



# Fisher Scientific

Part of Thermo Fisher Scientific

## SAFETY DATA SHEET

Creation Date 06-Nov-2010

Revision Date 08-Sep-2014

Revision Number 1

### 1. Identification

**Product Name** Barium hydroxide octahydrate

**Cat No. :** B46, B46250, B46500

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**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: 001-703-527-3887

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/irritation	Category 1 C
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Harmful if swallowed  
Causes severe skin burns and eye damage  
Harmful if inhaled  
May cause respiratory irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wear protective gloves/protective clothing/eye protection/face protection

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

Rinse mouth  
 Do NOT induce vomiting

**Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition / information on ingredients

Component	CAS-No	Weight %
Barium hydroxide octahydrate	12230-71-6	>95
Barium hydroxide (Ba(OH) <sub>2</sub> )	17194-00-2	-

### 4. First-aid measures

<b>Eye Contact</b>	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Immediate medical attention is required.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Most important symptoms/effects</b>	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available  
**Method -** No information available

**Autoignition Temperature** Not applicable

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Barium oxides

**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**  
3

**Flammability**  
1

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Avoid dust formation.

**Environmental Precautions** See Section 12 for additional ecological information.

**Methods for Containment and Clean Up** Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep container tightly closed in a dry and well-ventilated place.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Avoid dust formation.

**Storage** Keep container tightly closed. Keep in a dry, cool and well-ventilated place. Keep under nitrogen. Corrosives area.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Barium hydroxide octahydrate	TWA: 0.5 mg/m <sup>3</sup>	(Vacated) TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>
Barium hydroxide (Ba(OH) <sub>2</sub> )	TWA: 0.5 mg/m <sup>3</sup>	(Vacated) TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Barium hydroxide octahydrate	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>
Barium hydroxide (Ba(OH) <sub>2</sub> )	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	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.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	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.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Solid
<b>Appearance</b>	White
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	12.5
<b>Melting Point/Range</b>	78 °C / 172.4 °F
<b>Boiling Point/Range</b>	No information available
<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	Not applicable
<b>Relative Density</b>	2.180
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	Not applicable
<b>Decomposition temperature</b>	No information available
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	H2 Ba O2 . 8 H2 O
<b>Molecular Weight</b>	315.48

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions. Air sensitive.
<b>Conditions to Avoid</b>	Exposure to air. Incompatible products. Exposure to moist air or water.
<b>Incompatible Materials</b>	Acids, Metals, Aluminium
<b>Hazardous Decomposition Products</b>	Barium oxides
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

##### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Barium hydroxide octahydrate	550 mg/kg (Rat)	Not listed	Not listed

**Toxicologically Synergistic** No information available

#### Products

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Causes burns by all exposure routes

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Barium hydroxide octahydrate	12230-71-6	Not listed	Not listed	Not listed	Not listed	Not listed
Barium hydroxide (Ba(OH) <sub>2</sub> )	17194-00-2	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 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

**DOT**

UN-No UN3262  
 Proper Shipping Name CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.  
 Proper technical name (BARIUM HYDROXIDE OCTAHYDRATE)  
 Hazard Class 8  
 Packing Group III

**TDG**

UN-No UN3262  
 Proper Shipping Name CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.  
 Hazard Class 8  
 Packing Group III

**IATA**

UN-No 3262  
 Proper Shipping Name CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.  
 Hazard Class 8  
 Packing Group III

**IMDG/IMO**

UN-No 3262  
 Proper Shipping Name CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.  
 Hazard Class 8  
 Packing Group III

## 15. Regulatory information

**International Inventories**

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Barium hydroxide octahydrate	-	-	-	-	-		X	-	X	X	-
Barium hydroxide (Ba(OH) <sub>2</sub> )	X	X	-	241-234-5	-		X	X	X	X	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

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Barium hydroxide octahydrate	12230-71-6	>95	1.0
Barium hydroxide (Ba(OH) <sub>2</sub> )	17194-00-2	-	1.0

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard Yes  
 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 Occupational Safety and Health Administration**  
Not applicable

**CERCLA**  
Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Barium hydroxide octahydrate	-	X	X	-	X
Barium hydroxide (Ba(OH) <sub>2</sub> )	-	X	X	-	X

**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  
E Corrosive material



## 16. Other information

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
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**Creation Date** 06-Nov-2010  
**Revision Date** 08-Sep-2014  
**Print Date** 08-Sep-2014  
**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**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 SDS**