

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

Reference number: RP035

Issue date: 27/01/2015 Revision date: 13/02/2022 Supersedes version of: 20/03/2019 Version: 1.4

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

### 1.1. Product identifier

Product form : Mixture  
 Product name : Bromine water.  
 European Pharmacopoeia Ref: 1012402  
 Product code : 12930374

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

#### 1.2.1. Relevant identified uses

Main use category : Professional use  
 Use of the substance/mixture : Laboratory chemical  
 Function or use category : Laboratory chemicals

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

#### Spectracer UK Ltd.

Third Floor,  
 55 Blandford Street,  
 London,  
 W1U 7HW,  
 United Kingdom.

Tel: +44 (0) 207 193 9114

Fax: +44 (0) 203 432 4686

Email: [contact@spectracer.com](mailto:contact@spectracer.com)

Web: [www.spectracer.com](http://www.spectracer.com)

### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 8379964	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD 2090 Msida	+356 2545 6508	
United Kingdom	National Poisons Information Service (NHS Direct)	<a href="http://www.npis.org">http://www.npis.org</a>	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315

Serious eye damage/eye irritation, Category 1 H318

Full text of H- and EUH-statements: see section 16

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

#### Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye damage.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

GHS07

Signal word (CLP)

: Danger

Contains

: bromine

Hazard statements (CLP)

: H315 - Causes skin irritation.

H318 - Causes serious eye damage.

Precautionary statements (CLP)

: P264 - Wash hands, forearms and face thoroughly after handling.

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

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.

#### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
bromine substance with national workplace exposure limit(s) (AT, BE, BG, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, IS, NO, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 7726-95-6 EC-No.: 231-778-1 EC Index-No.: 035-001-00-5	3.42	Acute Tox. 2 (Inhalation), H330 Skin Corr. 1A, H314 STOT RE Not classified Aquatic Acute 1, H400

Full text of H- and EUH-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

First-aid measures after skin contact

: Wash with plenty of water/.... Wash contaminated clothing before reuse. Get medical advice/attention. If skin irritation occurs: Wash with plenty of water/.... Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion

: Call a poison center or a doctor if you feel unwell.

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Irritation.  
Symptoms/effects after eye contact : Serious damage to eyes.

#### 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. Dry powder. Foam. Carbon dioxide.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

#### 7.3. Specific end use(s)

No additional information available

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

bromine (7726-95-6)	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Bromine
IOEL TWA	0.7 mg/m <sup>3</sup>
IOEL TWA [ppm]	0.1 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
<b>Austria - Occupational Exposure Limits</b>	
Local name	Brom
MAK (OEL TWA)	0.7 mg/m <sup>3</sup>
MAK (OEL TWA) [ppm]	0.1 ppm
MAK (OEL STEL)	0.7 mg/m <sup>3</sup> (Mow)
MAK (OEL STEL) [ppm]	0.1 ppm (Mow)
Regulatory reference	BGBl. II Nr. 156/2021
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Brome # Broom
OEL TWA	0.67 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
OEL STEL	1.3 mg/m <sup>3</sup>
OEL STEL [ppm]	0.2 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 19/11/2020
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	Бром
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Remark	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
<b>Croatia - Occupational Exposure Limits</b>	
Local name	Brom
GVI (OEL TWA) [1]	0.7 mg/m <sup>3</sup>
GVI (OEL TWA) [2]	0.1 ppm
Remark	Direktiva: 2006/15/EZ
Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN 1/2021)

