SAFETY DATA SHEET

POTASSIUM BICARBONATE (FOOD GRADE) | REVISION 1, DATE OCTOBER 2026

1. IDENTIFICATION

Product Name	Potassium Bicarbonate – Food Grade
Other Names	Potassium Hydrogen Carbonate; Potassium Acid Carbonate; Carbonic Acid, Monopotassium Salt; Monopotassium Carbonate; $KHCO_3$; E 501(ii); INS 501(ii)
Uses	Food additive used as an acidity regulator (pH control agent), buffering agent, raising (leavening) agent and stabiliser in food and beverage manufacture, including bakery products and wine. Also used as a source of potassium and alkalinity in nutritional and dietary products, and in pharmaceutical, laboratory and other applications where a high-purity bicarbonate is required.
Product Type	Food Additive (Acidity Regulator / Raising Agent)
Chemical Family	Inorganic salt (alkali metal bicarbonate)
Chemical Formula	$KHCO_3$ ($CHKO_3$)
Chemical Name	Potassium Hydrogen Carbonate
Product Description	Potassium Bicarbonate Food Grade – high-purity, water-soluble, white crystalline powder manufactured to food-grade specifications (Food Chemicals Codex / E 501(ii))

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Green Pick Australia	6 Fernhill Lane, Bayswater North VIC 3153, Australia	+61-426-571-061
Green Pick Iran	50 Khavaran Hwy, Industrial City Ivanaki, Taavoni 7, Tehran, Iran	+98-912-476-3248

Emergency Contact Details

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

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 / 131126
Chemcall	Australia	1800-127406 / +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 (not listed in the SUSMP)

Globally Harmonised System

Hazard Classification	Not classified as a hazardous substance or mixture according to the GHS criteria as adopted by Safe Work Australia (Model WHS Regulations) and the criteria of Regulation (EC) No 1272/2008.
Signal Word	None required
Hazard Statements	None allocated

Precautionary Statements	P261 – Avoid breathing dust P264 – Wash hands thoroughly after handling P280 – Wear eye protection when handling dusty product P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P501 – Dispose of contents/container in accordance with local/regional/national regulations (Precautionary statements are provided as good-practice guidance; the product does not meet GHS criteria requiring mandatory label elements.)
Hazard Pictograms	None required

National Transport Commission (Australia)

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

Dangerous Goods Classification	Not classified as Dangerous Goods for transport by road, rail, sea or air – see SECTION 14 for full details.

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	Not classified as hazardous according to the criteria of Safe Work Australia under the Model WHS Regulations.

Potassium bicarbonate is a widely used food additive and is not classified as hazardous. Its components, potassium and bicarbonate ions, occur naturally in the human body. Nuisance dust generated during handling may cause mechanical, transient irritation to the eyes, skin and upper respiratory tract; good hygiene and dust-control practice is recommended. Refer to Sections 4, 8 and 12 for further detail.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Potassium Bicarbonate (Potassium Hydrogen Carbonate)	$KHCO_3$	298-14-6	≥ 97.5 % (assay 99.5 – 101.5 % as $KHCO_3$, dry basis)
Potassium Carbonate (normal carbonate impurity)	K_2CO_3	584-08-7	≤ 2.5 %
Moisture (loss on drying)	H_2O	7732-18-5	≤ 0.25 %

Note: Potassium bicarbonate is a single, well-defined inorganic compound (CAS 298-14-6; EC 206-059-0). A small amount of potassium carbonate is an inherent manufacturing by-product; because it is present well below classification thresholds, the product is not classified as hazardous. Trace heavy metal limits are given in Section 9. An assay slightly above 100 % is normal for this substance and results from the carbonate content in the titration.

