Material Safety Data Sheet

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No. 40
BARIUM HYDROXIDE OCTAHYDRATE
(Revision A)
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SECTION 1. MATERIAL IDENTIFICATION

MATERIAL NAME: BARIUM HYDROXIDE, OCTAHYDRATE

OTHER DESIGNATIONS: Barium Octahydrate, Barium Hydrate, Caustic Baryta, $Ba(OH)_2.8H_2O$; CAS #12230-71-6.

MANUFACTURER/SUPPLIER: Available from several suppliers, including:
Aldrich Chemical Co., Inc., PO Box 355, Milwaukee, WI 53201; Telephone: 800-558-9160

Not Found

HMIS
H: 3
F: 0
R: 0
PPE: *
* See Sect. 8

R 0
I 3
S 2
K 0

SECTION 2. INGREDIENTS AND HAZARDS

	%	HAZARD DATA
BARIUM HYDROXIDE, OCTAHYDRATE	>98	8-hr TWA: 0.5 mg/m^3*
BARIUM CARBONATE	<2	(as Ba)

* Current (1985-86) ACGIH TLV and OSHA PEL for soluble barium compounds, as Ba.

NOTE: Purity levels vary with grade. Consult supplier's specification for impurity levels.

SECTION 3. PHYSICAL DATA

Melting Point ... 172.4°F (78°C)
Boiling Point ... 1436°F (780°C) (loses $8H_2O$)
Specific Gravity ... 2.18
Water Solubility @ 15°C ... 5.6g/100cc
@ 78°C ... 94.7g/100cc
Molecular Weight ... 315.48

Appearance and odor: Colorless crystal or white powder. No odor.

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
NA	NA	NA		

EXTINGUISHING AGENT: This material is nonflammable. Use extinguishing agents that are suitable to put out the surrounding fire.

Fire fighters should wear self-contained breathing apparatus and fully protective gear for protection against dust, fumes, and mist generated during fire-fighting activities.

SECTION 5. REACTIVITY DATA

Barium Hydroxide is stable at room temperature. It does not polymerize. It melts at 172.4°F (78°C) and loses it's waters of hydration at approximately 1472°F (800°C), forming barium oxide. It readily absorbs CO_2 from the air to form barium carbonate. Barium hydroxide is strongly alkaline and may react vigorously with acids.

SECTION 6. HEALTH HAZARD INFORMATION | TLV

Inhalation of barium hydroxide dust and mist can cause irritation of the nose, throat, and respiratory tract. Contact with dust and solutions causes skin irritation and severe burns of the eyes.
Soluble barium compounds are highly toxic on ingestion. Acute effects of ingestion include abdominal pain, vomiting, diarrhea, convulsions, muscular spasms, and paralysis. Ingestion may be fatal. Barium compounds have not been identified as known or suspected carcinogens by the IARC, NTP, or OSHA.
FIRST AID: EYE CONTACT: Immediately flush eyes (including under the eyelids) with gentle flow of running water for at least 15 minutes. Get medical attention promptly.* SKIN CONTACT: Flush contaminated area with water while removing any contaminated clothing. Get medical attention if irritation persists. INHALATION: Remove victim from exposure. Seek medical attention.* INGESTION: Immediately contact physician or poison control center for instructions. If this is not possible, and victim is conscious, give him/her a large quantity of water to drink, then induce vomiting. If available, have victim drink 2 tablespoons of sodium or magnesium sulfate (Epsom salts) dissolved in a glass of water. Get prompt medical assistance.*

* GET MEDICAL ASSISTANCE = In plant, paramedic, community.

SECTION 7. SPILL, LEAK, AND DISPOSAL PROCEDURES

Ventilate spill area. Workers involved in cleanup should wear personal protective equipment (see sect. 8) to prevent skin and eye contact and dust inhalation. Carefully scoop up powder and place into a suitable covered container for reclaim or disposal. Avoid dust inhalation during cleanup. Absorb small solution spills on an inert absorbent such as vermiculite or dry sand or earth.

DISPOSAL: Reclaim material or return to supplier when possible. Unsalvageable material requires disposal as a hazardous chemical waste. Contact supplier or a licensed chemical waste disposal contractor for treatment and disposal instruction. Do not allow release of solutions of this material without prior treatment to remove barium to acceptable levels. Follow Federal, state, and local regulations.

EPA Hazardous Waste No.: D005 (EP Toxic, 40 CFR 261.24)

SECTION 8. SPECIAL PROTECTION INFORMATION

Use general and/or local exhaust ventilation to control airborne levels to below the TLV and PEL. When concentrations exceed the TLV and during nonroutine and emergency operations, workers should wear NIOSH-approved respiratory protective equipment with appropriate protection factors. High-efficiency particulate filter respirators (dust/fume) are suitable for exposure levels up to 5 mg/m^3 (25 mg/m^3 with full facepiece). Respirator usage must be in accordance with OSHA requirements (29 CFR 1910.134). Workers should wear chemical safety goggles (and/or faceshield) and rubber gloves when handling this material. Protective clothing (coveralls, aprons, etc.) should be worn as required by the work situation to prevent contamination of skin and clothing. Face/eye protection and impervious protective clothing is particularly important when handling solutions. Remove contaminated clothing promptly. Launder before reuse.

Do not wear contact lenses when handling this material; some soft lenses may absorb and all lenses concentrate irritants.

Eyewash stations and safety showers should be readily available.

SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

Store this material in tightly closed containers in a dry location away from acidic materials. Protect containers from physical damage and keep closed when not in use. Maintain good housekeeping practices to prevent accumulation of dust. Clean up spills promptly. Use methods that minimize dust generation.
Follow good personal hygiene practices. Thoroughly wash hands and face after handling this material and before eating, drinking, or smoking. Do not eat, drink, or smoke in areas when the material is stored or handled.
This material is poisonous! Avoid inhalation of dust, fumes, and mist. Prevent skin and eye contact. DO NOT INGEST!

UN1564 (Barium Compounds, NOS)
IMO Class: 6.1 (Poisonous Substance)
(Ref: 49 CFR 172.102)

Data Source(s) Code: 2, 5, 8, 12, 14, 27, 55, 58, 61, 62, 82, 84. CV

Approvals	
Indust. Hygiene/Safety	6/86
Medical Review	