

### 1. IDENTIFICATION

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

<b>Hazard Classification</b>	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)		
<b>Hazard Categories</b>	Acute Toxicity (Oral) - Category 4		
<b>Pictograms</b>			
<b>Signal Word</b>	Warning		
<b>Hazard Statements</b>	<b>H302</b>	Harmful if swallowed.	
<b>Precautionary Statements</b>	Prevention	<b>P264</b>	Wash face, hands and any exposed skin thoroughly after handling.
		<b>P270</b>	Do not eat, drink or smoke when using this product.
	Response	<b>P301 + P312</b>	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
		<b>P330</b>	Rinse mouth.
	Disposal	<b>P501</b>	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** NOT 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

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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Ingredients

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

## 4. FIRST AID MEASURES

### Description of necessary measures according to routes of exposure

<b>Swallowed</b>	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.
<b>Eye</b>	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.
<b>Skin</b>	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**

No Data Available

## 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 dust/fumes. Do not ingest. If ingested, seek medical advice immediately and show the container or the label. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment.

**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. Keep away from incompatibles such as acids. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

**Container**

Store in original packaging as approved by manufacturer.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	Exposure Limits: TWA: 0.5 (mg(Ba)/m) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available on biological limit values for this product.
<b>Engineering Measures</b>	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.
<b>Personal Protection Equipment</b>	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
<b>Work Hygienic Practices</b>	No Data Available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Solid (powdered solid)
<b>Odour</b>	Odourless / tasteless
<b>Colour</b>	White
<b>pH</b>	No Data Available
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	1380 °C
<b>Melting Point</b>	811 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	>=14 mg/l 20°C
<b>Specific Gravity</b>	4.31 (Water =1)
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	1380 °C
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	197.34 g/mol
<b>Net Propellant Weight</b>	No Data Available

<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	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 ammoniu chloride or ammoniu nitrate. Insoluble in sulfuric acid. Soluble in ethanol.
<b>Potential for Dust Explosion</b>	No Data Available
<b>Fast or Intensely Burning Characteristics</b>	No Data Available
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No Data Available
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No Data Available
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	No Data Available
<b>Reactions That Release Gases or Vapours</b>	No Data Available
<b>Release of Invisible Flammable Vapours and Gases</b>	No Data Available

## 10. STABILITY AND REACTIVITY

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

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	Acute oral toxicity (LD50): 200 mg/kg [Mouse]. 418 mg/kg [Rat].  Chronic Effects on Humans: CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.
<b>Eyelrritant</b>	May cause eye irritation.
<b>Ingestion</b>	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.
<b>Inhalation</b>	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: Prlonged inhalation may cause benign pneumoconiosis (baritosis).
<b>SkinIrritant</b>	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 BaCO<sub>3</sub>/L)  
Invertebrates (Daphnia magna), 48h-EC50 14.5 mg Ba/l (20.8 mg BaCO<sub>3</sub>/l)  
Algae (Pseudokirchneriella subcapitata) 72h-EC50 (growth rate) >30.1 mg Ba/l (>1.15 mg dissolved Ba/l) (>43.3 mg Ba CO<sub>3</sub>/l).

**Persistence/Degradability** Abiotic degradation and biodegradation are not relevant for elemental, inorganic substances like BaCO<sub>3</sub>.

**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 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.

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)

ADG Code

**Proper Shipping Name** Barium Carbonate  
**Class** No Data Available  
**Subsidiary Risk(s)** No Data Available  
No Data Available  
**UN Number** No Data Available  
**Hazchem** No Data Available  
**Pack Group** No Data Available  
**Special Provision** SP AU 223

### Land Transport (Malaysia)

ADR

**Proper Shipping Name** Barium Carbonate  
**Class** No Data Available  
**Subsidiary Risk(s)** No Data Available  
No Data Available  
**UN Number** No Data Available  
**Hazchem** No Data Available  
**Pack Group** No Data Available  
**Special Provision** No Data Available

### Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	Barium Carbonate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

### Land Transport (United States of America)

US DOT

<b>Proper Shipping Name</b>	Barium Carbonate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

### Sea Transport

IMDG Code

<b>Proper Shipping Name</b>	Barium Carbonate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No

### Air Transport

IATA DGR

<b>Proper Shipping Name</b>	Barium Carbonate
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

### National Transport Commission (Australia)

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

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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## 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

**Europe (REACH)** Not Determined

**Japan (ENCS/METI)** Not Determined

**Korea (KECI)** Not Determined

**Malaysia (EHS Register)** Not Determined

**New Zealand (NZIoC)** Not Determined

**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** BACARB1000, BACARB1001, BACARB1002, BACARB1003, BACARB1004, BACARB1005, BACARB1006, BACARB1007, BACARB1008, BACARB1009, BACARB1800, BACARB2000, BACARB2001, BACARB2100, BACARB2101, BACARB2102, BACARB2103, BACARB2104, BACARB2105, BACARB2106, BACARB2107, BACARB2108, BACARB2109, BACARB2110, BACARB2111, BACARB2112, BACARB2113, BACARB2114, BACARB2115, BACARB2116, BACARB2117, BACARB2200, BACARB2500, BACARB3000, BACARB3001, BACARB4000, BACARB5000, BACARB5001, BACARB5002, BACARB5100, BACARB5200, BACARB6000, BACARB7000, BACARB7001, BACARB8000, BACARB8100, BACARB8200, BACARB9000

**Revision** 3

**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)  
**cm<sup>2</sup>** Square Centimetres  
**CO<sub>2</sub>** 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/cm<sup>3</sup>** 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  
**inH<sub>2</sub>O** Inch of Water  
**K** Kelvin  
**kg** Kilogram  
**kg/m<sup>3</sup>** Kilograms per Cubic Metre  
**lb** Pound  
**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> 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.  
**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> 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  
**m<sup>3</sup>** Cubic Metre  
**mbar** Millibar  
**mg** Milligram  
**mg/24H** Milligrams per 24 Hours  
**mg/kg** Milligrams per Kilogram  
**mg/m<sup>3</sup>** Milligrams per Cubic Metre  
**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.  
**mm** Millimetre  
**mmH<sub>2</sub>O** 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