

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

- **1.1 Product identifier**
- **Trade name:**
- **Article number:** BT-Ver.6
- **Registration number** Mixture
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC37 Water treatment chemicals
- **Application of the substance / the mixture** For disinfection of hot tub water
- **Uses advised against**
Processes involving extreme heat use advised against.
Processes involving the use of incompatible substances - refer to section 10.
Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
Any use involving significant release of aerosol, vapour or dust in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).
The product is intended exclusively for industrial and professional use.
- **1.3 Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**
Total Water Products
Unit 6 Seaway Parade Ind. Estate
Baglan
Port Talbot
SA12 7BR

Tel: 0044 1639 823233
e-mail: info@totalwaterproducts.co.uk
- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:**
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

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Acute Tox. 4 H302 Harmful if swallowed.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms GHS03, GHS05, GHS07, GHS09

Signal word Danger

Hazard-determining components of labelling:

1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione

Hazard statements

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

Precautionary statements

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

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

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

Additional information:

EUH031 Contact with acids liberates toxic gas.

2.3 Other hazards

Results of PBT and vPvB assessment

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

• **Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 16079-88-2	1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione	50 – 100%
EINECS: 240-230-0	Ox. Sol. 2, H272; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Acute Tox. 4, H302	

• **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

In case of inhalation:

- Provide fresh air.

- In case of breathing difficulties administer oxygen.

- No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.

- Do not leave patient unattended.

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- In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- **Information for doctor:**
Treat symptomatically and supportively.
Probable mucosal damage may contraindicate gastric lavage.
- **4.2 Most important symptoms and effects, both acute and delayed**
Corrosive damage to gastro-intestinal tract.
- **Hazards**
Danger of gastric perforation.
Danger of pulmonary oedema.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Carbon dioxide
Water spray
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:**
ABC powder
Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Strong oxidiser. Contact with combustible or flammable substances may cause fire.
In case of fire, the following can be released:
Carbon monoxide (CO)
Chlorine compounds
Fires fueled by other materials may release hydrogen bromide, bromine, hydrogen chloride or chlorine.
Nitrogen oxides (NOx)
Bromine
Hydrogen bromide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid formation of dust.
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.

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Do not allow product to reach sewage system or any water course in the undiluted form.
Inform respective authorities in case of seepage into water course or sewage system.

· **6.3 Methods and material for containment and cleaning up:**

Pick up mechanically.
Do not use combustible materials such as paper towels to clean up spills.
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Do not mix with acids.
Rinse contaminated clothing with plenty of water (Fire hazard)

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Prevent any seepage into the ground.
Do not store on combustible materials such as wooden floors or wooden pallets.

· **Information about storage in one common storage facility:**

Store away from flammable substances.
Store away from foodstuffs.
Store away from reducing agents.
Do not store together with textiles.
Store away from water.
Do not store together with acids.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Storage class:** 5.1 B

· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Additional information about design of technical facilities:** No further data; see section 7.

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Do not breathe dust
Do not eat, drink, smoke or sniff while working.
A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.
Ensure that eyewash stations and safety showers are close to the workstation location.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

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Avoid contact with the eyes and skin.

Contaminated clothes are a fire hazard. Rinse with plenty of water.

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

· **Protection of hands:**



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles conforming to EN166.

· **Body protection:**



Protective work clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

· **Limitation and supervision of exposure into the environment**

Do not allow to enter drains, sewers or watercourses.

· **Risk management measures** The operators shall be instructed adequately.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Tablets
Colour:	White
Odour:	Chlorine-like
Odour threshold:	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not determined.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not self-igniting.

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· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density at 20 °C:	0.9 g/cm ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water:	Insoluble.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· 9.2 Other information	NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
Fires fueled by other materials may release hydrogen bromide, bromine, hydrogen chloride or chlorine.
Decomposes on heating, on contact with acids and under influence of light producing toxic and corrosive gases including chlorine.
- **10.3 Possibility of hazardous reactions**
Acts as an oxidising agent on organic materials such as wood, paper and fats.
Reacts with acids.
Reacts with humid air.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Strong acids and oxidising agents
Reducing agents.
Organic solvents.
Combustible materials.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)
Bromine
Chlorine
Hydrogen bromide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	602.08 mg/kg (rat)
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16079-88-2 1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione

Oral	LD50	578 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.
Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Recommended Hierarchy of Controls:
 - Minimise waste;
 - Reuse if not contaminated;
 - Recycle, if possible; or
 - Safe disposal (if all else fails).
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

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- **Uncleaned packaging:**
- **Recommendation:**
Do not mix with other waste streams.
Container remains hazardous when empty. Continue to observe all precautions.
Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number	UN3085
· ADR/RID/ADN, IMDG, IATA	
· 14.2 UN proper shipping name	UN3085 OXIDIZING SOLID, CORROSIVE, N.O.S. (1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione), ENVIRONMENTALLY HAZARDOUS
· ADR/RID/ADN	
· IMDG	OXIDIZING SOLID, CORROSIVE, N.O.S. (1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione), MARINE POLLUTANT
· IATA	OXIDIZING SOLID, CORROSIVE, N.O.S. (1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione)
· 14.3 Transport hazard class(es)	
· ADR/RID/ADN	
	  
· Class	5.1 Oxidising substances.
· Label	5.1+8
· IMDG	
	  
· Class	5.1 Oxidising substances.
· Label	5.1/8
· IATA	
	 
· Class	5.1 Oxidising substances.
· Label	5.1 (8)
· 14.4 Packing group	II
· ADR/RID/ADN, IMDG, IATA	
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: 1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR/RID/ADN):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Oxidising substances.
· Hazard identification number (Kemler code):	58
· EMS Number:	F-A,S-Q

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· Stowage Category	B
· Handling Code	H1 Keep as dry as reasonably practicable
· Segregation Code	SG35 Stow "separated from" SGG1-acids SG38 Stow "separated from" SGG2-ammonium compounds. SG49 Stow "separated from" SGG6-cyanides SG60 Stow "separated from" SGG16-peroxides
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S. (1-B R O M O - 3 - C H L O R O - 5 , 5 - DIMETHYLIMIDAZOLIDINE-2,4-DIONE), 5.1 (8), II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

P8

E1

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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· Training hints

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

· Department issuing SDS: Product safety department.**· Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Ox. Sol. 2: Oxidizing solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· * Data compared to the previous version altered.

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