

1. IDENTIFICATION

Product Name	Sodium bicarbonate
Other Names	Baking soda; Bicarbonate of soda; Sodium hydrogen carbonate
Uses	Food/feed applications; Industrial use.
Chemical Family	No Data Available
Chemical Formula	NaHCO ₃
Chemical Name	Carbonic acid, monosodium salt
Product Description	Mono-constituent substance (inorganic).

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) Not Scheduled

Globally Harmonised System

Hazard Classification NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Signal Word None

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)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sodium bicarbonate	NaHCO ₃	144-55-8	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting. Get medical advice/attention if a large amount is swallowed or if you feel unwell. 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 10 - 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Remove contaminated clothing and shoes. Flush skin with running water for several minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
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. Apply resuscitation if victim is not breathing; Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
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.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	If material is involved in a fire, use extinguishing media that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	Decomposes on heating, emitting toxic fumes.
Hazardous Products of Combustion	Fire or heat may produce irritating and/or toxic fumes, including oxides of Carbon, oxides of Sodium.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (full fire kit).
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
	No Data Available

Upper Explosion Limit	
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material - slipping hazard. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Collect material (sweep up, shovel) and place it in suitable, properly labelled containers for recovery or disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (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. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). To avoid thermal decomposition, do not overheat.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers tightly closed when not in use. Protect from moisture. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original, properly labelled container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ ; TWA = 3 mg/m ³ (respirable dust).
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: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Dust mask/particulate filter 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 Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder or granules
Odour	Odourless
Colour	White
pH	8.0 - 9.0 (saturated solution)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	300 °C
Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	2.1 - 2.2
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	>50 °C
Density	2.1 - 2.2 g/cm ³
Specific Heat	No Data Available
Molecular Weight	No Data Available
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; Material does not burn.
Reactions That Release Gases or Vapours	Decomposes on heating, emitting toxic fumes, including oxides of Carbon, oxides of Sodium.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under recommended storage conditions.

Conditions to Avoid	Avoid dust formation. Protect from moisture. To avoid thermal decomposition, do not overheat.
Materials to Avoid	Incompatible/reactive with acids, strong oxidising agents.
Hazardous Decomposition Products	Decomposes on heating, emitting toxic fumes, including oxides of Carbon, oxides of Sodium.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: - Ingestion: No adverse effects expected; Swallowing large amounts may cause gastrointestinal disturbance, nausea and vomiting. - Eye contact: Causes mild eye irritation. - Skin contact: Causes mild skin irritation. - Inhalation: Exposure to dust may cause respiratory irritation. Chronic effects: No information available.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat: 4,220 mg/kg
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - Acute LC50, Fish (Rainbow trout (<i>Oncorhynchus mykiss</i>)): 7,700 mg/l (96 h) [Flow-through]. - Acute NOEC, Fish (Rainbow trout (<i>Oncorhynchus mykiss</i>)): 2,300 mg/l (96 h) [Flow-through]. - Acute LC50, Fish (Bluegill sunfish (<i>Lepomis macrochirus</i>)): 7,100 mg/l (96 h) [Flow-through]. - Acute NOEC, Fish (Bluegill sunfish (<i>Lepomis macrochirus</i>)): 5,200 mg/l (96 h) [Flow-through]. - Acute LC50, Invertebrates (<i>Daphnia magna</i>): 4,100 mg/l (48 h) [Flow-through]. - Acute NOEC, Invertebrates (<i>Daphnia magna</i>): 3,100 mg/l (48 h) [Flow-through]. - Chronic NOEC, Invertebrates (<i>Daphnia magna</i>): >576 mg/l (21 d).
Persistence/Degradability	Biodegradation: - The methods for determining biological degradability are not applicable to inorganic substances. Abiotic degradation (water): - Hydrolyses: acid/base equilibrium as a function of pH; Degradation products: carbonic acid/bicarbonate/carbonate.
Mobility	High mobility (water, soil/sediments).
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Does not bioaccumulate.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	If recycling is not practicable, dispose of via a licensed disposal company and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Sodium bicarbonate
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
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Fiji)

Proper Shipping Name	Sodium bicarbonate
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
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Sodium bicarbonate
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
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Sodium bicarbonate
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
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Sodium bicarbonate
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
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Sodium bicarbonate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Sodium bicarbonate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

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)
---------------------------------------	---

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code Not Hazardous

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	205-633-8
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes

