
SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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EMERGENCY CONTACT
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SUBSTANCE: BARIUM HYDROXIDE, OCTAHYDRATE

TRADE NAMES/SYNONYMS:
BARIUM HYDROXIDE; BAH18010; BTI02421

CHEMICAL FAMILY: inorganic bases

CREATION DATE: Dec 21 1994
REVISION DATE: Mar 18 2002

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: BARIUM HYDROXIDE, OCTAHYDRATE
CAS NUMBER: 12230-71-6
EC NUMBER: Not assigned.
PERCENTAGE: 100.0

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: solid

MAJOR HEALTH HAZARDS: respiratory tract burns, skin burns, eye burns, mucous membrane burns

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: same as effects reported in short term ingestion, irritation (possibly severe), difficulty breathing, dizziness, bluish skin color, lung congestion

LONG TERM EXPOSURE: digestive disorders

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe)

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe)

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: burns, ringing in the ears, nausea, vomiting, diarrhea, difficulty breathing, drowsiness, dizziness, blurred vision, bluish skin color, kidney damage, paralysis

LONG TERM EXPOSURE: same as effects reported in short term exposure

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse. Destroy contaminated shoes.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. Give large amounts of water or milk. Allow vomiting to occur. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

ANTIDOTE: sodium sulfate solution, oral, gastric tube; potassium.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. Avoid gastric lavage or emesis.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container

for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry.

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances. Store in a tightly closed container.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

BARIUM HYDROXIDE, OCTAHYDRATE:

BARIUM, SOLUBLE COMPOUNDS (as Ba):

0.5 mg/m³ OSHA TWA

0.5 mg/m³ ACGIH TWA

0.5 mg/m³ NIOSH recommended TWA 10 hour(s)

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

Measurement Element:

Barium (Ba)

5 mg/m³

Any dust and mist respirator except single-use and quarter-mask respirators. Any supplied-air respirator.

12.5 mg/m³

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with a dust and mist filter.

25 mg/m³

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

Any supplied-air respirator with a tight-fitting facepiece that is operated in a continuous-flow mode.

Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

50 mg/m³

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying respirator with a full facepiece and a high-efficiency

particulate filter.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

ODOR: Not available

MOLECULAR WEIGHT: 315.47

MOLECULAR FORMULA: BA-(O-H)2.8(H2-O)

BOILING POINT: 1436 F (780 C)

MELTING POINT: 766 F (408 C) (anhydrous form)

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY (water=1): 2.18 @ 16 C

WATER SOLUBILITY: 5.6% @ 15 C

PH: strongly basic

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: ether, dilute acids

Slightly Soluble: methanol, ethanol

Insoluble: acetone

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition.

May ignite or explode on contact with combustible materials.

INCOMPATIBILITIES: acids, halo carbons, metals

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of barium

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

BARIUM HYDROXIDE, OCTAHYDRATE:

LOCAL EFFECTS:

Corrosive: inhalation, skin, eye, ingestion

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: kidney disorders, nervous system disorders, respiratory disorders, skin disorders and allergies

ADDITIONAL DATA: May cross the placenta.

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Hazardous Waste Number(s): D005. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level-100.0 mg/L. Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Barium compounds, n.o.s.
ID NUMBER: UN1564
HAZARD CLASS OR DIVISION: 6.1
PACKING GROUP: II

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: Yes
CHRONIC: No
FIRE: No
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):
BARIUM, SOLUBLE COMPOUNDS (as Ba)

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:
California Proposition 65: Not regulated.

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED):

C Corrosive

DANGER/HAZARD SYMBOL:

C Corrosive

EC RISK AND SAFETY PHRASES:

R 34 Causes burns.

S 2 Keep out of reach of children.

S 20 When using do not eat or drink.

S 24 Avoid contact with skin.

S 25 Avoid contact with eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 27 Take off immediately all contaminated clothing.

S 39 Wear eye/face protection.

S 46 If swallowed, seek medical advice immediately and show this container or label.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Not listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL): Not determined.

CANADA INVENTORY (NDSL): Not determined.

SECTION 16 OTHER INFORMATION

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