



SAFETY DATA SHEET POTASSIUM BICARBONATE REVISION 4, DATE 04 JUN 23

1. IDENTIFICATION

| | |
|----------------------------|---|
| Product Name | Potassium Bicarbonate |
| Other Names | Potassium acid carbonate; Potassium hydrogencarbonate |
| Uses | Chemical basic material; Industrial use; Acidity regulator; Fire extinguishers. |
| Chemical Family | No Data Available |
| Chemical Formula | KHCO ₃ |
| Chemical Name | Carbonic acid, monopotassium salt |
| Product Description | No Data Available |

Contact Details of the Supplier of this Safety Data Sheet

| Organisation | Location | Telephone |
|-------------------------|--|-----------------|
| Redox Ltd | 2 Swettenham Road Minto NSW 2566 Australia | +61-2-97333000 |
| Redox 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) |
|---------------------------------------|---|

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

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|------------------------------|--|
| Hazard Classification | NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations |
|------------------------------|--|

3. COMPOSITION/INFORMATION ON INGREDIENTS*Ingredients*

| Chemical Entity | Formula | CAS Number | Proportion |
|-----------------------|-------------------|------------|------------|
| Potassium bicarbonate | KHCO ₃ | 298-14-6 | <=100 % |

4. FIRST AID MEASURES*Description of necessary measures according to routes of exposure*

| | |
|--|---|
| Swallowed | IF SWALLOWED: Rinse mouth, then drink plenty of water. Get medical advice/attention if you feel unwell. 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. |
| 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. |
| Advice to Doctor | Treat symptomatically. *Most important symptoms and effects, both acute and delayed: None known. |
| Medical Conditions Aggravated by Exposure | No information available. |

5. FIRE FIGHTING MEASURES

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| 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. |
|-------------------------|--|



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| Flammability Conditions | Non-combustible; Material does not burn. |
| Extinguishing Media | If material is involved in a fire, use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction. *Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Fire and Explosion Hazard | Not considered to be a fire hazard. Not considered to be an explosion hazard. |
| Hazardous Products of Combustion | Fire or heat may produce irritating and/or toxic gases, including Carbon oxides, Potassium oxides. |
| Special Fire Fighting Instructions | Contain runoff from fire control or dilution water - Runoff may cause pollution. |
| Personal Protective Equipment | Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. |
| 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

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|---|---|
| General Response Procedure | Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. |
| Clean Up Procedures | Carefully shovel or sweep up spilled material and place in suitable container 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 | After cleaning, flush away traces with water. |
| 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

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|------------------|--|
| 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 generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid excessive heat. |
| Storage | Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect against physical damage. Hygroscopic - Protect from moisture/humidity. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). *Storage temperature: +2 °C - 25 °C. |
| Container | Keep in the original container. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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|------------------------|--|
| General | Contains no substances with occupational exposure limit values. 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 |



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|--------------------------------------|---|
| 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 for conditions of use where exposure to dust or mist is apparent. Recommended: Dust mask/particulate respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Tightly sealed goggles. - Hand protection: Handle with gloves. Recommended: Protective gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Clean, body covering clothing. |
| Special Hazards Precautions | No information available. |
| Work Hygienic Practices | Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling, before breaks and after work. Take off contaminated clothing and wash it before reuse. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|---------------------------------------|--|
| Physical State | Solid |
| Appearance | Crystalline powder |
| Odour | Odourless |
| Colour | White |
| pH | 8.0 - 8.6 50 g/L at 20 °C |
| Vapour Pressure | No Data Available |
| Relative Vapour Density | No Data Available |
| Boiling Point | No Data Available |
| Melting Point | Decomposes |
| Freezing Point | No Data Available |
| Solubility | Soluble in water (362 g/L) - Insoluble in alcohol 25°C |
| Specific Gravity | No Data Available |
| 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 | >100 °C |
| Density | 2.17 g/cm ³ |
| Specific Heat | No Data Available |
| Molecular Weight | 100.12 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. |



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|---|--|
| 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 | Fire or heat may produce irritating and/or toxic gases, including Carbon oxides, Potassium oxides. |
| Release of Invisible Flammable Vapours and Gases | No information available. |

10. STABILITY AND REACTIVITY

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|---|---|
| General Information | Violent reaction with strong acids, with formation of Carbon dioxide. |
| Chemical Stability | Product is stable under normal storage conditions. |
| Conditions to Avoid | Avoid generating dust. Avoid excessive heat. Protect from moisture/humidity. |
| Materials to Avoid | Incompatible/reactive with acids. |
| Hazardous Decomposition Products | Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Potassium oxides. |
| Hazardous Polymerisation | Will not occur. |

