

Infosafe No™ 1CH1A Issue Date : January 2022 RE-ISSUED by CHEMSUPP

Product Name **BARIUM HYDROXIDE**

Classified as hazardous

## Section 1 - Identification

**Product Identifier** BARIUM HYDROXIDE

**Company Name** CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)

**Address** 38 - 50 Bedford Street GILLMAN  
SA 5013 Australia

**Telephone/Fax Number** Tel: (08) 8440-2000

**Emergency Phone Number** CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

**E-mail Address** www.chemsupply.com.au

**Recommended use of the chemical and restrictions on use** In organic preparations; in barium salts; in the manufacture of oil and grease additives; in barium soaps and chemicals; in the refinishing of beet sugar and animal and vegetable oils; as an alkalizing agent in water softening; as a sulfate removal agent in the treatment of water and brine; in boiler scale removal; as a depilatory agent; as a catalyst in the manufacture of phenol-formaldehyde resins; as insecticide and fungicide; as a sulfate-controlling agent in ceramics; as a purifying agent for caustic soda; as a steel carbonizing agent; in glass; synthetic rubber vulcanization; as a corrosion inhibitor; in drilling fluids, lubricants; in analytical chemistry and laboratory reagent.

<b>Other Names</b>	<u><b>Name</b></u>	<u><b>Product Code</b></u>
	BARIUM HYDROXIDE LR Barium hydrate, Barium Hydroxide Octahydrate, Caustic Baryta, Barium Oxide Hydrate Octahydrate	BL033

### Other Information

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

## Section 2 - Hazard(s) Identification

**GHS Classification of the Substance/Mixture** Acute Toxicity - Inhalation: Category 4  
Acute Toxicity - Oral: Category 4  
Skin Corrosion/Irritation: Category 1B

**Signal Word** DANGER

**Hazard Statement (s)** H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.

**Pictogram (s)** Corrosion, Exclamation mark



**Precautionary Statement - Prevention** P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

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<b>Precautionary Statement – Response</b>	<p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P332+P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P362 Take off contaminated clothing and wash before reuse.</p> <p>P405 Store locked up.</p>
<b>Precautionary Statement – Storage</b>	
<b>Precautionary Statement – Disposal</b>	P501 Dispose of contents/container to an approved waste disposal plant.
<b>Other Information</b>	A systemic poison that competes with potassium in the nervous system.

### Section 3 - Composition and Information on Ingredients

Ingredients	Name	CAS	Proportion
	Barium hydroxide octahydrate	12230-71-6	98-100 %

### Section 4 - First Aid Measures

<b>Inhalation</b>	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
<b>Skin</b>	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.
<b>Eye</b>	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.
<b>First Aid Facilities</b>	Eye wash fountains and safety showers should be available for emergency use.
<b>Advice to Doctor</b>	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

### Section 5 - Firefighting Measures

<b>Hazards from Combustion Products</b>	Barium oxide.
<b>Specific Methods</b>	<p>No limitations to the type of extinguishing media.</p> <p>Material does not burn.</p> <p>Small fire: Use dry chemical, CO2 or water spray. If safe to do so, move undamaged containers from fire area.</p> <p>Large fire: Use dry chemical, CO2, foam or water spray - Do not use water jets.</p> <p>Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.</p>
<b>Hazchem Code</b>	2X
<b>Decomposition Temperature</b>	Decomposes at high temperatures, resulting in toxic and corrosive products. Loses its water molecules between 100 - 780 °C.
<b>Precautions in connection with Fire</b>	Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

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## Section 6 - Accidental Release Measures

**Personal Precautions** Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

**Personal Protection** Wear protective clothing specified for normal operations (see Section 8)

**Clean-up Methods - Small Spillages** Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.

## Section 7 - Handling and Storage

**Precautions for Safe Handling** Avoid ingestion and inhalation of dust. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Minimize dust generation and accumulation. Keep container closed. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Wear suitable protective clothing. Under no circumstances eat, drink or smoke while handling this material. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. washing hands prior to eating, drinking or going to the toilet. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**Conditions for safe storage, including any incompatibilities** Corrosives/poisons area. Store in tightly closed, airtight containers, in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from heat, sources of ignition and open flames. Protect against physical damage. Store protected from moisture and direct sunlight. Absorbs carbon dioxide from air. Air sensitive. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**Corrosiveness** Corrosive to metals such as aluminium and zinc.

