

SDS no. M9ETXPL8 • Version 1.0 • Date of issue: 2023-11-10

GHS Product identifier

Product name	BARIUM CHLORIDE Dihydrate
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BARIUM CHLORIDE Dihydrate LR
BARIUM CHLORIDE Dihydrate AR
Barium dichloride dihydrate

Chemicals (artificial barium sulfate, other barium salts), pigments, textile dyeing, aluminium refining, pesticides, boiler compounds for softening water, manufacture of white leather, lubrication oil additive, analytical reagent and laboratory reagent.

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, oral, Cat. 3

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GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H301 Toxic if swallowed
H332 Harmful if inhaled

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal facility

Other hazards which do not result in classification

Repeated exposure to a toxic material may produce general deterioration of health by an accumulation in one or more human organs.

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 244.27

Components

Component	CAS no.	Concentration
BARIUM CHLORIDE DIHYDRATE	10326-27-9	100 % (weight)
CLASSIFICATIONS: Acute toxicity, inhalation, Cat. 4; Acute toxicity, oral, Cat. 3. HAZARDS: H301 - Toxic if swallowed; H332 - Harmful if inhaled.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.

Advice to Doctor: Patients with significant ingestion should be monitored for respiratory, cardiovascular, and blood pressure status. Observe for cardiac arrhythmias, respiratory failure due to flaccid paralysis of respiratory muscles, pulmonary edema, vocal cord paralysis, severe hypertension, and late kidney failure. Acute barium poisoning results in hypokalemia.

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If inhaled	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.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Patients with significant ingestion should be monitored for respiratory, cardiovascular, and blood pressure status. Observe for cardiac arrhythmias, respiratory failure due to flaccid paralysis of respiratory muscles, pulmonary edema, vocal cord paralysis, severe hypertension, and late kidney failure. Acute barium poisoning results in hypokalemia.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Specific hazards arising from the chemical

Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

SECTION 7: Handling and storage

Precautions for safe handling

Only use in well-ventilated areas. Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin, eyes and

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clothing. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet. Ensure the appropriate personal protective equipment is used when handling this material.

Conditions for safe storage, including any incompatibilities

Store away from oxidizing agents. Keep containers securely sealed and protected against physical damage. Keep in a cool, dry, well-ventilated place.

Keep away from sources of heat, moisture and incompatibilities.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 10326-27-9

BARIUM CHLORIDE DIHYDRATE

AU/SWA (Australia): 0.5 mg/m³ inhalation

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face 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.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Body Protection: Wear suitable protective clothing and gloves to prevent skin contact. 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.

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

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 required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

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Physical state	Solid
Appearance	Colourless, flat crystals or white solid.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	963 °C (anhydrous)
Boiling point or initial boiling point and boiling range	1560 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	5.2-8.2 (50 g/l, H ₂ O, 20 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble. Solubility in Organic Solvents: Soluble in methanol. Practically insoluble in ethanol, acetone and ethyl acetate.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 3.86
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: TASTE: Bitter and salty.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable.

Possibility of hazardous reactions

Violent reactions possible with inter-halogen compounds, acids, strong oxidizing agents and strong reducing agents.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Heating, dust generation.

Incompatible materials

Strong oxidisers. Bromine trifluoride; 2-furan percarboxylic acid (anhydrous).

Hazardous decomposition products

Hydrogen chloride gas, oxides of the contained metal and halogen, possibly also free, or ionic halogen.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Toxic! May cause severe gastroenteritis, including abdominal pain, vomiting, diarrhea, increased salivation and abdominal pain. May cause tremors, faintness, paralysis of arms and legs, and slow or irregular heartbeat. Severe cases may produce collapse and death on respiratory failure. Estimated lethal dose in humans: 1 gram.

Inhalation: Harmful if inhaled. Irritating to upper respiratory system and mucous membranes. May produce sore throat, coughing and labored breathing. Other symptoms may parallel ingestion.

Skin corrosion/irritation

Harmful in contact with skin. Causes irritation with redness and pain. May cause skin burns. May cause necrosis if skin is moist or wet.

Serious eye damage/irritation

Causes irritation to the eyes. May cause redness, tearing, pain or blurred vision.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Potential symptoms of overexposure are gastroenteritis, muscle spasm, slow pulse, extrasystoles and hypokalemia. Prolonged or over exposure to this material can cause liver and kidney damage. Barium compounds are neurotoxicants causing adverse effects on the nervous system and these include of loss of coordination, irritability and weakness.

BARIUM CHLORIDE DIHYDRATE: *TOXICITY:

typ. dose mode specie amount unit other

LD50 ivn mus 19.2 mg/kg

LDLo orl hmn 11.4 mg/kg

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION: Not available

*CARCINOGENICITY:

Status: NTP Carcinogenesis Studies; on test, December 1983

*MUTATION DATA: Not available

*TERATOGENICITY: Not available

*STANDARDS, REGULATIONS & RECOMMENDATIONS:

OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z

Transitional Limit: PEL-TWA 0.5 mg(Ba)/m3 [610]

Final Limit: PEL-TWA 0.5 mg(Ba)/m3 [610]

ACGIH: TLV-TWA 0.5 mg(Ba)/m3 [610]

NIOSH Criteria Document: None

NFPA Hazard Rating: Health (H): None

Flammability (F): None

Reactivity (R): None

*OTHER TOXICITY DATA: Not available

SECTION 12: Ecological information

Toxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

Mobility increases when levels of organic matter and pH are low. Barium compounds mobility decreases in soil when reacted with metal oxides, hydroxides, sulfate and carbonates forming insoluble compounds.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

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Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1564

Class: 6.1

Packing Group: III

Proper Shipping Name: BARIUM COMPOUND, N.O.S. (contains BARIUM CHLORIDE, DIHYDRATE)

Hazchem emergency action code (EAC)

2Z

IMDG

UN Number: 1564

Class: 6.1

Packing Group: III

EMS Number:

Proper Shipping Name: BARIUM COMPOUND, N.O.S. (contains BARIUM CHLORIDE, DIHYDRATE)

IATA

UN Number: 1564

Class: 6.1

Packing Group: III

Proper Shipping Name: BARIUM COMPOUND, N.O.S. (contains BARIUM CHLORIDE, DIHYDRATE)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer

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.

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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', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)