

Section 1: Product & Company Information

Product Identifier: Potassium Bicarbonate Anhydrous (All Grades)

Other Means of Identification

Product Number: 130764

Recommended Use and Restrictions on Use

Recommended Use: No data available

Restrictions on Use: No data available

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918 USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

Not classified as hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Signal Word

WARNING

Hazard(s) not otherwise classified (HNO)

ACUTE TOXICITY - ORAL: Category 5 (May be harmful if swallowed)

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Potassium Bicarbonate		298-14-6	97.5 – 100%	-
Potassium Carbonate		584-08-7	< 2.5	-

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.

2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.

3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

If inhaled and adverse effects occur, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin Contact

Brush off excess chemical. Flush contaminated areas with water. If skin irritation occurs: Get medical advice/ attention.

Eye Contact

Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

If large amounts were swallowed, give water to drink and get medical advice

Most important symptoms/effects, acute and delayed

Symptoms

Inhalation (Breathing): Respiratory Irritation: Upper airway irritation, may cause cough, redness of mouth and upper airways.

Skin: Skin Irritation: Exposure to skin may cause redness, or irritation.

Eye: Eye Irritation: Eye exposure may cause irritation, and redness to the eye lids, conjunctiva.

Ingestion (Swallowing): No effects identified.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions, such as: eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin.

Section 5: Fire-Fighting Measures

General Fire Hazards

This product is nonflammable.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Use extinguishing agents appropriate for surrounding fire. The product is not combustible. In case of fire in the surroundings, use water spray, foam, CO₂, dry powder.

Unsuitable Extinguishing Media

High volume water jet.

Specific Hazards Arising from the Chemical

Oxides of carbon, Potassium oxides, Heating above 100 °C may cause dangerous levels of carbon dioxide gas to be present in the atmosphere

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Use self-contained breathing apparatus and protective clothing to avoid exposure to hydrogen chloride and other fumes. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid breathing dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.

Methods and Materials for Containment and Clean-Up

Shovel dry material into suitable container. Flush spill area with water, if appropriate.

Notification Procedures

Notify authorities if any exposure to the general public or environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.

Environmental Precautions

Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Section 7: Handling and Storage

Precautions for Safe Handling

Avoid breathing dust. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Do not reuse containers. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS.

Conditions for Safe Storage, including any Incompatibilities

Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Material is very hygroscopic. Store in a cool, dry area. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:

Lime, acids, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Potassium Bicarbonate	TEEL	35 mg/m3	-
Potassium Bicarbonate	TEEL	60 mg/m3	-
Potassium Bicarbonate	TWA	10 mg/m3	OXY REL – 8h

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection

Wear safety glasses

Skin Protection

Hand Protection

Suitable protective gloves. Glove material butyl-rubber, PVC, Natural rubber, (NR) polychloroprene with natural-latex liner. Material thickness, 0.5 mm. Break through time >480 min. Glove material, nitrile rubber (Camatril, tricotril, Dermatril,) Fluorinated rubber (vitoject) Material thickness 0.35-0.4 mm. Break through time >480 min.

Other

Wear appropriate chemical resistant clothing. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®. When potential for contact with wet material exists, wear Tychem® or similar chemical protective suit. Contaminated clothing should be removed and laundered before reuse.

Respiratory Protection

A NIOSH approved respirator with high efficiency particulate air (HEPA) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. When an air purifying respirator is not adequate for spills and/or emergencies of unknown concentrations, an approved self-contained breathing apparatus operated in the pressure demand mode is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practices. Good hygiene practices include but are not limited to wearing suitable chemical resistant gloves; eye protection; washing hands and affected skin immediately after handling, before breaks, and at the end of the workday; regularly cleaning work area and clothing; etc.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Solid
Color: White, Crystals

Odor:

Odorless

Odor Threshold:

No data available.

pH:

8.2 for 1% solution at 25°C

Melting Point/Freezing Point:

212 - 392 °F (100 - 200 °C) (decomposes)

Initial Boiling Point and Boiling

Decomposes before boiling

Range:

Flash Point:

No data available.

Evaporation Rate (butyl acetate=1):

No data available.

Flammability (solid, gas):

No data available.

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: No data available.

Flammability Limit – Lower: No data available.

Explosive Limit – Upper: No data available.

Explosive Limit – Lower: No data available.

Vapor Pressure:

5.30e-3 (Predicted)

Vapor Density (air =1):

68 lbs/ft³

Relative Density (water=1):

No data available.

Solubility(ies):

Solubility in water: Very Soluble (362 g/L (25 °C)

Solubility (other): No data available.

Specific Gravity:

2.17

Auto-Ignition Temperature:

No data available.

