



Fisher Scientific

Part of Thermo Fisher Scientific

Material Safety Data Sheet

Creation Date 06-Nov-2010

Revision Date 31-Jan-2012

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|------------------------|--|
| Product Name | Barium hydroxide octahydrate |
| Cat No. | B46250; B46500 |
| Synonyms | None. |
| Recommended Use | Laboratory chemicals |
| Company | Emergency Telephone Number |
| Fisher Scientific | CHEMTREC®, Inside the USA: 800-424-9300 |
| One Reagent Lane | CHEMTREC®, Outside the USA: 001-703-527-3887 |
| Fair Lawn, NJ 07410 | |
| Tel: (201) 796-7100 | |

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Causes burns by all exposure routes. Harmful by inhalation and if swallowed.

Appearance White

Physical State Solid

odor odorless

Target Organs Eyes, Skin, Respiratory system, Gastrointestinal tract (GI)

Potential Health Effects

Acute Effects

Principle Routes of Exposure

| | |
|-------------------|--|
| Eyes | Causes burns. |
| Skin | Causes burns. May be harmful in contact with skin. |
| Inhalation | Causes burns. Harmful by inhalation. |
| Ingestion | Causes burns. Harmful if swallowed. |

Chronic Effects None known

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Respiratory disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

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

4. FIRST AID MEASURES

| | |
|---------------------------|---|
| Eye Contact | Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. |
| 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. Immediate medical attention is required. |
| Ingestion | Do not induce vomiting. Call a physician or Poison Control Center immediately. |
| Notes to Physician | Treat symptomatically. |

5. FIRE-FIGHTING MEASURES

| | |
|--|--|
| Flash Point | No information available. |
| Method | No information available. |
| Autoignition Temperature | No information available. |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Suitable Extinguishing Media | Water spray. Carbon dioxide (CO ₂). Dry chemical. chemical foam. |
| 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 | |
| Keep product and empty container away from heat and sources of ignition | |
| 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

6. ACCIDENTAL RELEASE MEASURES

| | |
|---|--|
| Personal Precautions | Use personal protective equipment. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Avoid dust formation. |
| Environmental Precautions | Should not be released into the environment |
| 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 | Use only under a chemical fume hood. Wear personal protective equipment. 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

| | |
|-----------------------------|---|
| Engineering Measures | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. |
| 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 ³ | (Vacated) TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ |
| Barium hydroxide (Ba(OH) ₂) | TWA: 0.5 mg/m ³ | (Vacated) TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ |

| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
|---|----------------------------|----------------------------|----------------------------|
| Barium hydroxide octahydrate | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ |
| Barium hydroxide (Ba(OH) ₂) | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ |

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

| | |
|----------------------------|---------------------------|
| Physical State | Solid |
| Appearance | White |
| odor | odorless |
| Odor Threshold | No information available. |
| pH | 12.5 |
| Vapor Pressure | No information available. |
| Vapor Density | No information available. |
| Viscosity | No information available. |
| Boiling Point/Range | No information available. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------------|---------------------------|
| Melting Point/Range | 78°C / 172.4°F |
| Decomposition temperature | No information available. |
| Flash Point | No information available. |
| Evaporation Rate | No information available. |
| Specific Gravity | 2.180 |
| Solubility | No information available. |
| log Pow | No data available |
| Molecular Weight | 315.48 |
| Molecular Formula | H2 Ba O2 . 8 H2 O |

10. STABILITY AND REACTIVITY

| | |
|---|--|
| Stability | Stable under normal conditions. Air sensitive. |
| Conditions to Avoid | Exposure to air. Incompatible products. |
| Incompatible Materials | Acids, Metals |
| Hazardous Decomposition Products | None under normal use conditions |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions . | None under normal processing. |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|-------------------|-------------|-----------------|
| Barium hydroxide (Ba(OH) ₂) | 308 mg/kg (Rat) | Not listed | Not listed |

Irritation Causes burns by all exposure routes

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects No information available.

| | |
|--|---|
| Teratogenicity | No information available. |
| Other Adverse Effects | The toxicological properties have not been fully investigated.. |
| Endocrine Disruptor Information | No information available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

| | |
|--------------------------------------|--------------------------|
| Persistence and Degradability | No information available |
| Bioaccumulation/ Accumulation | No information available |
| Mobility | 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

DOT

| | |
|-----------------------------|---|
| UN-No | UN3262 |
| Proper Shipping Name | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. |
| 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

14. TRANSPORT INFORMATION

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 | CHINA | KECL |
|------------------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Barium hydroxide octahydrate | - | - | - | - | - | | X | X | X | X | - |
| Barium hydroxide (Ba(OH)2) | 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

Not applicable

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

Not applicable

CERCLA

Not Applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Not applicable

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---------------|------------|--------------|----------|--------------|
| Barium hydroxide octahydrate | - | - | X | - | X |
| Barium hydroxide (Ba(OH) ₂) | - | - | 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
Email: EMSDS.RA@thermofisher.com

Creation Date 06-Nov-2010

Print Date 31-Jan-2012

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