

## SAFETY DATA SHEET – HYDROCID 390 (BROMINE TABLETS)

### 1. Identification of the substance/mixture and of the company/undertaking

#### Product information

Trading name : Hydrocid 390

Company : Hydro-X Water Treatment Ltd  
Eden Place, Outgang Lane,  
Dinnington, S25 3QT  
Telephone: +44 (0) 1909 565133

Emergency telephone number : +44 (0) 1909 565133

E-mail address: [technical@hydro-x.co.uk](mailto:technical@hydro-x.co.uk)

### 2. Hazards identification

#### Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute toxicity; Category 4 ; Oral

H302 Harmful if swallowed.

Skin corrosion; Category 1C

H314 Causes severe skin burns and eye damage.

Skin sensitization; Category 1

H317 May cause an allergic skin reaction.

Acute aquatic toxicity; Category 1

H400 Very toxic to aquatic life.

67/548/EEC / 1999/45/EC

Harmful if swallowed.

Contact with acids liberates toxic gas.

Causes burns.

May cause sensitization by skin contact.

Very toxic to aquatic organisms.

#### Labelling according to EC Directives

REGULATION (EC) No 1272/2008

Pictogram :



Signal word : Danger

Hazard statements

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.

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Supplemental Hazard Statements

EUH031 : Contact with acids liberates toxic gas.

Precautionary statements

P273 : Avoid release to the environment.

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

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 or doctor/ physician.

67/548/EEC / 1999/45/EC

Symbol(s)

:



:

Corrosive



Dangerous for the environment

R-phphrase(s)

R22 : Harmful if swallowed.

R31 : Contact with acids liberates toxic gas.

R34 : Causes burns.

R43 : May cause sensitization by skin contact.

R50 : Very toxic to aquatic organisms.

S-phphrase(s)

S 8 : Keep container dry.

S14 : Keep away from flammable materials.

S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 : After contact with skin, wash immediately with plenty of soap and water.

S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.

S41 : In case of fire and/or explosion do not breathe fumes.

S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 : This material and its container must be disposed of as hazardous waste.

S61 : Avoid release to the environment. Refer to special instructions/ Safety data sheets.

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3. Composition/information on ingredients

Substances / Mixtures : Substance  
CAS-No. : 32718-18-6 EC-No. : 251-171-5

### Hazardous components

CAS-No.	EC-No. / Registration number	Classification	Concentration
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**Bromochloro-5,5-dimethylimidazolidine-2,4-dione**

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32718-18-6	251-171-5	Acute Tox.; 4; H302 Skin Corr.; 1C; H314 Skin Sens.; 1; H317 Aquatic Acute; 1; H400  C, N; R22, R31, R34, R43, R50	ca. 96 %
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For the full text of the H-Statements mentioned in this Section, see Section 16.  
For the full text of the R-phrases mentioned in this Section, see Section 16.

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### 4. First aid measures

Inhalation	: Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Give oxygen. First aider needs to protect himself. Call a physician immediately.
Skin contact	: Take off all contaminated clothing immediately. After contact with skin, wash immediately with plenty of soap and water. Call a physician immediately.
Eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Ingestion	: Call a physician immediately. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

### Notes to physician

Symptoms	: Causes severe irritation of eyes, skin and mucous membranes.
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### 5. Fire-fighting measures

Suitable extinguishing media	: Dry powder, Foam, Water
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Specific hazards during fire fighting : Heating or fire can release toxic gas.

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Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use water spray to cool unopened containers.

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## 6. Accidental release measures

Personal precautions : In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Environmental precautions : Do not flush into surface water or sanitary sewer system.

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.

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## 7. Handling and storage

### Handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin and eyes. Avoid formation of respirable particles.

Advice on protection against fire and explosion : Avoid dust formation. Take precautionary measures against static discharges.

### Storage

Requirements for storage areas and containers : Keep container tightly closed. To maintain product quality, do not store in heat or direct sunlight. Keep in a dry, cool and wellventilated place.

