Material Safety Data Sheet
Bromine Water

ACC# 03383

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Bromine Water  
**Catalog Numbers:** SB84I-500  
**Synonyms:** None  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREC assistance, call:** 800-424-9300  
**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>97.2</td>
<td>231-791-2</td>
</tr>
<tr>
<td>7726-95-6</td>
<td>Bromine</td>
<td>2.8</td>
<td>231-778-1</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

**Appearance:** clear orange liquid.

**Danger!** Corrosive. Harmful if inhaled. Causes respiratory tract irritation and possible burns. Causes eye and skin irritation and possible burns. May cause digestive tract irritation with nausea, vomiting, and diarrhea.  
**Target Organs:** Eyes, skin, mucous membranes.

**Potential Health Effects**

**Eye:** May cause irreversible eye injury. Causes severe eye irritation and possible burns.  
**Skin:** Causes skin irritation and possible burns.  
**Ingestion:** Causes severe digestive tract burns with abdominal pain, vomiting, and possible death.  
**Inhalation:** Irritation may lead to chemical pneumonitis and pulmonary edema. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Causes respiratory tract irritation...
Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

**General Information:** Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways.

Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash
before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. 

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

---

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations low.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Bromine</td>
<td>0.1 ppm TWA; 0.2 ppm STEL</td>
<td>0.1 ppm TWA; 0.7 mg/m³ TWA 3 ppm IDLH</td>
<td>0.1 ppm TWA; 0.7 mg/m³ TWA</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Water: No OSHA Vacated PELs are listed for this chemical. Bromine: 0.1 ppm TWA; 0.7 mg/m³ TWA

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

---

### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear orange

**Odor:** none reported

**pH:** 2.6

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 100 deg C

**Freezing/Melting Point:** Not available.

**Decomposition Temperature:** Not available.

**Solubility:** Soluble in water.

**Specific Gravity/Density:** 1.009

**Molecular Formula:** Mixture

**Molecular Weight:** Not available.
Section 10 - Stability and Reactivity

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatible materials.

**Incompatibilities with Other Materials:** Bromine is incompatible with acetaldehyde, acetylene, acrylonitrile, aluminum, ammonia, antimony, boron, calcium nitride, cesium acetylene carbide, cesium monoxide, chlorotrifluoroethylene and oxygen, copper hydride, copper hydride, cuprous acetylide, dimethyl formamide, ethyl phosphine, fluorine, germanium, hydrogen, iron carbide, isobutyrophenone, lithium, lithium carbide, lithium silicide, magnesium phosphide, methyl alcohol, nickel carbonyl, nitrogen triiodide, olefins, oxygen difluoride, ozone, phosphate, phosphorus, phosphorus oxide, phosphorus trioxide, potassium rubidium acetylene carbide, rubidium carbide, silver azide, sodium, sodium acetylene carbide, sodium carbide, strontium phosphate, tin, uranium dicarbide, and zirconium dicarbide.

**Hazardous Decomposition Products:** Hydrogen bromide.

**Hazardous Polymerization:** Has not been reported.

Section 11 - Toxicological Information

**RTECS#:**
- CAS# 7732-18-5: ZC0110000
- CAS# 7726-95-6: EF9100000

**LD50/LC50:**
- CAS# 7732-18-5:
  - Oral, rat: LD50 = >90 mL/kg;
- CAS# 7726-95-6:
  - Inhalation, mouse: LC50 = 750 ppm/9M;
  - Inhalation, mouse: LC50 = 2900 mg/m3;
  - Inhalation, rat: LC50 = 2700 mg/m3;
  - Inhalation, rat: LC50 = 2700 mg/m3;
  - Oral, mouse: LD50 = 3100 mg/kg;
  - Oral, rabbit: LD50 = 2500 mg/kg;
  - Oral, rat: LD50 = 1700 mg/kg;

**Carcinogenicity:**
- CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
- CAS# 7726-95-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found
**Neurotoxicity:** No information found

**Other Studies:**

### Section 12 - Ecological Information

No information available.

### Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14 - Transport Information

<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>BROMINE</td>
<td>BROMINE</td>
</tr>
<tr>
<td><strong>Hazard Class:</strong></td>
<td>8</td>
<td>8(6.1)</td>
</tr>
<tr>
<td><strong>UN Number:</strong></td>
<td>UN1744</td>
<td>UN1744</td>
</tr>
<tr>
<td><strong>Packing Group:</strong></td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Section 15 - Regulatory Information

**US FEDERAL**

**TSCA**
- CAS# 7732-18-5 is listed on the TSCA inventory.
- CAS# 7726-95-6 is listed on the TSCA inventory.

**Health & Safety Reporting List**
- None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**
- None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**
- None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
- None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**
- None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**
- CAS# 7726-95-6: 500 lb TPQ

**SARA Codes**

---

http://fscimage.fishersci.com/msds/03383.htm
Section 313
This material contains Bromine (CAS# 7726-95-6, 2.8%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
CAS# 7726-95-6 is considered highly hazardous by OSHA.

STATE
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7726-95-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols:
T C

Risk Phrases:
R 23 Toxic by inhalation.
R 34 Causes burns.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36 Wear suitable protective clothing.
S 38 In case of insufficient ventilation, wear suitable respiratory equipment.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)
CAS# 7732-18-5: No information available.
CAS# 7726-95-6: 3

Canada - DSL/NDSL
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7726-95-6 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of E, D1A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**
CAS# 7726-95-6 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 12/12/1997  
**Revision #6 Date:** 2/13/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.