SOBICA0300, SOBICA0400, SOBICA0500, SOBICA0600, SOBICA0700, SOBICA0800, SOBICA0900, SOBICA1000, SOBICA1001, SOBICA1002, SOBICA1003, SOBICA1004, SOBICA1005, SOBICA1006, SOBICA1007, SOBICA1008, SOBICA1009, SOBICA1010, SOBICA1011, SOBICA1012, SOBICA1013, SOBICA1014, SOBICA1015, SOBICA1016, SOBICA1100, SOBICA1200, SOBICA1300, SOBICA1400, SOBICA1500, SOBICA1501, SOBICA1502, SOBICA1503, SOBICA1504, SOBICA1550, SOBICA1600, SOBICA1700, SOBICA1717, SOBICA1800, SOBICA1801, SOBICA1802, SOBICA1803, SOBICA1804, SOBICA1805, SOBICA1806, SOBICA1807, SOBICA1808, SOBICA1809, SOBICA1810, SOBICA1811, SOBICA1812, SOBICA1813, SOBICA1814, SOBICA1900, SOBICA1901, SOBICA2000, SOBICA2001, SOBICA2002, SOBICA2003, SOBICA2004, SOBICA2050, SOBICA2051, SOBICA2052, SOBICA2053, SOBICA2054, SOBICA2055, SOBICA2056, SOBICA2057, SOBICA2058, SOBICA2060, SOBICA2061, SOBICA2062, SOBICA2063, SOBICA2064, SOBICA2065, SOBICA2066, SOBICA2070, SOBICA2100, SOBICA2101, SOBICA2200, SOBICA2300, SOBICA2400, SOBICA2500, SOBICA2600, SOBICA2650, SOBICA2700, SOBICA2800, SOBICA2900, SOBICA3000, SOBICA3001, SOBICA3002, SOBICA3030, SOBICA3040, SOBICA3045, SOBICA3100, SOBICA3101, SOBICA3200, SOBICA3201, SOBICA3300, SOBICA3400, SOBICA3401, SOBICA3450, SOBICA3500, SOBICA3501, SOBICA3502, SOBICA3510, SOBICA3513, SOBICA3520, SOBICA3535, SOBICA3550, SOBICA3555, SOBICA3600, SOBICA3700, SOBICA3800, SOBICA3900, SOBICA4000, SOBICA4001, SOBICA4002, SOBICA4003, SOBICA4004, SOBICA4005, SOBICA4006, SOBICA4010, SOBICA4100, SOBICA4200, SOBICA4300, SOBICA4301, SOBICA4400, SOBICA4401, SOBICA4500, SOBICA4501, SOBICA4600, SOBICA4601, SOBICA4602, SOBICA4603, SOBICA4700, SOBICA4800, SOBICA4850, SOBICA4900, SOBICA5000, SOBICA5100, SOBICA5200, SOBICA5400, SOBICA5402, SOBICA5410, SOBICA5411, SOBICA5420, SOBICA5450, SOBICA5555, SOBICA5600, SOBICA5700, SOBICA5800, SOBICA5801, SOBICA5900, SOBICA5901, SOBICA6000, SOBICA6001, SOBICA6002, SOBICA6003, SOBICA6100, SOBICA6101, SOBICA6200,

SOBICA6201, SOBICA6202, SOBICA6203, SOBICA6204, SOBICA6205, SOBICA6206, SOBICA6207, SOBICA6208, SOBICA6209, SOBICA6210, SOBICA6211, SOBICA6212, SOBICA6213, SOBICA6214, SOBICA6215, SOBICA6216, SOBICA6217, SOBICA6218, SOBICA6219, SOBICA6220, SOBICA6221, SOBICA6222, SOBICA6223, SOBICA6224, SOBICA6225, SOBICA6226, SOBICA6227, SOBICA6228, SOBICA6229, SOBICA6230, SOBICA6231, SOBICA6232, SOBICA6233, SOBICA6234, SOBICA6235, SOBICA6236, SOBICA6237, SOBICA6300, SOBICA6400, SOBICA6430, SOBICA6500, SOBICA6600, SOBICA6700, SOBICA6701, SOBICA6800, SOBICA6900, SOBICA6901, SOBICA6950, SOBICA7000, SOBICA7100, SOBICA7200, SOBICA7300, SOBICA7410, SOBICA7415, SOBICA7420, SOBICA7421, SOBICA7422, SOBICA7423, SOBICA7424, SOBICA7425, SOBICA7426, SOBICA7430, SOBICA7431, SOBICA7432, SOBICA7433, SOBICA7434, SOBICA7435, SOBICA7436, SOBICA7437, SOBICA7438, SOBICA7439, SOBICA7440, SOBICA7441, SOBICA7442, SOBICA7450, SOBICA7451, SOBICA7452, SOBICA7453, SOBICA7454, SOBICA7455, SOBICA7460, SOBICA7465, SOBICA7470, SOBICA7480, SOBICA7481, SOBICA7490, SOBICA7491, SOBICA7492, SOBICA7500, SOBICA7501, SOBICA7600, SOBICA7700, SOBICA7701, SOBICA7702, SOBICA7703, SOBICA7704, SOBICA7800, SOBICA7900, SOBICA8000, SOBICA8100, SOBICA8150, SOBICA8200, SOBICA8300, SOBICA8430, SOBICA8500, SOBICA8800, SOBICA8900, SOBICA9000, SOBICA9001, SOBICA9002, SOBICA9003, SOBICA9430, SOBICA9431, SOBICA9450, SOBICA9500, SOBICA9501, SOBICA9600, SOBICA9700, SOBICA9800, SOBICR0210, SOBICR0410, SOBICR0810, SOBICR1000, SOBICR1010, SOBICR2000, SOBICR3001, SOBICR3002, SOBICR3004, SOBICR3010, SOBICR3025, SOBICR3050, SOBICR3510

Revision

4

Revision Date

15 Aug 2018

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 Health 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