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

<b>bromine (7726-95-6)</b>	
<b>Czech Republic - Occupational Exposure Limits</b>	
Local name	Brom
PEL (OEL TWA)	0.7 mg/m <sup>3</sup>
PEL (OEL TWA) [ppm]	0.106 ppm
NPK-P (OEL C)	1.4 mg/m <sup>3</sup>
NPK-P (OEL C) [ppm]	0.21 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Brom
OEL TWA [1]	0.7 mg/m <sup>3</sup>
OEL TWA [2]	0.1 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi)
Regulatory reference	BEK nr 1426 af 28. juni 2021
<b>Estonia - Occupational Exposure Limits</b>	
Local name	Broom
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 17.10.2019, 2); Vabariigi Valitsuse 10. märtsi 2019. a määruse nr 84
<b>Finland - Occupational Exposure Limits</b>	
Local name	Bromi
HTP (OEL STEL)	0.66 mg/m <sup>3</sup>
HTP (OEL STEL) [ppm]	0.1 ppm
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
<b>France - Occupational Exposure Limits</b>	
Local name	Brome
VME (OEL TWA)	0.7 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	0.1 ppm
Remark	Valeurs réglementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487; Décret n° 2021-1849)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
AGW (OEL TWA) [1]	0.7 mg/m <sup>3</sup>
Peak exposure limitation factor	1(l)
Remark	EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); AGS - Ausschuss für Gefahrstoffe
Regulatory reference	TRGS900

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

<b>bromine (7726-95-6)</b>	
<b>Gibraltar - Occupational Exposure Limits</b>	
Local name	Bromine
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
<b>Greece - Occupational Exposure Limits</b>	
Local name	Βρώμιο
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
OEL STEL	2 mg/m <sup>3</sup>
OEL STEL [ppm]	0.3 ppm
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
<b>Hungary - Occupational Exposure Limits</b>	
Local name	BRÓM
AK (OEL TWA)	0.7 mg/m <sup>3</sup>
Remark	b (Bőrön át is felszívódik), m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármát); EU2 (2006/15/EK irányelvben közölt érték); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Bromine
OEL TWA [1]	0.7 mg/m <sup>3</sup>
OEL TWA [2]	0.1 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
<b>Italy - Occupational Exposure Limits</b>	
Local name	Bromo
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
<b>Latvia - Occupational Exposure Limits</b>	
Local name	Broms
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
<b>Lithuania - Occupational Exposure Limits</b>	
Local name	Bromas

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

<b>bromine (7726-95-6)</b>	
IPRV (OEL TWA)	0.7 mg/m <sup>3</sup>
IPRV (OEL TWA) [ppm]	0.1 ppm
Remark	Ū (ūmus poveikis)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
<b>Luxembourg - Occupational Exposure Limits</b>	
Local name	Brome
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	Mémorial A N° 226 de 2021 concernant la protection de la sécurité et de la santé des salariés contre les risques liés à des agents chimiques sur le lieu de travail
<b>Malta - Occupational Exposure Limits</b>	
Local name	Bromine
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.57 of 2018)
<b>Netherlands - Occupational Exposure Limits</b>	
Local name	Broom
TGG-15min (OEL STEL)	0.2 mg/m <sup>3</sup>
TGG-15min (OEL STEL) [ppm]	0.03 ppm (Broom; Netherlands; Short time value; Public occupational exposure limit value)
Regulatory reference	Arbeidsomstandighedenregeling 2021
<b>Poland - Occupational Exposure Limits</b>	
Local name	Brom
NDS (OEL TWA)	0.7 mg/m <sup>3</sup>
NDSch (OEL STEL)	1.4 mg/m <sup>3</sup>
Regulatory reference	Dz. U. 2018 poz. 1286
<b>Portugal - Occupational Exposure Limits</b>	
Local name	Bromo
OEL TWA [ppm]	0.1 ppm
OEL STEL [ppm]	0.2 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Romania - Occupational Exposure Limits</b>	
Local name	Brom
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
<b>Slovakia - Occupational Exposure Limits</b>	
Local name	Bróm

