

Material Safety Data Sheet

Bromine Water

ACC# 03383

Section 1 - Chemical Product and Company Identification

MSDS Name: Bromine Water**Catalog Numbers:** S79926-2, 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

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	97.2	231-791-2
7726-95-6	Bromine	2.8	231-778-1

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 with possible burns.

Chronic: No information found.

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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Bromine	0.1 ppm TWA; 0.2 ppm STEL	0.1 ppm TWA; 0.7 mg/m ³ TWA 3 ppm IDLH	0.1 ppm TWA; 0.7 mg/m ³ TWA

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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

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: 212 deg F

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, phosphine, phosphorus, phosphorus oxide, phosphorus trioxide, potassium rubidium acetylene carbide, rubidium carbide, silver azide, sodium, sodium acetylene carbide, sodium carbide, strontium phosphide, 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.

Neurotoxicity: No information found.

Mutagenicity: No information found.

Other Studies: The toxicological properties have not been fully investigated.

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

	US DOT	Canada TDG
Shipping Name:	BROMINE	BROMINE
Hazard Class:	8	8(6.1)
UN Number:	UN1744	UN1744
Packing Group:	I	I

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

CAS # 7726-95-6: acute, flammable.

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.

Canadian Ingredient Disclosure List

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

Section 16 - Additional Information
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MSDS Creation Date: 12/12/1997

Revision #3 Date: 3/18/2003

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.