Revision: 20 November 2020

SAFETY DATA SHEET

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

1.1 Product identifier

- Datasheet Number: SP142 Version 2.0.0
- Product Name: Bromine tablets
- Chemical Name: Bromochloro-5,5-dimethylimidazolidine-2,4-dione)
- Synonyms: BCDMH/Bromochlorodimethylhydantoin
- CAS Number: 32718-18-6
- EC No.: 251-171-5

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: Total Pool Chemicals Ltd
- Address of Supplier: Unit 1-5 , Pool Bank Business Park
  High Street, Tarvin
  Chester
  UK
  CH3 8JH
- Telephone: +44 (0)1829 740290
- Email: sales@totalpool.co.uk

1.4 Emergency telephone number

- +44 (0)1829 740290 (Office Hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Ox. Sol. 2, H272; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Eye Dam. 1, H318; Aquatic Acute 1, H400; EUH031; EUH206
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements

- Signal Word: Danger

- 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.
  H400 - Very toxic to aquatic life.

- Precautionary statements
  P102 - Keep out of reach of children.
  P273 - Avoid release to the environment.
  P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

SECTION 2: Hazards identification (....)

Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
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.
  EUH206: Warning! Do not use together with other products. May release dangerous gases (chlorine).

2.3 Other hazards

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	REACH Registration Number	SCL/ M-Factor/ ATE	WEL/ OEL
Bromochloro-5,5-dimethylimidazolidine-2,4-dione	98 %	32718-18-6	251-171-5	Ox. Sol. 2, H272 Acute Tox. 4, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Acute 1, H400 EUH031 EUH206	-	-	No

3.2 Mixtures

- Not applicable

SECTION 4: 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

4.1 Description of first aid measures

- 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
  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)
  Give plenty of water to drink
  Do NOT induce vomiting.
  Get immediate medical advice/attention.

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

- Inhalation
  If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
  IF exposed or concerned: Get 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.
  Causes redness and swelling
  May cause blurred vision
- Contact with skin
  May cause severe burns with permanent skin damage which are slow to heal.
  Possible blistering of the skin of affected areas
  May cause an allergic skin reaction.
- Ingestion
  May cause burns to mouth and throat
  The ingestion of significant quantities may cause damage to mucous membranes
  Causes damage and corrosion of the gastrointestinal tract.
  May cause nausea/vomiting
  May cause stomach pain
- Inhalation
  May cause respiratory tract irritation.
  May cause breathing difficulty

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media: Water spray; alcohol resistant foam; sand/earth; carbon dioxide
- Unsuitable extinguishing media: Do not use water jets; Dry agent extinguishers are unsuitable and should not be used

5.2 Special hazards arising from the substance or mixture

- May form explosible dust-air mixture if dispersed
- Gives off irritating or toxic fumes (or gases) in a fire.
- Decomposition products may include hydrogen bromide, hydrogen chloride, bromine, chlorine, nitrogen trichloride

5.3 Advice for firefighters

- 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.

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

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

- Personal precautions for non-emergency personnel: Do not breathe dust; Do not get in eyes, on skin, or on clothing.; Wear protective clothing as per section 8; Do not touch or walk through spilt material; Wash thoroughly after handling.
- Personal precautions for emergency responders: Shut off all ignition sources; Wear self-contained breathing apparatus (SCBA); Wear suitable protective clothing, eye/face protection and gloves; Natural rubber are recommended

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

- Stop leak if safe to do so.
- Avoid formation of dust

- Small spills
  Wipe up spillage with damp absorbent cloth or towel

- Large spills
  Use non-sparking tools
  Collect as much as possible in clean container for reuse or disposal
  Sweep or shovel-up spillage and remove to a safe place
  Place in sealable container
  Seal containers and label them
  Remove contaminated material to safe location for subsequent disposal
  To be disposed of as hazardous waste
  Seek expert advice for removal and disposal of all contaminated materials and wastes
  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

- Take precautionary measures against static discharges
- Use non-sparking tools.
- Keep away from heat and sources of ignition
- Use only in well ventilated areas
- Avoid raising dust
- Provide appropriate exhaust ventilation at places where airborne dust is generated
- Avoid contact with skin and eyes
- Wear protective clothing as per section 8
- Do not eat, drink or smoke when using this product.
- Contaminated clothing should be laundered before reuse
- Contaminated work clothing should not be allowed out of the workplace.
- Use good personal hygiene practices
- Wash thoroughly after handling.
- Ensure eyewash stations and safety showers are nearby

7.2 Conditions for safe storage, including any incompatibilities

- Keep in a cool, dry, well ventilated place
- Protect from moisture
- Store at 5 - 25 °C

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

- 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.
- Protect from sunlight.
- Keep away from food, drink and animal feedingstuffs
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Incompatible with oxidizing substances

7.3 Specific end use(s)

- Pool / spa treatment

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.
- 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 to prevent the need for ventilation
  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.