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth thoroughly with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical advice if a large quantity has been swallowed or if symptoms occur.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Encourage the person to cough, spit out and blow the nose to clear dust. Get medical advice/attention if breathing difficulty or irritation persists.
Eye	IF IN EYES: Rinse cautiously with running water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.
Skin	IF ON SKIN: Brush off dry material and wash with plenty of water. Remove contaminated clothing and wash before reuse. Get medical advice if irritation develops or persists.
Most Important Symptoms and Effects	Not expected to present a significant hazard under normal conditions of use. Dust may cause mild, transient irritation to the eyes, skin and respiratory tract (redness, cough). Ingestion of large amounts may cause gastrointestinal discomfort, and very large doses may produce systemic alkalosis and fluid retention.

Advice to Doctor	Treat symptomatically. The product dissociates into potassium and bicarbonate ions in water and gastric fluid. After ingestion of a large quantity, consider monitoring serum potassium and acid–base status. Show this Safety Data Sheet to the treating doctor.
Medical Conditions Aggravated by Exposure	Dust exposure may aggravate pre-existing eye, skin or respiratory conditions.

5. FIRE FIGHTING MEASURES

General Measures	Product is non-combustible. If involved in a fire, move containers from the fire area if it can be done without risk and cool exposed containers with water spray. Contain fire-control water where possible – avoid runoff into drains and waterways.
Flammability Conditions	Non-combustible; will not burn or support combustion.
Extinguishing Media	Use extinguishing media appropriate to the surrounding fire: water spray or fog, foam, carbon dioxide or dry powder. Avoid a high-volume water jet, which may spread product.
Fire and Explosion Hazard	Not flammable, explosive or oxidising. Heating above approximately 100 °C, or contact with acids, releases carbon dioxide gas, which may cause pressure build-up in closed containers.
Hazardous Products of Combustion	Thermal decomposition produces potassium carbonate, water vapour and carbon dioxide. Fire conditions may also produce carbon oxides and potassium oxides.
Special Fire Fighting Instructions	Avoid inhalation of dust and decomposition products. Heating above 100 °C may produce dangerous concentrations of carbon dioxide in confined spaces – ventilate the area.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing for significant fires in the surrounding area.
Flash Point	Not applicable (solid, non-combustible)
Lower Explosion Limit	Not applicable
Upper Explosion Limit	Not applicable
Auto Ignition Temperature	Not applicable
Hazchem Code	Not applicable (not classified as Dangerous Goods)

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Avoid generating dust; do not inhale dust. Avoid contact with eyes, skin and clothing.
Personal Precautionary Measures	Wear suitable protective equipment (see SECTION 8). Beware of slippery surfaces if product becomes wet. Keep unprotected personnel away from large spills.
Environmental Precautionary Measures	Not classified as hazardous to the aquatic environment; however, prevent large releases from entering drains, waterways or soil, as this may locally raise pH and potassium levels. Notify authorities if a significant quantity enters waterways or sewers.
Containment	Stop the leak if it can be done without risk. Prevent dust clouds. Keep away from acids (product effervesces and releases carbon dioxide on contact).
Clean Up Procedures	Sweep or shovel up dry material (avoiding dust generation) and place in a clean, dry, labelled container. Do not return spilled or contaminated material to the food-grade product; treat as waste (see SECTION 13).
Decontamination	Wash the affected area with plenty of water after the bulk material has been recovered, avoiding uncontrolled discharge to the environment.
Evacuation Criteria	Not normally required. Isolate the area and keep unauthorised personnel away for large releases generating dust.

