

Revision: 1 September 2023

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product Name: Bromine Tablets
Datasheet Number: SDS 016
Chemical Name: Bromochloro-5,5-dimethylimidazolidine-2,4-dione
Synonyms: BCDMH
CAS No. 32718-18-6
EC No.: 251-171-5
UFI: VC10-Y0PV-W00A-YT1U

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Pool / spa treatment; Biocide
Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

Name of Supplier: Isell Ltd
Address of Supplier:
Unit 5 Penrose House
Treleigh Ind Est
Redruth
TR16 4DE
Telephone: 01326 371482
Email: info@pure-spa.co.uk

1.4 Emergency telephone number

Emergency Telephone: 0800 043 0891 (technical)
0800 043 0892 (emergency)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Ox. Liq. 3, H272; Acute Tox. 4, H302; Skin Corr. 1C, H314; Skin Sens. 1, H317; Eye Dam. 1, H318; Aquatic Acute 1, H400; EUH031

Additional information: For full text of Hazard and EU Hazard statements: see section 16

2.2 Label elements



Signal Word: Danger

A tactile warning of danger (TWD, raised triangle) is required for this product

Containers must be fitted with child-resistant fastenings

Hazard statements

H272 - May intensify fire; oxidiser.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.

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SECTION 2: Hazards identification (....)

H400 - Very toxic to aquatic life.

Precautionary statements

P102 - Keep out of reach of children.

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

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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 or doctor/physician.

P501 - Dispose of contents/container to an authorised waste collection point

Supplemental Hazard information (EU)

EUH031 - Contact with acids liberates toxic gas.

2.3 Other hazards

Not a PBT according to REACH Annex XIII

Not a vPvB according to REACH Annex XIII

Has not been identified as having endocrine disrupting properties

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL/ OEL
Bromochloro-5,5-dimethylimidazolidine-2,4-dione	93 - 99 %	32718-18-6	251-171-5	Ox. Sol. 3, H272 Acute Tox. 4, H302 Skin Corr. 1C, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Acute 1, H400	(M = 1)	-	No

3.2 Mixtures

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

Rescuers should put on approved personal protective equipment (PPE) before administering first aid

Rescuers should take suitable precautions to avoid becoming casualties themselves

Contact with eyes

If substance has got into eyes, immediately wash out with plenty of water for several minutes

Irrigate eyes thoroughly whilst lifting eyelids

Remove contact lenses, if present and easy to do. Continue rinsing.

Get immediate medical advice/attention.

Contact with skin

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SECTION 4: First aid measures (....)

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and water
Contaminated clothing should be laundered before reuse
Get immediate medical advice/attention.

Ingestion

Rinse mouth with water (do not swallow)
Do NOT induce vomiting.
If vomiting occurs turn patient on side
Give small amounts of water to drink
Never give anything by mouth to an unconscious person
Get immediate medical advice/attention.

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Keep warm and at rest, in a half upright position. Loosen clothing
If breathing is difficult, oxygen should be given by a trained person
Apply artificial respiration only if patient is not breathing but do not use mouth to mouth resuscitation
Get immediate medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed**Contact with eyes**

May cause severe damage with formation of corneal ulcers and permanent impairment of vision.
May cause redness and swelling
May cause blurred vision

Contact with skin

May cause severe burns with permanent skin damage which are slow to heal.
May cause an allergic skin reaction.
Possible blistering of the skin of affected areas

Ingestion

May cause burns to mouth and throat
May cause damage to the stomach lining
May cause nausea/vomiting
May cause stomach pain

Inhalation

No hazard expected under normal conditions of use
May cause respiratory irritation

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

The onset of effects may be delayed, keep affected person under medical observation for 48 hours

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media: Alcohol resistant foam; sand/earth; water fog; water spray
Unsuitable extinguishing media: Carbon Dioxide; high volume water jet; dry powder

5.2 Special hazards arising from the substance or mixture

May intensify fire; oxidiser.

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SECTION 5: Firefighting measures (....)

Gives off irritating or toxic fumes (or gases) in a fire.

Decomposition products may include carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds (hydrogen bromide, hydrogen chloride, bromine)

5.3 Advice for firefighters

Evacuate the area and keep personnel upwind

Move containers from fire area if this can be done without risk

Keep container(s) exposed to fire cool, by spraying with water

Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.

Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

Clothing for firefighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Rescuers should take suitable precautions to avoid becoming casualties themselves

Only trained and authorised personnel should carry out emergency response

Shut off all ignition sources

Avoid formation of dust

Personal precautions for non-emergency personnel: Evacuate the area and keep personnel upwind; Do not touch or walk through spilt material; Do not breathe dust/fume/gas/mist/vapours/spray; Do not get in eyes, on skin, or on clothing.; Wear protective clothing as per section 8

Personal precautions for emergency responders: Wear suitable protective clothing, eye/face protection and gloves; Wear suitable respiratory protection; Wear protective clothing as per section 8

6.2 Environmental precautions

Avoid release to the environment.

Do not allow to enter public sewers and watercourses

If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

Seek expert advice for removal and disposal of all contaminated materials and wastes

Stop leak if safe to do so.

Move containers from spill area

Avoid formation of dust

Use non-sparking tools

Use explosion-proof equipment.

Do not allow to enter public sewers and watercourses

Do not dry sweep

Vacuum dust with equipment fitted with a HEPA filter

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SECTION 6: Accidental release measures (....)

Collect as much as possible in clean container for reuse or disposal
Seal containers and label them
Remove contaminated material to safe location for subsequent disposal
To be disposed of as hazardous waste
Ventilate the area and wash spill site after material pick-up is complete

6.4 Reference to other sections

See section(s): 7, 8, & 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not use this product.

Do not breathe dust

Ensure adequate ventilation

Use local exhaust ventilation and/or enclosures.

In case of inadequate ventilation wear respiratory protection.

Take precautionary measures against static discharges

Do not get in eyes, on skin, or on clothing.

Wear protective clothing as per section 8

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Ensure eyewash stations and safety showers are nearby

Contaminated clothing should be laundered before reuse

Do not reuse empty containers

7.2 Conditions for safe storage, including any incompatibilities

Keep only in the original container

Store locked up.

Store in a cool, dry well-ventilated place. Keep container tightly closed.

Opened containers should be carefully resealed and stored in an upright position

Protect from sunlight.

Protect from moisture

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

Keep away from food, drink and animal feedingstuffs

Keep product, packaging clean and free from all contamination, including acids, organic materials, nitrogen containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidisers, all corrosive liquids, flammable or combustible materials.

Incompatible with alkalis (strong bases, strong acids, reducing agents)

7.3 Specific end use(s)

Pool / spa treatment

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SECTION 7: Handling and storage (....)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Bromochloro-5,5-dimethylimidazolidine-2,4-dione

No exposure limits have been set for this substance

The UK HSE (EH40) recommends the following limits for dusts: 10 mg/m³ (8hr TWA) total inhalable dust; 4 mg/m³ (8hr TWA) total respirable dust

8.2 Exposure controls

Selection and use of personal protective equipment should be based on a risk assessment of exposure potential

Engineering controls

Ensure adequate ventilation

Engineering controls should be provided which maintain airborne concentrations as low as practicable

Use local exhaust ventilation and/or enclosures.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment

Where a reusable half mask respirator is required, use EN 140 mask and EN 143 particle filter, or EN 1827

Where a full face mask respirator is required, use EN 136, with particle filter EN 143

Eye/face protection

Wear goggles giving complete eye protection approved to standard EN 166.

Skin corrosion/irritation

Wear chemical resistant clothing approved to standard EN 13034 or BS EN 14605

Contaminated work clothing should not be allowed out of the workplace.

Contaminated clothing should be laundered before reuse

Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.

The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.

Glove material: Nitrile rubber

Thickness: ≥ 0.6 mm

Breakthrough time: > 480 min

Reference: Literature

Thermal hazards

Not applicable

Hygiene measures

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SECTION 8: Exposure controls/personal protection (....)

