

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, AC203140250, AC203142500, AC423460000, AC423460050, AC423465000, S71288, S71289, S75049, 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: transparent solid.

Danger! Causes burns by all exposure routes. Harmful if inhaled or swallowed. May cause blood abnormalities. May cause kidney damage. May cause central nervous system effects.

Target Organs: Kidneys, central nervous system, respiratory system, gastrointestinal system, muscles, cardiovascular system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause kidney failure. May cause convulsions, increased blood pressure, muscle spasms, and possible paralysis.

Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give

oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Antidote: The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel.

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. Decomposes at high temperatures, resulting in toxic and corrosive products.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

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. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Use only with adequate ventilation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Corrosives area. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Barium hydroxide octahydrate	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).
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 chemical splash goggles.

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: transparent
Odor: odorless
pH: Very alkaline.
Vapor Pressure: Negligible.
Vapor Density: Not available.
Evaporation Rate: Negligible.
Viscosity: Not available.
Boiling Point: 780 deg C
Freezing/Melting Point: 78 deg C
Decomposition Temperature: Not available.
Solubility: Freely Soluble.
Specific Gravity/Density: 2.18
Molecular Formula: Ba(OH)2.8H2O
Molecular Weight: 315.45

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Absorbs carbon dioxide from air to form nonvolatile carbonate. Takes up CO2 from air and becomes incompletely soluble.
Conditions to Avoid: Dust generation, excess heat.
Incompatibilities with Other Materials: Metals, strong oxidizing agents, acids.
Hazardous Decomposition Products: Barium oxide.
Hazardous Polymerization: Has not been reported.

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

No information available.

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 SOLID TOXIC NOS (BARIUM HYDROXIDE OCTAHYDRATE)
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 TPO.

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 depletors.

This material does not contain any Class 2 Ozone depletors.

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 #5 Date: 9/14/2006

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.