



Infosafe No™	1CH9B	Issue Date : January 2017	RE-ISSUED by CHEMSUPP
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Product Name : **BARIUM SULFATE**

Not classified as hazardous

**1. Identification**

**GHS Product Identifier** BARIUM SULFATE

**Company Name** CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

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

**Telephone/Fax Number** Tel: (08) 8440-2000  
Fax: (08) 8440-2001

**Recommended use of the chemical and restrictions on use** Pigment (lithopone, blanc fixe); base for lake colours; pigment extender for oil and water based paints; used to reduce the colour strength and change the rheology of inks; as a water colouring pigment for coloured paper, in wallpaper; filler and delustrant for rubber, linoleum, oil cloth, textiles, polymeric fibres, plastics and resins, electric insulation; cosmetics (eg, lipstick), paper and lithograph inks; paper coatings; manufacture of photographic papers, artificial ivory, cellophane; used clinically as a radiocontrast agent for X-ray imaging and other diagnostic procedures ('Barium meal'); used in bronchography; used during the procedure of the soil pH test; in heavy concrete for radioactive shield; a component of oil well drilling fluid to increase the density; weighting substance in some golf balls; hardening agent for cement; in stone conservation; plaster; in dental cement (used in root canal filling); pyrotechnics; battery plate expanders; used in brake linings, acoustic foams and powder coatings and laboratory reagent.

Other Names	Name	Product Code
	BARIUM SULFATE Soil Testing Grade	BL105
	Blanc fixe	
	BARIUM SULFATE TG	BT040
	Barytes	
	Basofor	

**Other Information** EMERGENCY CONTACT NUMBER: +61 08 8440 2000  
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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.

**2. Hazard Identification**

**GHS classification of the substance/mixture** Classified as non-Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.  
Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

**3. Composition/information on ingredients**

Chemical Characterization	Ingredients				
Solid	Name	CAS	Proportion	Hazard Symbol	Risk Phrase
	Barium sulfate	7727-43-7	100 %		

**4. First-aid measures**

**Inhalation** If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

**Ingestion** Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

**Skin** Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.

**Eye contact** In case of contact with eyes, wash with running water holding eyelids open. Take care not to rinse contaminated water into a non-affected eye. If irritation persists seek medical advice.

**First Aid Facilities** Maintain eyewash fountain and safety shower in work area.



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<b>Advice to Doctor</b>	Treat symptomatically and supportively.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

**5. Fire-fighting measures**

<b>Hazards from Combustion Products</b>	Toxic fumes of sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> , etc), barium fume and barium oxides.
<b>Specific Methods</b>	No limitations to the type of extinguishing media. Material does not burn. Small fire: Use dry chemical, CO <sub>2</sub> , water spray or foam. Large fire: Use water spray, fog or foam. If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.
<b>Precautions in connection with Fire</b>	Wear SCBA and structural firefighter's uniform.

**6. Accidental release measures**

<b>Personal Precautions</b>	Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)
<b>Clean-up Methods - Small Spillages</b>	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.

**7. Handling and storage**

<b>Precautions for Safe Handling</b>	Avoid ingestion and inhalation of vapours, or dusts. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Minimize dust generation and accumulation. Keep container closed. Use with adequate ventilation. Wear appropriate protective equipment.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in tightly closed, labelled containers, in a cool, dry, well-ventilated area away from incompatible substances. Protect from physical damage. Store out of direct sunlight.
<b>Storage Temperatures</b>	Store at room temperature (15 to 25 °C recommended).
<b>Unsuitable Materials</b>	Aluminium.

**8. Exposure controls/personal protection**

<b>Other Exposure Information</b>	A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by Safe Work Australia for this product. There is a blanket limit of 10 mg/m <sup>3</sup> for dusts when limits have not otherwise been established.
<b>Appropriate engineering controls</b>	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.
<b>Respiratory Protection</b>	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 required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
<b>Eye Protection</b>	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, nitrile and neoprene. Good: Vinyl 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.



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**Hygiene Measures** Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**9. Physical and chemical properties**

<b>Form</b>	Solid
<b>Appearance</b>	White or yellowish powder.
<b>Odour</b>	Odourless.
<b>Melting Point</b>	1380 °C (decomposition)
<b>Solubility in Water</b>	Insoluble (ca. 2.2 mg/l at 18 °C).
<b>Solubility in Organic Solvents</b>	Soluble in hot concentrated sulfuric acid; very slightly soluble in alkalis and in solution of many salts; practically insoluble in dilute acids, alcohol and organic solvents.
<b>Specific Gravity</b>	4.5 at 15 °C
<b>pH</b>	3.5 - 10.0 (10 % slurry)
<b>Vapour Pressure</b>	Very low.
<b>Evaporation Rate</b>	Negligible.
<b>Volatile Component</b>	0 %vol @ 21 °C
<b>Flammability</b>	Non combustible material.
<b>Explosion Properties</b>	The reduction of barium sulfate by aluminium is attended by violent explosions.
<b>Molecular Weight</b>	233.43