**Storage Regulations** Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.

**Storage Temperatures** Store at room temperature (15 to 25 °C recommended).

**Unsuitable Materials** Light metals.

## Section 8 - Exposure Controls and Personal Protection

Occupational Exposure Limit (OEL) Values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Barium hydroxide octahydrate			0.5		Barium, soluble compounds (as Ba)

**Other Exposure Information** A time weighted average (TWA) has been established for Barium, soluble compounds (as Ba) (Safe Work Australia) of 0.5 mg/m3. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

**Engineering Controls** In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

**Respiratory Protection** Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is

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<b>Eye and Face Protection</b>	required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
<b>Hand Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: NR latex, vinyl, nitrile, neoprene gloves.
<b>Personal Protective Equipment</b>	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
<b>Body Protection</b>	Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
<b>Hygiene Measures</b>	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

## Section 9 - Physical and Chemical Properties

<b>Form</b>	Solid
<b>Appearance</b>	White powder.
<b>Odour</b>	Odourless.
<b>Melting Point</b>	78 °C
<b>Boiling Point</b>	780 °C
<b>Decomposition Temperature</b>	Decomposes at high temperatures, resulting in toxic and corrosive products. Loses its water molecules between 100 - 780 °C.
<b>Solubility in Water</b>	Partially soluble in cold water (16.5 g/l, 0 °C; 56 g/l, 15 °C; 37.4 g/l, 20 °C; 76 g/l, 40 °C; 173.2 g/l, 60 °C; 503.5 g/l, 80 °C).
<b>Solubility in Organic Solvents</b>	Readily soluble in dilute acids; slightly soluble in water, methanol, ethanol; insoluble in acetone.
<b>Specific Gravity</b>	2.18 (@ 16 °C)
<b>pH</b>	Aqueous solutions are strongly alkaline; 12.5 (50 g/l, H <sub>2</sub> O, 20 °C).
<b>Vapour Pressure</b>	0 mm Hg; ca. 300 hPa at 77.9 °C.
<b>Evaporation Rate</b>	Negligible.
<b>Volatile Component</b>	0 %vol @ 21 °C
<b>Flammability</b>	Non combustible material.
<b>Molecular Weight</b>	315.47

## Section 10 - Stability and Reactivity

<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage. Rapidly absorbs carbon dioxide from air to form nonvolatile carbonate, becoming incompletely soluble in water.
<b>Possibility of Hazardous Reactions</b>	Reaction with chlorinated rubber, with or without hydrocarbon or chlorinated solvents, is violent or explosive when heated at about 216 °C. Reactive with reducing agents, acids. Reacts with fuels.
<b>Conditions to Avoid</b>	Air, excess heat, dust generation and incompatibles.
<b>Incompatible Materials</b>	Strong oxidizing agents, acids, metals such as aluminium and zinc, chlorinated rubber, fuels, reducing agents, acid halides and hydrogen sulfide.
<b>Hazardous Decomposition Products</b>	Barium oxide.

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**Hazardous Polymerization** Has not been reported.

## Section 11 - Toxicological Information

**Acute Toxicity - Oral** LD50 (rat) = 550 mg/kg.

**Ingestion** Harmful if swallowed. May cause severe irritation of the gastrointestinal tract, severe gastroenteritis, severe and permanent damage to the mouth, throat, oesophagus, and digestive tract, burns in oesophagus, gastrointestinal tract and stomach, risk of perforation in the oesophagus and stomach, tightness in the muscles of the face and neck, headache, nausea, vomiting, diarrhoea, abdominal pain, muscular tremors, dizziness, faintness, anxiety, weakness, labored breathing, paralysis of the arms and legs, cardiac dysrhythmia, increased blood pressure, CNS disorders, convulsions, collapse and death from cardiac and respiratory failure. May cause kidney failure. Estimated lethal dose lies between 1 to 15 grams. Death may occur within hours or up to a few days.