Further information on storage conditions : Incompatible with oxidizing agents.

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## 8. Exposure controls/personal protection

### Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

: Half mask with a particle filter P2 (EN 143).

Hand protection	: Suitable material : Nitrile rubber Break through time : > 480 min Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Eye protection	: Tightly fitting safety goggles
Skin and body protection	: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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No special protective equipment required.

Hygiene measures	: Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use.
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#### **Environmental exposure controls**

General advice : Do not flush into surface water or sanitary sewer system.

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## **9. Physical and chemical properties**

### **Information on basic physical and chemical properties**

#### **Appearance**

Physical state	: solid
Form	: tablet
Colour	: white
Odour <b>Safety data</b>	: odourless

Melting point/range	: 156 - 162 °C Decomposition: yes Method: OECD Test Guideline 102
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Boiling point/boiling range	: Decomposition: yes not applicable
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Flammability	: does not ignite
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Vapour pressure	: 3,8 mPa (25 °C) Method: OECD Test Guideline 104
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Relative density	: 1,87 (23 °C) Method: OECD Test Guideline 109
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Water solubility	: hydrolyses Method: OECD Test Guideline 105
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Oxidizing properties : The product has been shown not to be oxidising in a test following Directive 67/548/EEC (Method A17, oxidising properties).  
Method: Oxidizing properties (solids)

The substance or mixture is not classified as oxidizing.

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## 10. Stability and reactivity

Conditions to avoid : no data available

Materials to avoid : Bases, Strong acids and oxidizing agents

Hazardous reactions : Stable under normal conditions.

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## 11. Toxicological information

The following toxicological data refer to:

**Bromochloro-5,5-dimethylimidazolidine-2,4-dione (BCDMH) (CAS-No.: 32718-18-6)**

Acute oral toxicity (LD50) : 485 mg/kg  
Species: rat  
Method: FIFRA

Acute dermal toxicity (LD50) : > 2 000 mg/kg  
Species: rabbit  
Method: FIFRA

Skin irritation : Corrosive  
Species: rabbit  
Exposure time: 4 h  
Method: OECD Test Guideline 404

Eye irritation : Corrosive  
Species: rabbit  
Method: FIFRA

Sensitisation	: Sensitising Species: guinea pig Buehler Test
Genotoxicity in vitro	: positive Ames test, Salmonella typhimurium Method: OECD 471  positive Gene mutation, mouse lymphoma cells Method: OECD 476
Genotoxicity in vivo	: negative Mutagenicity (micronucleus test) Species: mouse Method: OECD 474  negative Test UDS in vivo Species: rat Method: OECD 486

## 12. Ecological information

The following ecotoxicological data refer to:

**Bromochloro-5,5-dimethylimidazolidine-2,4-dione (BCDMH)** (CAS-No.: 32718-18-6)

### Ecotoxicity effects

Toxicity to fish (LC50)	: 0,65 mg/l Species: Oncorhynchus mykiss (rainbow trout) Acute toxicity Exposure time: 96 h Method: US-EPA
Toxicity to daphnia (EC50)	: 0,87 mg/l Species: Daphnia magna (Water flea) Immobilization Exposure time: 48 h Method: US-EPA
Toxicity to algae (ErC50)	: 2 mg/l Species: Desmodesmus subspicatus (green algae) Growth inhibition Exposure time: 72 h Method: OECD Test Guideline 201

Toxicity to bacteria (EC50) : 20 mg/l  
 Species: activated sludge  
 Respiration inhibition  
 Exposure time: 3 h  
 Method: OECD 209

#### **Persistence and degradability**

Stability in water : hydrolytically degradable  
 Degradation half life t1/2: <= 91 h  
 pH: 7  
 Method: EPA-FIFRA

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### **5,5-Dimethylhydantoin (DMH) (CAS-No.: 77-71-4)**

#### **Ecotoxicity effects**

Toxicity to fish (LC50) : > 972 mg/l  
 Species: Oncorhynchus mykiss (rainbow trout)  
 Acute toxicity  
 Exposure time: 96 h  
 Method: US-EPA