Do not eat, drink or smoke when using this product.
Use good personal hygiene practices
Wash thoroughly after handling.
Ensure eyewash stations and safety showers are nearby

Environmental exposure controls

Do not empty into drains
Do not allow to penetrate the ground/soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: Solid (tablets)
Colour: White to off-white
Odour: Slight
Melting point/freezing point: 156 - 162 °C
Boiling point or initial boiling point and boiling range: Not applicable
Flammability: Not combustible, but will contribute to the combustion of other materials. May cause violent, sometimes explosive reactions.
Lower and upper explosion limit: No data available
Flash point: Not applicable
Auto-ignition temperature: No data available
Decomposition temperature: No data available
pH: 3.5 at 1.5 g/L concentration
Kinematic viscosity: Not applicable
Solubility: Partially soluble in water; Decomposes in water
Partition coefficient n-octanol/water (log value): 0.35
Vapour pressure: No data available
Density and/or relative density: 0.9 Bulk density
Relative vapour density: No data available
Particle characteristics: No data available

9.2 Other information

Oxidising properties: Oxidising

SECTION 10: Stability and reactivity

10.1 Reactivity

May intensify fire; oxidiser.
Contact with acids liberates toxic gas.

10.2 Chemical stability

Decomposes in water
Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

Contact with acids liberates toxic gas.
May form explosible dust-air mixture if dispersed

10.4 Conditions to avoid

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SECTION 10: Stability and reactivity (....)

Avoid formation of dust

Protect from moisture

Keep away from heat and sources of ignition

10.5 Incompatible materials

Incompatible with combustible materials, alkalis (strong bases, strong acids, reducing agents)

10.6 Hazardous decomposition products

Decomposition products may include carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds (hydrogen bromide, hydrogen chloride, bromine)

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute Toxicity

Harmful if swallowed.

Substances

Chemical Name	LD ₅₀ (oral, rat)	LC ₅₀ (inhalation, rat)	LD ₅₀ (dermal, rabbit)
BCDMH	578 mg/kg	No data available	> 2 000 mg/kg

Skin corrosion/irritation

Causes severe skin burns

Substances

Chemical Name	Irritation/corrosion
BCDMH	Adverse effect observed (corrosive)

Serious eye damage/irritation

Causes serious eye damage.

Substances

Chemical Name	Irritation/corrosion
BCDMH	Adverse effect observed (irreversible damage)

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Substances

Chemical Name	Skin sensitisation	Respiratory sensitisation
BCDMH	Adverse effect observed (sensitising)	No data available

Germ cell mutagenicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	Toxicity - In Vitro	Toxicity - In Vivo
BCDMH	No adverse effect observed (negative)	No data available

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SECTION 11: Toxicological information (....)

Carcinogenicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
BCDMH	No data available	No data available	No data available

Reproductive toxicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
BCDMH	No data available	No data available	No data available

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met

Substances

Chemical Name	Route	Remarks
BCDMH	Respiratory	No data available

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
BCDMH	No data available	No data available	No data available

Aspiration hazard

Based on available data, the classification criteria are not met

Contact with eyes

May cause severe damage with formation of corneal ulcers and permanent impairment of vision.
 May cause redness and swelling
 May cause blurred vision

Contact with skin

May cause severe burns with permanent skin damage which are slow to heal.
 May cause an allergic skin reaction.
 Possible blistering of the skin of affected areas

Ingestion

May cause burns to mouth and throat
 May cause perforation of the oesophagus and stomach
 May cause damage to the stomach lining
 May cause nausea/vomiting
 May cause stomach pain

Inhalation

No hazard expected under normal conditions of use
 May cause respiratory irritation

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SECTION 11: Toxicological information (....)

11.2 Information on other hazards

Has not been identified as having endocrine disrupting properties

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life.

Substances

Chemical Name	LC ₅₀ (fish)	EC ₅₀ (aquatic invertebrates)	EC ₅₀ (aquatic algae)
BCDMH	(96 h) 0.87 mg/L	LC ₅₀ (96 h) > 640 mg/L	(48 h) 0.46 mg/L

12.2 Persistence and degradability

Biodegradable

Substances

Chemical Name	Biodegradation
BCDMH	Biodegradable

12.3 Bioaccumulative potential

No information available

Substances

Chemical Name	Bioconcentration Factor (BCF)	Log Kow
BCDMH	Low potential for bioaccumulation (Log Kow < 3)	0.35

12.4 Mobility in soil

No information available

Substances

Chemical Name	Adsorption/desorption	Mobility
BCDMH	No data available	No data available

12.5 Results of PBT and vPvB assessment

Not a PBT according to REACH Annex XIII

Not a vPvB according to REACH Annex XIII

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal should be in accordance with local, state or national legislation

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SECTION 13: Disposal considerations (....)