11. TOXICOLOGICAL INFORMATION

| | |
|----------------------------|--|
| General Information | <p>Information on toxicological effects:</p> <ul style="list-style-type: none"> - Acute toxicity: Based on available data, the classification criteria are not met. - Skin corrosion/irritation: Based on available data, the classification criteria are not met. - Serious eye damage/irritation: Based on available data, the classification criteria are not met. - Respiratory/skin sensitisation: Based on available data, the classification criteria are not met. - Germ cell mutagenicity: Based on available data, the classification criteria are not met. - Carcinogenicity: Based on available data, the classification criteria are not met. - Reproductive toxicity: Based on available data, the classification criteria are not met. - STOT (single exposure): Based on available data, the classification criteria are not met. - STOT (repeated exposure): Based on available data, the classification criteria are not met. - Aspiration toxicity: Based on available data, the classification criteria are not met. |
|----------------------------|--|

Information on likely routes of exposure:

- Ingestion: 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 | <p>Acute toxicity (Oral):</p> <ul style="list-style-type: none"> - LD50, Rat: >2,000 mg/kg [Supplier's SDS]. |
| Other | <p>Acute toxicity (Dermal):</p> <ul style="list-style-type: none"> - LD50, Rabbit: >2,000 mg/kg [Supplier's SDS]. |
| Inhalation | <p>Acute toxicity (Inhalation):</p> <ul style="list-style-type: none"> - LC50, Rat: >4.88 mg/L dust (4.5 h) [Supplier's SDS]. <p>None</p> |



Carcinogen Category

12. ECOLOGICAL INFORMATION

| | |
|----------------------------------|--|
| Ecotoxicity | Aquatic toxicity: - LC50, Fish (<i>Oncorhynchus mykiss</i>): 1,300 mg/L (96 h) [Supplier's SDS]. - EC50, Crustacea (<i>Daphnia magna</i>): 630 mg/L (48 h) [Supplier's SDS]. |
| Persistence/Degradability | Methods for the determination of biodegradability are not applicable to inorganic substances. In aquatic ecosystems, Potassium hydrogencarbonate will rapidly dissociate to potassium cation and inorganic carbon species; These are naturally-occurring ions in the environment [ECHA]. |
| Mobility | High water solubility and very low vapour pressure indicate that potassium hydrogencarbonate will be found predominantly in the aquatic environment [ECHA]. |
| Environmental Fate | Prevent entry into drains and waterways. |
| Bioaccumulation Potential | No potential for bioaccumulation. The substance does not accumulate in lipophilic tissues of living organisms. In animal and plant organisms, the mass balance of carbonate and potassium will be regulated by physiological mechanisms to ensure appropriate cell concentrations for natural life processes [ECHA]. |
| Environmental Impact | No Data Available |

13. DISPOSAL CONSIDERATIONS

| | |
|--|---|
| General Information | Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility and in accordance with local/regional/national regulations. Processing, use or contamination of this product may change the waste management options. |
| Special Precautions for Land Fill | Contaminate packaging: Non-contaminated packages may be recycled. |

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

| | |
|-----------------------------|--|
| Proper Shipping Name | Potassium 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 LAND transport. |

Land Transport (Malaysia)

ADR Code

| | |
|-----------------------------|-----------------------|
| Proper Shipping Name | Potassium Bicarbonate |
| Class | No Data Available |



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| | |
|---------------------------|--|
| 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 | Potassium 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 | Potassium 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 | Potassium 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 | Potassium 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

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|--------------------------------|-------------------|
| 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 (AIIIC) | Listed |
| Canada (DSL) | Listed |
| Canada (NDSL) | Not Listed |
| China (IECSC) | Listed |
| Europe (EINECS) | 206-059-0 |
| 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 | POBICA1000, POBICA1001, POBICA1002, POBICA1003, POBICA1004, POBICA1005, POBICA1006, POBICA1007, POBICA1008, POBICA1009, POBICA1010, POBICA1011, POBICA1012, POBICA1013, POBICA1500, POBICA1540, POBICA1570, POBICA1575, POBICA1580, POBICA1700, POBICA1701, POBICA1702, POBICA1703, POBICA1710, POBICA1715, POBICA1770, POBICA1775, POBICA1800, POBICA1801, POBICA1802, POBICA1900, POBICA1910, POBICA1950, POBICA2000, POBICA2100, POBICA2200, POBICA2300, POBICA2400, POBICA2500, POBICA2600, POBICA2700, POBICA2800, POBICA2900, POBICA3000, POBICA4000, POBICA4100, POBICA5000, POBICA5100, POBICA6000 |
| Revision | 4 |
| Revision Date | 04 Jun 2023 |
| Key/Legend | <p>< Less Than > Greater Than</p> <p>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</p> |



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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

