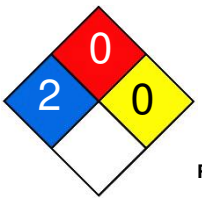
Material Safety Data Sheets



Revision 3

1. IDENTIFICATION

Product Name	**Barium Carbonate**
Other Names	Barium monocarbonate; Carbonic acid, barium salt (1:1)
Uses	Industrial/professional use; reactive processing aid; manufacture of glass, ceramic and electro-ceramic materials; welding electrode coating; preparation of slurry; manufacture of pyrotechnical products.
Chemical Family	No Data Available
Chemical Formula	$BaCO_3$
Chemical Name	Carbonic acid, barium salt (1:1)
Product Description	No Data Available
Contact Information	info@armansina.com **www.armansina.com**

2. HAZARD IDENTIFICATION

Hazard Classification		Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)	
Hazard Categories		Acute Toxicity (Oral) - Category 4	
Signal Word		Warning	
Hazard Statements		**H302**	Harmful if swallowed.
Precautionary Statements	Prevention	**P264**	Wash hands and contaminated body thoroughly after handling.
		P270	Do not eat, drink or smoke when using this product.
	Response	**P301 + P312**	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
		P330	Rinse mouth.
	Disposal	**P501**	Dispose of contents/container in accordance with local / regional / national / international regulations.

Symbol

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Barium carbonate	$BaCO_3$	513-77-9	>=98 - 100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention. *For minor skin contact, avoid spreading material on unaffected skin.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. *Most important symptoms and effects, both acute and delayed: Harmful if swallowed.

Medical Conditions Aggravated by Exposure **No information available.**

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers.
Flammability Conditions	Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Extinguishing Media	If material is involved in a fire, use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	Non-combustible.
Hazardous Products of Combustion	Fire or heat may produce irritating, corrosive and/or toxic gases, including Barium oxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may be corrosive and/or toxic and cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2Z

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material - Sweep up to prevent slipping hazard! Avoid generating dust. Avoid breathing dusts or mists and contact with eyes, skin and clothing.
Clean Up Procedures	Sweep up and shovel into suitable containers for disposal (see SECTION 13).
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dusts or mists and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed - check regularly for spills. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10).
Container	Keep in the original, properly labelled container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standard is available for this product. For Barium, soluble compounds (as Ba): - Safe Work Australia Exposure Standard: TWA = 0.5 mg/m3. - New Zealand Workplace Exposure Standard: TWA = 0.5 mg/m3.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses. - Hand protection: Handle with gloves. Recommended: Impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	Odourless
Colour	White
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	14 mg/L in water 20° C
Specific Gravity	4.31
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	1,380 ° C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	197.34 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Reactions That Release Gases or Vapours	Fire or heat may produce irritating, corrosive and/or toxic gases, including Barium oxide.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Reacts with acids liberating carbon dioxide.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid generating dust.
Materials to Avoid	Incompatible/reactive with acids.
Hazardous Decomposition Products	Fire or heat may produce irritating, corrosive and/or toxic gases, including Barium oxide.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information

Information on toxicological effects:
- Acute toxicity: Harmful if swallowed.
- Skin corrosion/irritation: Based on available data, the classification criteria for skin irritation are not met. Not irritating [Read-across: Barium chloride, dihydrate].
- Eye damage/irritation: Based on available data, the classification criteria for eye irritation are not met. Not irritating (Rabbit) [OECD 405].
- Respiratory/skin sensitisation: Based on available data, the classification criteria for sensitisation are not met. Not sensitising [Read-across: Barium chloride, dihydrate; OECD 429].
- Germ cell mutagenicity: Based on available data, the classification criteria for germ cell mutagenicity are not met. Negative [Read-across: Barium chloride, dihydrate].
- Carcinogenicity: Based on available data, the classification criteria for carcinogenicity are not met. There was no evidence of carcinogenic activity [Read-across: Barium chloride, dihydrate].
- Reproductive toxicity: No information available.
- STOT (single exposure): Based on the available data, the classification criteria for STOT-SE are not met.
- STOT (repeated exposure): Based on available data, the classification criteria for STOT-RE are not met.
- Aspiration toxicity: No hazard expected.

Information on likely routes of exposure:
- Ingestion: Harmful if swallowed. May cause gastrointestinal discomfort if consumed in large amounts.
- Eye contact: Dust contact with the eyes can lead to mechanical irritation.
- Skin contact: May cause irritation.
- Inhalation: May cause irritation.

Chronic effects: No information available.

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rat: 418 mg/kg

Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute toxicity: - LC50, Fish (Danio rerio): >97.5 mg Ba/L or >140.1 mg BaCO3/L (96 h) [using Barium chloride, dihydrate]. - EC50, Crustacea (Daphnia magna): 14.5 mg Ba/L or 20.8 mg BaCO3/L (48 h) [using Barium chloride, dihydrate]. - ErC50, Algae (Pseudokirchneriella subcapitata) growth rate: >34.3 mg Ba/L or >49.3 mg BaCO3/L (72 h) [using Barium chloride, dihydrate].
Persistence/Degradability	Abiotic degradation and biodegradation are not relevant for elemental, inorganic substances like BaCO3.
Mobility	The barium ions released by Barium carbonate are leachable through normal soil and are mobile in sediment.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Based on the available information there is no indication of a bioaccumulation potential.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

14. TRANSPORT INFORMATION

Land Transport)

Proper Shipping Name	BARIUM COMPOUND, N.O.S. (Barium carbonate)
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	1564
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Air Transport

Proper Shipping Name	BARIUM COMPOUND, N.O.S. (Barium carbonate)
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
UN Number	1564
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	BARIUM COMPOUND, N.O.S. (Barium carbonate)

15. OTHER INFORMATION

Revision 3

Key/Legend

< Less Than
> Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (° C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (° F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or L Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre

mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight