER INFORMATION****Further information**

The safety data sheet has been revised in the following section(s): 8

The classification Toxic, R23 (Toxic by inhalation) has not been assigned to the product since in the tablet form, as supplied, the formation of dust does not occur.

**Sources of data**

The Approved Supply List, Approved Carriage List, EH40/2005 and other suppliers' safety data sheets

**Date of issue**

04-05-2006

**This 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. Such information is, to the best of PLASTICA'S limited knowledge and belief, accurate, and reliable as of the date of authorisation of this safety data sheet. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to be satisfied as to the suitability and completeness of such information for the product as used.**

Data sheet prepared by Rising HS&E Services.