

Infosafe No™ 1CH9B	Issue Date : January 2022	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 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 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	<u>Name</u>	<u>Product Code</u>
	BARIUM SULFATE Soil Testing Grade	BL105
	Blanc fixe	
	BARIUM SULFATE TG	BT040
	Barytes	
	Basofor	

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.

2. Hazard Identification

GHS classification of the substance/mixture Classified as non-Hazardous according to the 7th Edition Globally Harmonised System of classification and labelling of Chemicals (GHS7) 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

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Barium sulfate	7727-43-7	100 %

4. First-aid measures

Inhalation If inhaled, remove from contaminated area to fresh air immediately. Apply

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Ingestion	artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. 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.
Advice to Doctor	Treat symptomatically and supportively.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products	Toxic fumes of sulfur oxides (SO ₂ , SO ₃ , etc), barium fume and barium oxides.
Specific Methods	No limitations to the type of extinguishing media. Material does not burn. Small fire: Use dry chemical, CO ₂ , 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. Wear SCBA and structural firefighter's uniform.
Precautions in connection with Fire	

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.

7. Handling and storage

Precautions for Safe Handling	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.
Conditions for safe storage, including any incompatibilities	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.
Storage Temperatures	Store at room temperature (15 to 25 °C recommended).
Unsuitable Materials	Aluminium.

8. Exposure controls/personal protection

Other Exposure Information	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 ³ for dusts when limits have not otherwise been established.
Appropriate 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

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	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.
Eye Protection	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.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: NR latex, nitrile and neoprene. Good: Vinyl gloves.
Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	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.
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

Form	Solid
Appearance	White or yellowish powder.
Odour	Odourless.
Melting Point	1380 °C (decomposition)
Solubility in Water	Insoluble (ca. 2.2 mg/l at 18 °C).
Solubility in Organic Solvents	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.
Specific Gravity	4.5 at 15 °C
pH	3.5 - 10.0 (10 % slurry)
Vapour Pressure	Very low.
Evaporation Rate	Negligible.
Volatile Component	0 %vol @ 21 °C
Flammability	Non combustible material.
Explosion Properties	The reduction of barium sulfate by aluminium is attended by violent explosions.
Molecular Weight	233.43

10. Stability and reactivity

Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Extremes of temperature, direct sunlight, dust generation and incompatible materials.
Incompatible Materials	Aluminium + heat; and phosphorus.
Hazardous Decomposition Products	Sulfur oxides.

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Possibility of hazardous reactions	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.
Hazardous Polymerization	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 fecaloliths 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 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.

Skin Dust may cause mechanical irritation. May cause redness, itching and irritation.

Eye Dust may cause mechanical irritation. May cause tearing, stinging, blurred vision, and redness.

Carcinogenicity Not listed in the IARC Monographs.

Chronic Effects 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.

Mutagenicity No evidence of mutagenic properties.

12. Ecological information

Ecotoxicity 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.

Bioaccumulative Potential This substance is expected to significantly bioaccumulate.

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Environmental Protection Do not allow material to enter drains or waterways.

Acute Toxicity - Daphnia 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

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

14. Transport information

Transport Information Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Environmental Hazards 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.

15. Regulatory information

Regulatory Information Listed in the Australian Inventory of Chemical Substances (AICS).

Poisons Schedule Not Scheduled

16. Other 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 BaSO4

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