7. HANDLING AND STORAGE

Handling	Avoid generating and breathing dust and avoid contact with eyes, skin and clothing. Use personal protective equipment as required (see SECTION 8). Wash hands after handling and before eating, drinking or smoking. Handle in accordance with Good Manufacturing Practice (GMP): use clean, dry, dedicated food-grade equipment and utensils, and avoid cross-contamination with non-food materials.
Storage	Store in a cool, dry, well-ventilated, clean place away from direct sunlight, heat and sources of moisture. The product is hygroscopic – keep container tightly closed and reseal after opening to prevent caking. Store away from incompatible materials (see SECTION 10), and away from chemicals, odorous materials and other potential contaminants.
Container	Keep in the original, intact food-grade packaging. Do not reuse empty containers for other purposes.
Incompatible Materials	Acids (reacts to release carbon dioxide), lime, strong bases, strong oxidising agents, and prolonged contact with alkali-sensitive metals and alloys (aluminium, brass, bronze, copper, lead, tin, zinc).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific occupational exposure limit is established for potassium bicarbonate. It is regulated as nuisance dust (particulates not otherwise classified). Reference values: ACGIH TLV-TWA 10 mg/m^3 (inhalable) and 3 mg/m^3 (respirable); OSHA PEL 15 mg/m^3 (total dust) and 5 mg/m^3 (respirable). Refer to the Safe Work Australia Workplace Exposure Standards applicable to nuisance dust in your jurisdiction.
Engineering Measures	Local and/or general exhaust ventilation is recommended to keep dust exposure as low as reasonably practicable. An eyewash facility should be available in the immediate work area.
Respiratory Protection	Not normally required. In dusty conditions or where ventilation is inadequate, wear a dust mask/particulate respirator (refer to AS/NZS 1715 & 1716).
Eye/Face Protection	Wear safety glasses or chemical goggles when handling dusty product to avoid mechanical eye irritation.
Hand Protection	Wear protective gloves (e.g. nitrile, neoprene, butyl or natural rubber) for prolonged or repeated contact; in food manufacturing use gloves suitable for food contact.
Skin/Body Protection	Wear appropriate protective clothing to avoid skin contact with dust. Recommended: overalls, safety shoes.
Work Hygienic Practices	Do not eat, drink or smoke when handling this product in bulk. Wash hands thoroughly after handling and before eating, drinking or using the toilet. Remove contaminated clothing and wash before reuse.
Biological Limits	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Fine crystalline powder (colourless to white monoclinic crystals)
Colour	White
Odour	Odourless
pH	Approximately 8.2 (1% solution in water, 25 °C); 8.0 – 8.6 (5% solution) – slightly alkaline
Water Solubility	Highly soluble in water: approximately 320 – 360 g/L at 20 – 25 °C. Practically insoluble in ethanol.
Assay (as $KHCO_3$, dry basis)	99.5 – 101.5 %
Loss on Drying	≤ 0.25 %
Normal Carbonate (as K_2CO_3)	≤ 2.5 %

Heavy Metals (as Pb)	≤ 10 ppm
Lead (Pb)	≤ 2 ppm
Arsenic (As)	≤ 3 ppm
Mercury (Hg)	≤ 1 ppm
Melting Point	No true melting point – decomposes on heating (approximately 100 – 200 °C)
Boiling Point	Not applicable (solid; decomposes before boiling)
Flash Point	Not applicable
Decomposition Temperature	Begins at approximately 100 °C, forming potassium carbonate, water and carbon dioxide; decomposition is rapid at approximately 177 °C
Vapour Pressure	Not applicable (ionic solid)
Relative Vapour Density	Not applicable
Density (solid)	Approximately 2.17 g/cm^3 at 20 °C
Bulk Density	Approximately 990 – 1,090 kg/m^3 (typical, 62 – 68 lb/ft^3)
Molecular Weight	100.12 g/mol
Particle Size	Fine powder to small crystals; refer to the product specification for the particle size distribution
Partition Coefficient (n-octanol/water)	Not applicable (inorganic salt, dissociates fully in water)
Evaporation Rate	Not applicable
Viscosity	Not applicable (solid)
Hygroscopicity	Hygroscopic – absorbs moisture from humid air and may cake
Oxidising Properties	Not classified as oxidising
Explosive Properties	Product is not explosive.

10. STABILITY AND REACTIVITY

General Information	No dangerous reactions known under normal conditions of use.
Chemical Stability	Stable at normal temperatures and pressures when kept dry. Slowly absorbs moisture from humid air. Decomposes on heating above approximately 100 °C.
Conditions to Avoid	Heat above 100 °C, moisture and humidity (caking), dust generation, and contamination with incompatible materials.
Materials to Avoid	Acids (vigorous effervescence, releasing carbon dioxide), lime (forms corrosive potassium hydroxide), strong bases, strong oxidising agents, and prolonged contact with aluminium, brass, bronze, copper, lead, tin, zinc or other alkali-sensitive metals and alloys.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. On heating above 100 °C: potassium carbonate, water vapour and carbon dioxide. In fire: carbon oxides and potassium oxides.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Acute toxicity (oral): Not classified. Acute toxicity (dermal): Not classified. Acute toxicity (inhalation): Not classified. Skin corrosion/irritation: Not classified – no skin reactions in rabbit study; may cause mild mechanical irritation from dust. Eye damage/irritation: Not classified – dust may cause temporary irritation (effects reversible within 7 days in rabbit studies). Respiratory/skin sensitisation: Not classified – not a skin sensitiser (guinea pig, Buehler test). Germ cell mutagenicity: Not classified. Carcinogenicity: Not classified – not listed by IARC, NTP or OSHA as a carcinogen. Reproductive toxicity: Not classified. STOT (single exposure): Not classified – dust may cause transient respiratory tract irritation. STOT (repeated exposure): Not classified. Aspiration toxicity: Not applicable (solid).
Likely Routes of Exposure	Ingestion, inhalation of dust, and eye/skin contact.
Ingestion (Oral)	Acute toxicity: LD50, Rat: > 2,000 mg/kg bw (OECD TG 401) – low acute toxicity. After ingestion the product dissociates in gastric juice into potassium and bicarbonate ions, both naturally occurring essential ions regulated by normal physiological mechanisms. Ingestion of large amounts may cause gastrointestinal discomfort, belching (carbon dioxide release) and, at very high doses, systemic alkalosis.
Dermal	LD50, Rabbit: > 2,000 mg/kg bw. Dermal absorption is expected to be low due to its ionic nature. Practically non-irritating to intact skin.
Inhalation	LC50, Rat (4.5 h, dust): > 4.88 mg/L, no mortality. Transient reduced activity and nasal discharge, resolving within 24 hours, were observed at this concentration. Inhalation of dust may cause irritation to the respiratory tract.
Chronic Effects	No chronic effects are known under normal occupational handling. Potassium bicarbonate is a permitted food additive (INS 501(ii)).
Carcinogen Category	None

Note: Potassium bicarbonate is a well-characterised, widely studied substance used extensively in food, pharmaceutical and industrial applications. Toxicological figures shown are based on published literature, supplier safety data and regulatory assessments for this substance. Some manufacturers classify certain grades (finely ground material) as an eye irritant (GHS Category 2B, which is not adopted under Australian WHS criteria) and respiratory tract irritant; handle dusty material with appropriate care.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not classified as hazardous to the aquatic environment. Indicative published data: Acute LC50, Fish (96 h): Rainbow trout (*Oncorhynchus mykiss*) approximately 1,300 mg/L; Bluegill sunfish approximately 1,500 mg/L. Acute EC50, *Daphnia magna* (48 h): approximately 630 – 1,200 mg/L (practically non-toxic). No data available for algae.
Persistence/Degradability	Not applicable in the conventional biodegradation sense – an inorganic salt that dissolves and dissociates into potassium and inorganic carbon species (bicarbonate/carbonate) that occur naturally in the environment. Not considered persistent.
Bioaccumulation Potential	Not expected to bioaccumulate. The substance is highly water soluble and dissociates into naturally occurring ions that are regulated by physiological mechanisms in living organisms.
Mobility	Highly soluble and mobile in water; no sorption to soil or sediment organic matter is expected.
Environmental Fate	Not expected to cause adverse ecological effects when used and disposed of as directed. Uncontrolled release of large quantities to small water bodies may locally raise pH and potassium concentration.
Environmental Impact	Not classified as hazardous to aquatic life. The substance does not meet the criteria for PBT or vPvB. Avoid uncontrolled release of bulk quantities to the environment (see SECTION 6).