**10. Stability and reactivity**

<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage.
<b>Conditions to Avoid</b>	Extremes of temperature, direct sunlight, dust generation and incompatible materials.
<b>Incompatible Materials</b>	Aluminium + heat; and phosphorus.
<b>Hazardous Decomposition Products</b>	Sulfur oxides.
<b>Possibility of hazardous reactions</b>	Heating with aluminium (powder) can produce an explosion. Admixed with excess red phosphorus, if primed at a high temp with potassium nitrate-calcium silicide mixture, will burn.
<b>Hazardous Polymerization</b>	Will not occur.

**11. Toxicological Information****Acute Toxicity - Oral** LD50 (rat): > 20000 mg/kg.

**Ingestion** Since the substance is poorly absorbed, it is not expected to be a health hazard. The presence of soluble barium impurities, however, may cause toxic reactions due to bioaccumulation. Rarely, oral barium sulfate suspensions may cause constipation or intestinal obstruction due to impaction in the colon. Cramping from distention of the intestine by barium sulfate suspensions or diarrhoea may also occur. Retention of barium sulfate in the appendix has reportedly caused appendicitis. Barium sulfate fecaliths reported can lead to obstruction, intussusception, ulceration, or even intestinal perforation and may rarely require surgical removal. Aspiration of large amounts may cause pneumonitis or nodular granulomas of interstitial lung tissues and lymph nodes; asphyxiation and death have occurred in one patient. Although extremely rare, barium sulfate suspension has entered the systemic or portal veins after oral administration, possibly via mucosal ulceration, resulting in pulmonary embolism, granulomatous liver abscesses, or death. Hypersensitivity reactions to ingredients in commercial barium sulfate preparations have occurred rarely. Acute hypersensitivity reaction may rarely follow treatment with radioactive barium sulfate contrast medium, two deaths have resulted.

**Inhalation** Inhalation of dusts may irritate the respiratory system. Inhalation of fine dusts of barium sulfate causes a pulmonary reaction with mobilization of polymorphonuclear leukocytes and macrophages, and characteristic radiographic changes with dense, discrete, small opacities distributed throughout the lung fields (baritosis). The radiographic shadows appear to be due to the radio opacity of barium sulfate itself rather than to any tissue lesions, and the condition produces no symptoms of bronchitis or emphysema, with no abnormality of pulmonary function, and lung functioning is not affected, although some patients



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<b>Skin</b>	complain of dyspnoea upon exertion. Hypersensitivity reactions to ingredients in commercial barium sulfate preparations have occurred rarely. Acute inflammation of the bronchi and peripheral airways after accidental inhalation, has resulted in two deaths.
<b>Eye</b>	Dust may cause mechanical irritation. May cause redness, itching and irritation.
<b>Carcinogenicity</b>	Dust may cause mechanical irritation. May cause tearing, stinging, blurred vision, and redness.
<b>Chronic Effects</b>	Not listed in the IARC Monographs.
<b>Mutagenicity</b>	Repeated or prolonged inhalation of dust may lead to deposition in lungs in sufficient quantities to produce baritosis - a benign pneumoconiosis (characterized by deposition of particulate matter in the lung). This produces a radiological picture even though symptoms and abnormal signs may not be present. Barium sulfate is essentially insoluble in water and does not show the effects on all forms of muscle that is found in soluble compounds of barium. The presence of soluble barium impurities, however, may cause toxic reactions due to bioaccumulation. Barium sulfate has caused tumors in laboratory rats via intrapleural route.
	No evidence of mutagenic properties.

**12. Ecological information**

<b>Ecotoxicity</b>	Quantitative data on the ecological effect of this product are not available. Due to the poor solubility of the product, no harmful effects on plants and/or aquatic organisms are to be expected when handled and used with due care and attention.
<b>Bioaccumulative Potential</b>	This substance is expected to significantly bioaccumulate.
<b>Environmental Protection</b>	Do not allow material to enter drains or waterways.
<b>Acute Toxicity - Daphnia</b>	Daphnia magna EC50: 52 mg Ba/l/24 h (expressed as Ba ion); 32 mg Ba/l/48 h (expressed as the ion).

**13. Disposal considerations**

<b>Disposal Considerations</b>	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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**14. Transport information**

<b>Transport Information</b>	Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
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**15. Regulatory information**

<b>Regulatory Information</b>	Listed in the Australian Inventory of Chemical Substances (AICS).
<b>Poisons Schedule</b>	Not Scheduled

**16. Other Information**

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons No. 15', Commonwealth of Australia, November 2016. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b> All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make
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# Safety Data Sheet

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**Empirical Formula & Structural Formula** BaSO<sub>4</sub>

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