

1. IDENTIFICATION

Product Name	Barium Carbonate (UN1564)
Other Names	Barium monocarbonate; Carbonic acid, barium salt; Carbonic Acid, Barium Salt (1:1)
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	BaCO ₃
Chemical Name	Barium Carbonate (UN1564)
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details


For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 6

Globally Harmonised System

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		
Pictograms			
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/physician if you feel unwell.
		P330	Rinse mouth.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1D	Substances that are acutely toxic - Harmful
	Environmental Hazards	9.3C	Substances that are harmful to terrestrial vertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Barium Carbonate	BaCO ₃	513-77-9	>=98.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give water to drink. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Eye	Immediately flush eyes with plenty of water for 15 minutes, holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. WARM water MUST be used. Seek immediate medical attention.
Skin	Remove contaminated clothing and shoes. Immediately flush skin with plenty of water for at least 15 minutes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention.

Serious skin contact: wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhaled

Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.
Serious inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Advice to Doctor

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

Medical Conditions Aggravated by Exposure

No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures

Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.

Flammability Conditions

Product is a non-flammable solid.

Extinguishing Media

Substance is non-combustible. In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions.

Fire and Explosion Hazard

Product is a non-flammable solid.

Hazardous Products of Combustion

No Data Available

Special Fire Fighting Instructions

Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.

Personal Protective Equipment

Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).

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

Avoid accidents, clean up immediately. Slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment.

Clean Up Procedures

Small Spill: Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste.

Large Spill: Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Containment

Stop leak if safe to do so. Isolate the danger area.

Environmental Precautionary Measures

Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.

Evacuation Criteria

Evacuate all unnecessary personnel.

Personal Precautionary Measures

Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling

Ensure an eye bath and safety shower are available and ready for use Observe good personal hygiene practices and

recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Operations should be carried out in closed systems. Prevent any possibility of contact with this product. Remove contaminated clothing and wash before reuse. Discard contaminated shoes. Chemicals should be used only by those trained in handling potentially hazardous materials

Storage

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Protect from direct sunlight, moisture, metals, acids, heat, and static discharges. Store away from foodstuffs. Keep locked up and out of reach of children. This product has a UN classification of 1564 and a Dangerous Goods Class 6.1 Toxic according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container

Container type/package must comply with all applicable local legislation. Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

Exposure Limits:
TWA: 0.5 (mg(Ba)/m) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

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. Adequate ventilation should be provided so that exposure limits are not exceeded.

Personal Protection Equipment

RESPIRATOR: A self contained breathing apparatus should be used to avoid inhalation of the product (AS1715/1716).
EYES: Splash goggles (AS1336/1337).
HANDS: Protective Gloves (AS2161).
CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).
Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product

Work Hygienic Practices

No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Solid

Appearance

Solid (powdered solid)

Odour

Odourless / tasteless

Colour

White

pH

No Data Available

Vapour Pressure

No Data Available

Relative Vapour Density

No Data Available

Boiling Point

1380 °C

Melting Point

811 °C

Freezing Point

No Data Available

Solubility

14 mg/l 20°C

Specific Gravity

4.31 (Water =1)

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

1380 °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	Very slightly soluble in cold water. Solubility in water: 0.024 g/l; 0.0022 g/l @ 18 deg. Almost insoluble in water. Soluble in solution of dilute hydrochloric acid, nitric acid, or acetic acid. Soluble in solution of ammonium chloride or ammonium nitrate. Insoluble in sulfuric acid. Soluble in ethanol.
Potential for Dust Explosion	No Data Available
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Contact with acids liberates CO ₂ .
Chemical Stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to Avoid	Unknown
Materials to Avoid	Acids: Contact with acids causes formation of Carbon dioxide gas that may cause suffocation in enclosed spaces.
Hazardous Decomposition Products	No Data Available
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Acute oral toxicity (LD50): 200 mg/kg [Mouse]. 418 mg/kg [Rat].
Eyelrritant	Chronic Effects on Humans: CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH. May cause eye irritation.
Ingestion	Harmful if swallowed. May affect behavior/central nervous system/peripheral nervous system, gastrointestinal system, respiration, cardiovascular system, and kidneys. Symptoms may include: weakness, nausea, vomiting, diarrhea, hypermotility, excessive salivation, colic, convulsive tremors, giddiness, dilated pupils, increased blood pressure, heart palpitations, hemorrhages in the gastrointestinal tract and kidneys, muscular paralysis, dryness of mouth, thirst, sweating, tingling around the mouth and neck, tightness in the throat, respiratory depression, dysarthria, headaches, muscle twitching, urinary retention, testicular tenderness. May also cause hypokalemia with associated electrocardiogram changes. Serious cases may result in convulsions and death.

Inhalation	May cause respiratory tract irritation. May cause benign pneumoconiosis (baritosis). This is not incapacitating and is usually reversible with cessation of exposure. Inhalation may have similar systemic effects as ingestion since Barium Carbonate is cleared from the lungs into the blood stream. Chronic Potential Health Effects: Inhalation: Prolonged inhalation may cause benign pneumoconiosis (baritosis).
SkinIrritant	May cause skin irritation.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Fresh water fish (Danio rerio), 96h-LC50 >97.5 mg Ba/l (>3.5mg dissolved Ba/l) (>140.1 mg BaCO3/L) Invertrabates (Daphnia magna), 48h-EC50 14.5 mg Ba/l (20.8 mg BaCO3/l) Algae (Pseudokirchneriella subcapitata) 72h-EC50 (growth rate) >30.1 mg Ba/l (>1.15 mg dissolved Ba/l) (>43.3 mg Ba CO3/l).
Persistence/Degradability	Abiotic degradation and biodegradation are not relevant for elemental, inorganic substances like BaCO3.
Mobility	Sediment - Kd-value (L/kg) 3478 Log Kd 3.54 Suspended particulate matter (smp) Kd-value (L/kg) 5217 Lof Kd 3.72 Soil - Kd-value (L/kg) 60.3 Lof Kd 1.78
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	BFC for fish 37.6-99 L/kg wet weight.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of as hazardous waste in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. Incinerate at an approved site following all local regulations. This material may be suitable for approved landfill.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	BARIUM COMPOUND, N.O.S.
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
EPG	34 Toxic Substances
UN Number	1564
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR

Proper Shipping Name	BARIUM COMPOUND, N.O.S.
Class	6.1 Toxic and Infectious Substances - Toxic Substances

Subsidiary Risk(s)	No Data Available
EPG	34 Toxic Substances
UN Number	1564
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	BARIUM COMPOUND, N.O.S.
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
EPG	34 Toxic Substances
UN Number	1564
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	BARIUM COMPOUND, N.O.S.
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
ERG	151 Substances - Toxic (Non-Combustible)
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.
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
EMS	F-A, S-A
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	BARIUM COMPOUND, N.O.S.
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

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information

No Data Available

Poisons Schedule (Aust)

6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code

HSR004872

National/Regional Inventories

Australia (AICS)

Listed

Canada (DSL)

Not Determined

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

208-167-3

Japan (ENCS/METI)

Not Determined

Korea (KECI)

Not Determined

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Not Determined

Switzerland (Giftliste 1)

Not Determined

Switzerland (Inventory of Notified Substances)

Not Determined

Taiwan (NCSR)

Not Determined

USA (TSCA)

Not Determined

16. OTHER INFORMATION

Related Product Codes

BACARB1801

Revision

1

Revision Date

01 Nov 2014

< Less Than

Key/Legend

> 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