13. DISPOSAL CONSIDERATIONS

General Information	Not classified as hazardous waste under normal circumstances. Reuse or reclaim uncontaminated material where possible. Otherwise dispose of in accordance with local/regional/national waste regulations. Do NOT discharge large quantities to drains, waterways or soil. Material that is contaminated or no longer fit for food use must not be returned to the food chain.
Contaminated Packaging	Empty containers may retain product residue. Dispose of or recycle contents/container in accordance with local/regional/national regulations. Do not reuse packaging for food or other purposes.

14. TRANSPORT INFORMATION

Proper Shipping Name	Not Regulated for Transport (Potassium Bicarbonate – not a Dangerous Good)
UN Number	Not applicable
Class	Not classified as Dangerous Goods under the ADG Code, ADR, IMDG Code or IATA DGR
Subsidiary Risk(s)	None
Pack Group	Not applicable
Hazchem Code	Not applicable
Marine Pollutant	No
Special Precautions	Not regulated as Dangerous Goods. Keep product dry during transport and storage. As a food-grade product, transport in clean, dry, intact packaging and do not co-load with chemicals, odorous goods or other materials that may contaminate it.
Comments	Not classified as Dangerous Goods for transport. Users should confirm current transport requirements for each transport mode and destination prior to shipment.

15. REGULATORY INFORMATION

Poisons Schedule (Aust)	Not Scheduled (SUSMP)
General Information	Product is manufactured as a food-grade additive. Potassium hydrogen carbonate (INS 501(ii) / E 501(ii)) is a permitted food additive in many jurisdictions, including under the Australia New Zealand Food Standards Code (Standard 1.3.1 and Schedule 15), the European Union (E 501(ii)) and the United States (GRAS, 21 CFR Part 184). Users must confirm applicable food additive permissions, labelling, and identity and purity requirements in the country of sale prior to distribution.

National/Regional Inventories

Inventory	Status
Australia (AICIS)	Listed
New Zealand (NZIoC)	Listed
Europe (EINECS)	Listed – EC 206-059-0
USA (TSCA)	Listed
Canada (DSL)	Listed
China (IECSC)	Listed
Japan (ENCS)	Listed
Korea (KECI)	Listed
Iran (National Chemical Inventory)	Not Determined

16. OTHER INFORMATION

Abbrev.	Meaning	Abbrev.	Meaning
≥	Greater Than or Equal To	≤	Less Than or Equal To
ACGIH	American Conference of Governmental Industrial Hygienists	AICIS	Australian Industrial Chemicals Introduction Scheme
As	Arsenic	CAS	Chemical Abstracts Service (Registry Number)
EC	European Community (Number)	EC50	Effective Concentration, 50% – the concentration causing a defined effect in 50% of test organisms
FCC	Food Chemicals Codex	GHS	Globally Harmonised System of Classification and Labelling of Chemicals
GMP	Good Manufacturing Practice	Hg	Mercury
INS	International Numbering System for Food Additives	LC50	Lethal Concentration, 50% – the concentration of a material in air/water which causes the death of 50% of a group of test animals
LD50	Lethal Dose, 50% – the amount of a material, given all at once, which causes the death of 50% of a group of test animals	N/A	Not Applicable
OECD	Organisation for Economic Co-operation and Development	OSHA	Occupational Safety and Health Administration (USA)
Pb	Lead	PEL	Permissible Exposure Limit
ppm	Parts per Million	STOT	Specific Target Organ Toxicity
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons	TLV-TWA	Threshold Limit Value – Time Weighted Average
UN	United Nations	$KHCO_3$	Potassium Bicarbonate (Potassium Hydrogen Carbonate)

Revision	1
Revision Date	October 2026
Supersedes	Not applicable – first issue

This Safety Data Sheet has been prepared using published literature, supplier safety data and regulatory reference data for potassium bicarbonate (CAS 298-14-6), a well-characterised, widely used food, pharmaceutical and industrial chemical, together with the specifications provided by Green Pick Australia for this product. To the best of our knowledge the information contained herein is accurate as of the date of issue; it is provided without warranty, expressed or implied. It is the responsibility of the user to determine the suitability of this information for their particular use and to comply with all applicable local, national and international regulations, including food additive, transport and poisons scheduling requirements.