Toxicity to fish (LC50) : 16 500 mg/l  
 Species: Pimephales promelas (fathead minnow)  
 Acute toxicity  
 Exposure time: 96 h

Toxicity to fish (NOEC) : 14 mg/l  
 Species: Pimephales promelas (fathead minnow)  
 Early-life Stage  
 Exposure time: 33 d  
 Method: FIFRA

Toxicity to daphnia (EC50) : 6 200 mg/l  
 Species: Daphnia magna (Water flea)  
 Immobilization  
 Exposure time: 48 h  
 Method: EPA-FIFRA

Toxicity to daphnia (NOEC) : 71 mg/l  
 Species: Daphnia magna (Water flea)  
 Reproduction Test  
 Exposure time: 21 d  
 Method: OECD Test Guideline 202

Toxicity to algae (EC50) : > 1 000 mg/l  
 Species: Pseudokirchneriella subcapitata  
 Growth inhibition  
 Exposure time: 96 h  
 Method: OECD Test Guideline 201



Toxicity to bacteria (EC50) : > 1 000 mg/l  
Species: activated sludge  
Respiration inhibition  
Exposure time: 3 h  
Method: OECD 209

#### **Persistence and degradability**

Stability in water : Abiotic degradation hydrolytically stable  
Degradation half life t1/2: > 360 d pH: 5 - 9  
Method: EPA-FIFRA

Biodegradability : Die-Away Test: 94 %  
Biodegradable  
Testing period: 19 d

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CO2 Evolution Test: 88 %

Readily biodegradable.  
Testing period: 28 d  
Method: OECD 301 B

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#### **13. Disposal considerations**

Waste from residues / unused products : Dispose of in accordance with local regulations.  
Contact waste disposal services.

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#### **14. Transport information**

##### **IATA**

UN number : 3085  
Description of the goods : Oxidizing solid, corrosive, n.o.s.  
(Bromochloro-5,5-dimethylimidazolidine-2,4-dione)  
Class : 5.1  
Packing group : III  
Labels : 5.1 (8)

##### **IMDG**

UN number : 3085  
Description of the goods : OXIDIZING SOLID, CORROSIVE, N.O.S.  
(Bromochloro-5,5-dimethylimidazolidine-2,4-dione)  
Class : 5.1

Packing group	: III
Labels	: 5.1 (8)
EmS Number 1	: F-A
EmS Number 2	: S-Q
Marine pollutant	: yes

#### ADR

UN number	: 3085
Description of the goods	: OXIDIZING SOLID, CORROSIVE, N.O.S. (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)
Class	: 5.1
Packing group	: III
Classification Code	: OC2
Hazard identification No	: 58
Labels	: 5.1 (8)
Environmentally hazardous	: yes

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#### ID

UN number	: 3085
Description of the goods	: OXIDIZING SOLID, CORROSIVE, N.O.S. (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)
Class	: 5.1
Packing group	: III
Classification Code	: OC2
Hazard identification No	: 58
Labels	: 5.1 (8)
Environmentally hazardous	: yes

#### DOT

UN number	: 3085
Description of the goods	: Oxidizing solid, corrosive, n.o.s. (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)
Class	: 5.1
Packing group	: III
Labels	: 5.1 (8)

#### TDG

UN number	: 3085
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Description of the goods	: OXIDIZING SOLID, CORROSIVE, N.O.S. (Bromochloro-5,5-dimethylimidazolidine-2,4-dione)
Class	: 5.1
Packing group	: III
Labels	: 5.1 (8)

## 15. Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### National legislation

Water contaminating class : WGK 2 water endangering

### Chemical Safety Assessment :

not required

## 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

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.

### Full text of R-phrases referred to under sections 2 and 3

R22	Harmful if swallowed.
R31	Contact with acids liberates toxic gas.
R34	Causes burns.
R50	Very toxic to aquatic organisms.
R43	May cause sensitization by skin contact.