



## Material Safety Data Sheet

Creation Date 09-Feb-2010

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Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Barium chloride solution, 10%-20%

**Cat No.** SB10-1; SB811-1; SB811-4; SB811-20; SB811-500; SB822-1; SB822-4; SB822-20

**Synonyms** Barium dichloride solution, 10%-20% (Neutralized)

**Recommended Use** Laboratory chemicals

**Company** Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**  
CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 703-527-3887

### 2. HAZARDS IDENTIFICATION

#### WARNING!

#### Emergency Overview

Harmful if swallowed. May cause central nervous system effects. May cause eye, skin, and respiratory tract irritation .

**Appearance** Colorless

**Physical State** Liquid

**odor** odorless

**Target Organs**

Central nervous system (CNS), Heart, Blood, Liver

#### Potential Health Effects

#### Acute Effects

#### Principle Routes of Exposure

**Eyes**

May cause irritation.

**Skin**

May cause irritation. May be harmful in contact with skin.

**Inhalation**

May cause irritation of respiratory tract. May be harmful if inhaled.

**Ingestion**

Harmful if swallowed. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### **Chronic Effects**

Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects.

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** Central nervous system disorders. Cardiovascular. Preexisting eye disorders. Skin disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Haz/Non-haz**

Component	CAS-No	Weight %
Water	7732-18-5	80 - 90
Barium chloride	10361-37-2	10 - 20

### 4. FIRST AID MEASURES

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Get medical attention immediately if symptoms occur.

**Ingestion** Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Notes to Physician** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point Method** Not applicable  
No information available.

**Autoignition Temperature** No information available.

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Suitable Extinguishing Media** Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

**Unsuitable Extinguishing Media** No information available.

**Hazardous Combustion Products** No information available.

**Sensitivity to mechanical impact** No information available.

**Sensitivity to static discharge** No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**NFPA**                      **Health 2**                      **Flammability 0**                      **Instability 0**                      **Physical hazards N/A**

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**                      Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**Environmental Precautions**                      Should not be released into the environment.

**Methods for Containment and Clean Up**                      Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

**7. HANDLING AND STORAGE**

**Handling**                      Wear personal protective equipment. Ensure adequate ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

**Storage**                      Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Measures**                      Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Barium chloride			IDLH: 50 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Barium chloride			TWA: 0.5 mg/m <sup>3</sup>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

**Personal Protective Equipment**

**Eye/face Protection**

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 and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection**

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>odor</b>	odorless
<b>Odor Threshold</b>	No information available.
<b>pH</b>	No information available.
<b>Vapor Pressure</b>	No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Vapor Density</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Boiling Point/Range</b>	No information available.
<b>Melting Point/Range</b>	No information available.
<b>Decomposition temperature °C</b>	No information available.
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	No information available.
<b>Specific Gravity</b>	No information available.
<b>Solubility</b>	Miscible with water
<b>log Pow</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat.
<b>Incompatible Materials</b>	None known
<b>Hazardous Decomposition Products</b>	Hydrogen chloride gas, Chlorine, Thermal decomposition can lead to release of irritating gases and vapors
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur
<b>Hazardous Reactions .</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90 mL/kg ( Rat )	Not listed	Not listed
Barium chloride	118 mg/kg ( Rat )	Not listed	Not listed

**Irritation** No information available.

**Toxicologically Synergistic Products** No information available.

### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.

<b>Mutagenic Effects</b>	Mutatagenic effects have occurred in microorganisms.
<b>Reproductive Effects</b>	Experiments have shown reproductive toxicity effects on laboratory animals.
<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.
<b>Endocrine Disruptor Information</b>	No information available

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Barium chloride	Not listed	Not listed	Not listed	EC50 48 h 21.9 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation/ Accumulation</b>	No information available
<b>Mobility</b>	No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods**                      Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

**14. TRANSPORT INFORMATION**

<b><u>DOT</u></b>	Not regulated
<b><u>TDG</u></b>	Not regulated
<b><u>IATA</u></b>	Not regulated
<b><u>IMDG/IMO</u></b>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Water	X	X	-	231-791-2	-		X	-	X	X	KE-35400 X
Barium chloride	X	X	-	233-788-1	-		X	X	X	X	KE-02037 X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA

Not applicable

CERCLA

Not Applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

D1B Toxic materials



**16. OTHER INFORMATION**

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**Revision Summary** "\*\*\*\*", and red text indicates revision

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**