

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Product name : Bromine Water, Saturated
Product code : LC12000

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only.
Recommended use : Laboratory chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

LabChem, Inc.
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (inhalation) Category 2	H330 Fatal if inhaled
Skin corrosion/irritation Category 1A	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage
Hazardous to the aquatic environment - Acute Hazard Category 1	H400 Very toxic to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H314 - Causes severe skin burns and eye damage
H330 - Fatal if inhaled
H400 - Very toxic to aquatic life

Precautionary statements (GHS US) :

P260 - Do not breathe vapors.
P264 - Wash exposed skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P284 - Wear respiratory protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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 or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing

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2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Water	(CAS-No.) 7732-18-5	98.7	Not classified
Bromine	(CAS-No.) 7726-95-6	1.3	Acute Tox. 2 (Inhalation), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
- First-aid measures after eye contact : 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/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

- Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
- Symptoms/effects : Causes severe skin burns and eye damage.
- Symptoms/effects after inhalation : Coughing. Dizziness. Headache. Pulmonary edema. Pneumonia. Nosebleeding.
- Symptoms/effects after skin contact : Burns.
- Symptoms/effects after eye contact : Causes serious eye damage.
- Symptoms/effects after ingestion : Nausea. Vomiting. Diarrhoea.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Combined gas/dust mask with filter type B/P3. Gloves. Protective clothing. Protective goggles.
- Emergency procedures : Evacuate unnecessary personnel.

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6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe vapors. Avoid contact during pregnancy/while nursing.
Hygiene measures : Wash exposed skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Light sensitive. Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.
Incompatible products : combustible materials. metals. Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Bromine (7726-95-6)		
ACGIH	ACGIH TWA (mg/m ³)	0.66 mg/m ³
ACGIH	ACGIH TWA (ppm)	0.1 ppm
ACGIH	ACGIH STEL (mg/m ³)	1.3 mg/m ³
ACGIH	ACGIH STEL (ppm)	0.2 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.7 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	2 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	0.3 ppm
Water (7732-18-5)		
Not applicable		

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure adequate ventilation. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Material should be handled in a laboratory hood whenever possible.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Protective clothing. Gas mask with filter type B. Chemical resistant apron.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or face shield

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Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear gas mask with filter type B if conc. in air > exposure limit. Wear appropriate mask

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: amber
Odor	: strong
Odor threshold	: No data available
pH	: 2 - 3
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1 g/ml
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

May sublime.

10.3. Possibility of hazardous reactions

Reacts with combustible materials.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

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10.5. Incompatible materials

Combustible materials. metals. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hydrogen bromide, bromine. Thermal decomposition generates : Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Fatal if inhaled.

ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h

Bromine (7726-95-6)

LD50 oral rat	1700 mg/kg
LC50 inhalation rat (mg/l)	2.7 mg/l/4h
ATE US (oral)	1700 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	2.7 mg/l/4h
ATE US (dust, mist)	2.7 mg/l/4h

Water (7732-18-5)

LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: 2 - 3

Serious eye damage/irritation : Causes serious eye damage.
pH: 2 - 3

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Likely routes of exposure : Inhalation. Skin and eye contact.

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : Coughing. Dizziness. Headache. Pulmonary edema. Pneumonia. Nosebleeding.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Nausea. Vomiting. Diarrhoea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

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12.2. Persistence and degradability

Bromine Water, Saturated	
Persistence and degradability	Not established.
Bromine (7726-95-6)	
Persistence and degradability	Not established.
Water (7732-18-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Bromine Water, Saturated	
Bioaccumulative potential	Not established.
Bromine (7726-95-6)	
Bioaccumulative potential	Not established.
Water (7732-18-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1744 Bromine, 8, I
UN-No.(DOT) : UN1744
Proper Shipping Name (DOT) : Bromine
Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : I - Great Danger
Hazard labels (DOT) : 8 - Corrosive
6.1 - Poison inhalation hazard



Dangerous for the environment : Yes

Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 226

DOT Packaging Bulk (49 CFR 173.xxx) : 249

DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group

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- DOT Special Provisions (49 CFR 172.102) : 1 - This material is poisonous by inhalation (see 171.8 of this subchapter) in Hazard Zone A (see 173.116(a) or 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
 B9 - Bottom outlets are not authorized.
 B64 - Each single unit tank car tank built after December 31, 1990 must be equipped with a tank head puncture resistance system that conforms to 179.16 of this subchapter.
 B85 - Cargo tanks must be marked with the name of the lading in accordance with the requirements of 172.302(b).
 N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
 N43 - Metal drums are permitted as single packaging only if constructed of nickel or monel.
 T22 - 10 10 mm Prohibited 178.275(g)(3).
 TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
 TP10 - The portable tank must be fitted with a lead lining at least 5 mm (0.2 inches) thick. The lead lining must be tested annually to ensure that it is intact and functional. Another suitable lining material may be used if approved by the Associate Administrator.
 TP12 - This material is considered highly corrosive to steel.
 TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea.
- DOT Packaging Exceptions (49 CFR 173.xxx) : None
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : Forbidden
- DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
- DOT Vessel Stowage Other : 12 - Keep as cool as reasonably practicable,40 - Stow "clear of living quarters",66 - Stow "separated from" flammable solids,74 - Stow "separated from" oxidizers,89 - Segregation same as for oxidizers,90 - Stow "separated from" radioactive materials
- Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Marine pollutant : Yes



Air transport

SECTION 15: Regulatory information

15.1. US Federal regulations

Bromine Water, Saturated

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Bromine	CAS-No. 7726-95-6	1.3%
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Bromine (7726-95-6)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	500 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

15.2. International regulations

CANADA

Bromine (7726-95-6)	
Listed on the Canadian DSL (Domestic Substances List)	

Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date : 02/27/2019

Other information : None.

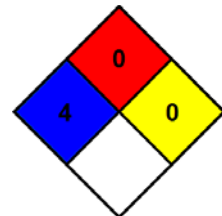
Full text of H-phrases: see section 16:

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H400	Very toxic to aquatic life

NFPA health hazard : 4 - Materials that, under emergency conditions, can be lethal.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



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Hazard Rating

Health : 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

: H

H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

SDS US (GHS HazCom 2012)

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