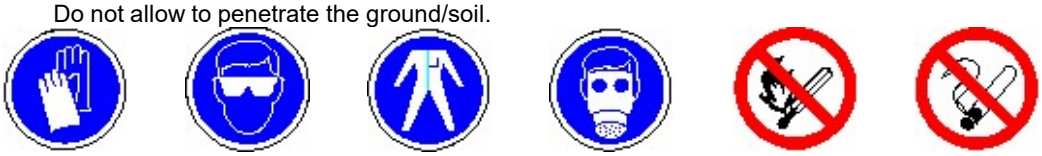
- Skin protection
  Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
  The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. 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: ≥ 8 hours
  Reference: Supplier
  Wear suitable protective clothing
  Contaminated work clothing should not be allowed out of the workplace.
  Contaminated clothing should be laundered before reuse

- Hygiene measures

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

- Appearance: Solid; pale yellow
- Odour: Odourless
- Odour threshold: No information available
- pH: 3.5 at 1 % concentration
- Melting point/freezing point: 158 - 162 °C
- Initial boiling point and boiling range: No information available
- Flashpoint: Not applicable
- Evaporation Rate: No information available
- Flammability (solid,gas): Not flammable
- Upper/lower flammability or explosive limits: Not applicable
- Vapour Pressure: No information available
- Vapour Density: No information available
- Relative Density: 1.8 - 2.0
- Solubility(ies): No information available
- Partition Coefficient (n-Octanol/Water): Not applicable
- Autoignition Temperature: No information available
- Decomposition temperature: No information available
- Viscosity: No information available
- Explosive Properties: Not applicable
- Oxidising properties: Oxidising

9.2 Other information

- No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

- Reacts with acids to produce free chlorine.

10.2 Chemical stability

- No decomposition if stored normally.

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

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

- Keep away from heat and sources of ignition
- Avoid contact with moisture

10.5 Incompatible materials

- Incompatible with acids and alkalis
- Incompatible with oxidizing substances
- Incompatible with combustible material

10.6 Hazardous decomposition products

- Decomposition products may include hydrogen bromide, hydrogen chloride, bromine, chlorine, nitrogen trichloride

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity
  Harmful if swallowed.

Substances

Chemical Name	LD_{50} (oral, rat)	LC_{50} (inhalation, rat)	LD_{50} (dermal, rabbit)
Bromochloro-5,5-dimethylimidazolidine-2,4-dione	578 mg/kg	No data available	No data available

- Skin corrosion/irritation
  Causes severe skin burns and eye damage.
- Serious eye damage/irritation
  Causes serious eye damage.
- Respiratory or skin sensitisation
  May cause an allergic skin reaction.
- Germ cell mutagenicity
  No information available
- Carcinogenicity
  No information available
- Reproductive toxicity
  No evidence of reproductive effects
- Specific target organ toxicity (STOT) - single exposure
  Based on available data, the classification criteria are not met
- Specific target organ toxicity (STOT) - repeated exposure
  Based on available data, the classification criteria are not met
- 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

SECTION 11: Toxicological information (....)

- Ingestion
  May cause burns to mouth and throat
  The ingestion of significant quantities may cause damage to mucous membranes
  Causes damage and corrosion of the gastrointestinal tract.
  May cause stomach pain
  May cause nausea/vomiting
- Inhalation
  May cause respiratory tract irritation.
  May cause breathing difficulty
  May cause shortness of breath

SECTION 12: Ecological information

12.1 Toxicity

- Very toxic to aquatic life.
- Bromochloro-5,5-dimethylimidazolidine-2,4-dione
  EC_{50} (Onchorhynus mykiss) 0.65 mg/L (96 hr)
  LC_{50} (Daphnia Magna) 0.87 mg/L (48 hr)

12.2 Persistence and degradability

- Degrades by hydrolysis

12.3 Bioaccumulative potential

- Bioaccumulation is not expected

12.4 Mobility in soil

- No information 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 Other adverse effects

- Do not allow product to reach ground water, water course or sewage system. Must not reach sewage water or drainage ditch undiluted or unneutralized. Danger to drinking water if even extremely small quantities leak into the ground.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- This material and its container must be disposed of as hazardous waste
- Do not reuse empty containers without commercial cleaning or reconditioning

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

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: II

14.5 Environmental hazards

- Marine pollutant

14.6 Special precautions for user

- No information available

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: II
- 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 Pack Group.: II

14.10 Air (ICAO/IATA)

- 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: II

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) 2015/830

SECTION 15: Regulatory information (....)

- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe
- This substance is listed in Annex III of REACH as # Suspected carcinogen: ISS Carcinogenicity model in VEGA (Q)SAR platform predicts that the chemical is Carcinogen (moderate reliability) # Suspected hazardous to the aquatic environment: The Danish QSAR database contains information indicating that the substance has a 96h EC_{50} to green algae of <1 mg/L # Suspected mutagen: SARPY Mutagenicity model in VEGA (Q)SAR platform predicts that the chemical is Mutagen (moderate reliability) # Suspected persistent in the environment: The Danish QSAR database contains information indicating that the substance is predicted as non readily biodegradable # Suspected respiratory sensitiser: The Toolbox profiler Respiratory sensitisation gives an alert for respiratory sensitisation
- This product is covered by the EU Biocides Regulation 528/2012 (EU BPR)
- This product is covered by EU Directive 2012/18/EU (the Seveso III Directive)

15.2 Chemical safety assessment

- A REACH chemical safety assessment has been carried out

SECTION 16: Other information

The statements made herein are based on our best present experience and are intended to describe product safety requirements. They should not therefore be considered as a warranty of specific properties.

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

Revision No. 2.0.0. Revised November 2020.
Changes made: Revisions to all sections to conform to Regulation (EU) 2015/830.

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
- EUH031: Contact with acids liberates toxic gas
- EUH206: Warning! Do not use together with other products. May release dangerous gases (chlorine).

Acronyms

- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC_{50}: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC_{50}: Lethal Concentration, 50%
- LD_{50}: 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
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---