Do not discharge into drains or the environment, dispose to an authorised waste collection point

Do not reuse empty containers without commercial cleaning or reconditioning

Do not pierce or burn container, even after use

13.2 Classification

The waste must be identified according to the List of Wastes (2000/532/EC)

Hazardous Property Code(s): HP 2 Oxidising; HP 6 Acute Toxicity; HP 8 Corrosive; HP 13 Sensitising;
HP 14 Ecotoxic

SECTION 14: Transport information**14.1 UN number or ID number**

UN No.: 3085

14.2 UN proper shipping name

Proper Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S (bromochloro-5,5-dimethylimidazolidine-2,4-dione)

14.3 Transport hazard class(es)

Hazard Class: 5.1 (8)

14.4 Packing group

Packing Group: III

14.5 Environmental hazards

MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

14.6 Special precautions for user

See section 7

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

14.8 Road/Rail (ADR/RID)

Proper Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)

ADR UN No.: 3085

ADR Hazard Class: 5.1 (8)

ADR Packing Group: III

Tunnel Code: (E)

14.9 Sea (IMDG)

Proper Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)

IMDG UN No.: 3085

IMDG Hazard Class: 5.1 (8)

IMDG Packing Group.: III

14.10 Air (ICAO/IATA)

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SECTION 14: Transport information (....)

Proper Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)
ICAO UN No.: 3085
ICAO Hazard Class: 5.1 (8)
ICAO Packing Group: III

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 (as amended by Regulation (EU) 2020/878) and UK REACH

The GB Classification, Labelling and Packaging Regulation (GB CLP) applies in Great Britain

Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

The Hazardous Waste (England and Wales) Regulations 2005 apply in the UK

This product is covered by EU Directive 2012/18/EU (the Seveso III Directive)

This product is covered by the GB Biocidal Products Regulation (GB BPR)

This product is covered by the EU Biocides Regulation 528/2012 (EU BPR)

Restrictions on use according to Annex XVII to REACH Regulation: None

Seveso III Directive (2012/18/EU, Dangerous Substances in Annex I:

Class P8 Oxidising liquids and solids, LT 50 te, UT 200 te

Class E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1, LT 100 te, UT 200 te

15.2 Chemical safety assessment

A REACH chemical safety assessment has been carried out

SECTION 16: Other information

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.

Sources of data: Information from published literature and supplier safety data sheets

Training advice

Workers must be informed of the presence of hazardous ingredients and trained in the proper use and handling of this product as required under applicable regulations

Revision No. 2.0.0. Revised December 2019.

Changes made: Revised to conform to Revised Annex II in Regulation (EU) 2015/830

Revision No. 3.0.0. Revised September 2023.

Changes made: Classification changed in section 2. Updated to conform to latest version of REACH Annex II

Procedure used to derive the classification according to Regulation (EC) 1272/2008 [CLP]:

Ox. Sol. 3, H272: Classification based on expert judgment

Acute Tox. 4, H302: Classification based on expert judgment

Skin Corr. 1C, H314: Classification based on expert judgment

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SECTION 16: Other information (....)

Skin Sens. 1, H317: Classification based on expert judgment
Eye Dam. 1, H318: Classification based on expert judgment
Aquatic Acute 1, H400: Classification based on expert judgment

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

H272: May intensify fire; oxidizer
H302: Harmful if swallowed
H314: Causes severe skin burns and eye damage
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage
H400: Very toxic to aquatic life

Acronyms

ATE: Acute Toxicity Estimate
CAS: Chemical Abstracts Service
DNEL: Derived No-Effect Level
EC: European Community
EC₅₀: Effective Concentration, 50%
GHS: Globally Harmonised System
LC₅₀: Lethal Concentration, 50%
LD₅₀: Lethal Dose, 50%
NOAEC: No Observed Adverse Effect Concentration
NOAEL: No Observed Adverse Effect Level
OEL: Occupational Exposure Limit
PBT: Persistent, Bioaccumulative and Toxic
PNEC: Predicted No-Effect Concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
SCL: Specific Concentration Limit
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
WEL: Workplace Exposure Limit