

Material Safety Data Sheet

Barium hydroxide octahydrate

ACC# 02421

Section 1 - Chemical Product and Company Identification

MSDS Name: Barium hydroxide octahydrate**Catalog Numbers:** AC203140000, AC203140010, AC203140050, AC203140250, AC203142500, AC423460000, AC423460050, AC423465000, B46-250, B46-500**Synonyms:** Barium dihydroxide octahydrate.**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
12230-71-6	Barium hydroxide octahydrate	98+	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.

Danger! Causes burns by all exposure routes. Harmful if inhaled or swallowed.**Target Organs:** Respiratory system, gastrointestinal system, eyes, skin.**Potential Health Effects****Eye:** Causes eye burns.**Skin:** Causes skin burns. May be harmful if absorbed through the skin.**Ingestion:** Harmful if swallowed. Causes gastrointestinal tract burns.**Inhalation:** Harmful if inhaled. Causes chemical burns to the respiratory tract.**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.

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

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

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical 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: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container. Corrosives area. Store under nitrogen.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
		0.5 mg/m ³ TWA (as Ba,	

Barium hydroxide octahydrate	0.5 mg/m ³ TWA (as Ba) (listed under Barium, soluble compounds).	except barium sulfate) (listed under Barium, soluble compounds).	0.5 mg/m ³ TWA (as Ba) (listed under Barium, soluble compounds).
Barium hydroxide anhydrous	0.5 mg/m ³ TWA (as Ba) (listed under Barium, soluble compounds).	0.5 mg/m ³ TWA (as Ba, except barium sulfate) (listed under Barium, soluble compounds).	0.5 mg/m ³ TWA (as Ba) (listed under Barium, soluble compounds).

OSHA Vacated PELs: Barium hydroxide octahydrate: No OSHA Vacated PELs are listed for this chemical.
Barium hydroxide anhydrous: No OSHA Vacated PELs are listed for this chemical.

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 protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: odorless

pH: 12.5 (50 g/L aq. sol.)

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 78 deg C

Decomposition Temperature: > 95 deg C

Solubility: 56 g/L (15°C)

Specific Gravity/Density: 2.18

Molecular Formula: Ba(OH)₂·8H₂O

Molecular Weight: 315.48

Section 10 - Stability and Reactivity

Chemical Stability: Absorbs carbon dioxide from the air.

Conditions to Avoid: Incompatible materials, dust generation, exposure to air.

Incompatibilities with Other Materials: Acids, aluminum.

Hazardous Decomposition Products: Barium oxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 12230-71-6 unlisted.

CAS# 17194-00-2: CQ9200000

LD50/LC50:

Not available.

CAS# 17194-00-2:

Oral, rat: LD50 = 308 mg/kg;

Carcinogenicity:

CAS# 12230-71-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 17194-00-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Mutagenicity:** No information available.**Neurotoxicity:** No information available.**Other Studies:**

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.**Environmental:** No information available.**Physical:** No information available.**Other:** Do not empty into drains.

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:	CORROSIVE SOLIDS, TOXIC, N.O.S.	CORROSIVE SOLIDS, TOXIC, N.O.S.
Hazard Class:	8	8(6.1)
UN Number:	UN2923	UN2923
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 12230-71-6 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 17194-00-2 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

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 12230-71-6: immediate, delayed.

CAS # 17194-00-2: immediate, delayed.

Section 313

This material contains Barium hydroxide octahydrate (listed as Barium compounds, n.o.s.), 98+%, (CAS# 12230-71-6) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Barium hydroxide anhydrous (listed as Barium compounds, n.o.s.), -%, (CAS# 17194-00-2) 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 depleters.

This material does not contain any Class 2 Ozone depleters.

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:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 12230-71-6 can be found on the following state right to know lists: California, (listed as Barium, soluble compounds), New Jersey, (listed as Barium compounds, n.o.s.), Pennsylvania, (listed as Barium compounds, n.o.s.), Minnesota, (listed as Barium, soluble compounds).

CAS# 17194-00-2 can be found on the following state right to know lists: California, (listed as Barium, soluble compounds), New Jersey, (listed as Barium compounds, n.o.s.), Pennsylvania, (listed as Barium compounds, n.o.s.), Minnesota, (listed as Barium, soluble compounds).

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:

C

Risk Phrases:

- R 20/22 Harmful by inhalation and if swallowed.
- 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 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

- CAS# 12230-71-6: 1
- CAS# 17194-00-2: 1

Canada - DSL/NDSL

CAS# 17194-00-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, E.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 12230-71-6 (listed as Barium, soluble compounds) is listed on the Canadian Ingredient Disclosure List.

CAS# 17194-00-2 (listed as Barium, soluble compounds) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/14/1998

Revision #9 Date: 9/15/2008

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.