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

<b>bromine (7726-95-6)</b>	
NPHV (OEL TWA) [1]	0.7 mg/m <sup>3</sup>
NPHV (OEL TWA) [2]	0.1 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
<b>Slovenia - Occupational Exposure Limits</b>	
Local name	brom
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm
OEL STEL	0.7 mg/m <sup>3</sup>
OEL STEL [ppm]	0.1 ppm
Remark	EU
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
<b>Spain - Occupational Exposure Limits</b>	
Local name	Bromo
VLA-ED (OEL TWA) [1]	0.7 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	0.1 ppm
Remark	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2021. INSHT
<b>Sweden - Occupational Exposure Limits</b>	
Local name	Brom
NGV (OEL TWA)	0.7 mg/m <sup>3</sup>
NGV (OEL TWA) [ppm]	0.1 ppm
KTV (OEL STEL)	2 mg/m <sup>3</sup>
KTV (OEL STEL) [ppm]	0.3 ppm
Remark	V (Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Bromine
WEL TWA (OEL TWA) [1]	0.66 mg/m <sup>3</sup>
WEL TWA (OEL TWA) [2]	0.1 ppm
WEL STEL (OEL STEL)	1.3 mg/m <sup>3</sup>
WEL STEL (OEL STEL) [ppm]	0.2 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>Iceland - Occupational Exposure Limits</b>	
Local name	Bróm
OEL TWA	0.7 mg/m <sup>3</sup>
OEL TWA [ppm]	0.1 ppm



# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

bromine (7726-95-6)	
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
<b>Norway - Occupational Exposure Limits</b>	
Local name	Brom
Grenseverdi (OEL TWA) [1]	0.7 mg/m <sup>3</sup>
Grenseverdi (OEL TWA) [2]	0.1 ppm
Remark	E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2021-06-28-2248
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Brome / Brom
MAK (OEL TWA) [1]	0.7 mg/m <sup>3</sup>
MAK (OEL TWA) [2]	0.1 ppm
KZGW (OEL STEL)	0.7 mg/m <sup>3</sup>
KZGW (OEL STEL) [ppm]	0.1 ppm
Critical toxicity	VR, Poumons / AW, Lunge
Remark	OSHA
Regulatory reference	www.suva.ch, 01.01.2021
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Bromine
ACGIH OEL TWA [ppm]	0.1 ppm
ACGIH OEL STEL [ppm]	0.2 ppm
Remark (ACGIH)	TLV® Basis: URT & LRT irr; lung dam
Regulatory reference	ACGIH 2022

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

**Personal protective equipment:**

Avoid all unnecessary exposure. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing

##### Hand protection:

Protective gloves

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

##### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Pungent, irritating.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1.02
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

bromine (7726-95-6)	
LD50 oral rat	2600 mg/kg
LC50 Inhalation - Rat [ppm]	174 ppm (30min)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

bromine (7726-95-6)	
LOAEL (oral, rat, 90 days)	225 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
Hazardous to the aquatic environment, short-term (acute) : Not classified

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

Hazardous to the aquatic environment, long-term (chronic) : Not classified

bromine (7726-95-6)	
LC50 - Fish [1]	0.31 mg/l (LC50; 24 h; Oncorhynchus mykiss (Rainbow trout))
EC50 - Crustacea [1]	1 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	< 0.6 mg/l

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

bromine (7726-95-6)	
BCF - Other aquatic organisms [1]	< 0.083
Partition coefficient n-octanol/water (Log Pow)	1.03 (estimated value)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

#### 12.4. Mobility in soil

bromine (7726-95-6)	
Surface tension	0.041 N/m (20 °C)

#### 12.5. Results of PBT and vPvB assessment

Component	
bromine (7726-95-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

#### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals
HP Code	: H6 - 'Toxic': substances and preparations (including very toxic substances and preparations) which, if they are inhaled or ingested or if they penetrate the skin, may involve serious, acute or chronic health risks and even death.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

ADR	IMDG	IATA	ADN	RID
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	Bromine water. European Pharmacopoeia Ref: 1012402 ; bromine	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	bromine	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Storage class (LGK, TRGS 510) : LGK 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

Joint storage table

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 2A, LGK 4.1A, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.2, LGK 7

Joint storage with restrictions permitted for : LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1B

Joint storage permitted for : LGK 2B, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

##### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

##### Switzerland

Storage class (LK) : LK 10/12 - Liquids

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

#### Abbreviations and acronyms:

EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

#### Full text of H- and EUH-statements:

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
STOT RE Not classified	Specific target organ toxicity (repeated exposure) Not classified

# Bromine water.

## European Pharmacopoeia Ref: 1012402

### Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

#### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit. 2	H315	Calculation method
Eye Dam. 1	H318	Calculation method

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.