**Inhalation** Harmful by inhalation. Inhalation of product vapours/dust will cause irritation of the nose, throat and respiratory system. Causes chemical burns to the respiratory tract. Symptoms include sore throat, coughing, wheezing, laryngitis, labored breathing, shortness of breath, headache, nausea and vomiting. Inhalation may result in respiratory effects such as inflammation, oedema, and chemical pneumonitis. Systemic poisoning may occur in sensitive individuals with symptoms similar to those of ingestion.

**Skin** May cause severe irritation or burns in contact with skin, with possible redness, itching, scaling, or, occasionally, blistering. Solutions are strongly alkaline, highly irritating and may cause burns. May be harmful if absorbed through the skin.

**Eye** Dusts cause eye irritation. On eye contact this product will cause tearing, stinging, blurred vision, and redness. Solutions may cause severe burns and damage. Eye contact may result in permanent damage and complete vision loss. Risk of blindness!

**Serious Eye Damage/Irritation** Eye irritation test, rabbit: highly irritating.

**Carcinogenicity** Not listed in the IARC Monographs.

**Mutagenicity** No evidence of mutagenic properties.

**Chronic Effects** Chronic inhalation and ingestion may cause effects similar to those of acute exposure - severe and permanent damage to the digestive tract, respiratory tract and gastrointestinal tract burns, kidney failure, convulsions, increased blood pressure, muscle spasms, and possible paralysis. Prolonged and repeated exposure may cause damage to the blood, heart, cardiovascular system, bone marrow, spleen, the central nervous system, neuromuscular systems, kidneys, liver, mucous membranes, lungs and gastrointestinal system. Prolonged exposure may cause skin irritation.

## Section 12 - Ecological Information

**Ecotoxicity** Quantitative data on the ecological effect of this product are not available. Toxic for aquatic organisms. Hazard for drinking water supplies. Harmful effect due to pH shift.

**Environmental Protection** Do not allow to enter waters, waste water, or soil!

**Acute Toxicity - Fish** The following applies to barium compounds: fish: lethal as from 158 mg/l: Salmo lethal as from 158 mg/l (as BaCl<sub>2</sub>); LC50 (L. idus): 870 mg/l (as BaCl<sub>2</sub>).

**Acute Toxicity - Algae** The following applies to barium compounds: barium ions toxic for aquatic organisms: algae: Sc. quadricauda toxic as from 34 mg/l.

**Acute Toxicity - Other Organisms** The following applies to barium compounds: crustaceans: toxic as from 29 mg/l.

## Section 13 - Disposal Considerations

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**Disposal Considerations** Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

## Section 14 - Transport Information

**Transport Information** Dangerous Goods of Class 8 Corrosives are incompatible in a placard load with any of the following: - Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids and Class 7.

**ADG UN Number** 2923

**ADG Proper Shipping Name** CORROSIVE SOLID, TOXIC, N.O.S.

**ADG Transport Hazard Class** 8

**ADG Subsidiary Hazard** 6.1

**ADG Packing Group** II

**Hazchem Code** 2X

**EPG Number** 8C3

**IERG Number** 37

**Environmental Hazards** Toxic to aquatic organisms. Hazard for drinking water. Harmful effect due to pH shift.

## Section 15 - Regulatory Information

**Poisons Schedule** S6

## Section 16 - Any Other Relevant Information

**Literature References** 'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia.  
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'.  
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals'.  
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand.  
Safe Work Australia, 'Hazardous Chemical Information System'.  
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'.  
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.

**Contact Person/Point** Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**  
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**Empirical Formula & Structural Formula** Ba(OH)<sub>2</sub>·8H<sub>2</sub>O

...End Of MSDS...

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