Decomposition Temperature: 212 – 392 °F (100 – 200 °C)

Viscosity: No data available.

Other Information:

Molecular Weight: 100.12 g/mol

Formula: KHCO₃

Section 10: Stability and Reactivity

Reactivity

Not reactive under normal temperatures and pressures.

Chemical Stability

Stable at normal temperatures and pressures. Decomposition can occur at elevated temperatures. Rapid decomposition occurs at 177°C (350°F).

Possibility of Hazardous Reactions

Temperatures above 100 °C (212 °F). Avoid contact with lime to prevent formation of corrosive potassium hydroxide (KOH).

Conditions to Avoid

None known.

Incompatible Materials

Lime. Acids. Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys.

Hazardous Decomposition Products

Potassium oxides, Oxides of Carbon, Heating above 100 °C may cause dangerous levels of carbon dioxide gas to be present in the atmosphere, Decomposes into potassium carbonate; water; carbon dioxide >100 °C.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: No known effects.

Inhalation: May cause respiratory tract irritation. Upper airway irritation, may cause cough, redness of mouth and upper airways.

Skin Contact: May cause mild skin irritation.

Eye Contact: May cause eye irritation.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Potassium Bicarbonate: LD50 (Rat) >2,825 mg/kg

Potassium Carbonate: 1,870 mg/kg (Rat)

Dermal

Potassium Bicarbonate: LD50 (Rabbit) >2000 mg/kg

Potassium Carbonate: LD50 (Rabbit) >2,000 mg/kg

Inhalation

Potassium Bicarbonate: (Rat) >4.88 mg/L air (analytical) 4.5h

Potassium Carbonate: LD50 (Rabbit) >2,000 mg/L

Repeated Dose Toxicity

No Data Available

Skin Corrosion/Irritation

Exposure to skin may cause redness, or irritation.

Serious Eye Damage/Eye Irritation

Eye exposure may cause irritation, and redness to the eye lids, conjunctiva.

Respiratory/Skin Sensitization

Reliable, adequate and relevant data from a Buehler study with guinea pigs indicate that potassium bicarbonate does not induce skin sensitization. Further on, based on the structure of potassium bicarbonate, no sensitizing effects are expected.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

None known.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Not classified.

Other Effects

None known.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

LC50: 1500 mg/l (Bluegill Sunfish) 96 hr

Aquatic Invertebrates

EC50: 1200 mg/L (Daphnia Magna) (practically nontoxic) - 48 hr

Toxicity to Aquatic Plants

No data available.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

Potassium bicarbonate dissolves and dissociates immediately into K⁺ and inorganic carbon species in aquatic ecosystems including soil and sediment pore water. Both potassium and inorganic carbon are ubiquitously present in the environment. Biodegradation is not relevant because potassium bicarbonate is an inorganic substance.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

This material is believed not to bioaccumulate.

Partition Coefficient n-octanol / water (log K_{ow})

No data available.

Mobility in Soil

Due to the ionic character and the high water solubility of potassium bicarbonate, no sorption onto soil and sediment organic matter occurs.

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

Reuse or reprocess, if possible. May be subject to disposal regulations. Measure the pH of solutions to determine disposal restrictions. Dispose in accordance with all applicable regulations.

Contaminated Packaging

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Section 14: Transportation Information**US Department of Transportation (DOT)**

This material is not regulated as a hazardous material for transport by the U.S. Department of Transportation in accordance with 49 CFR 172.101.

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information**US Federal Regulations****Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)**

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

No chemical(s) in this material are subject to the reporting requirements of CERCLA.

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)**EPCRA 302 Extremely Hazardous Substance**

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: No
Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information**Hazardous Materials Identification System (HMIS®) Classification**

Health Hazard: 0
Chronic Health Hazard: /
Flammability: 0
Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: Not Classified
Fire Hazard: Not Classified
Reactivity Hazard: Not Classified
Special: Not Classified

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate	ACGIH - American Conference of Industrial Hygienists
BCF - Bioconcentration Factor	AIHA - American Industrial Hygiene Association
EC50 - Effective concentration, 50%	BEI - Biological Exposure Indices
IDHL - Immediately Dangerous to Life and Health	CAS - Chemical Abstracts Service
Kg - Kilogram	DOT - US Department of Transportation
l - Liter	EPA - US Environmental Protection Agency
lb - Pound	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
LC50 - Lethal Concentration, 50%	IARC - International Agency for Research on Cancer
LD50 - Lethal Dose, 50%	IATA - International Air Transport Association
mg - milligram	IBC - Intermediate Bulk Container
ml - milliliter	IMDG - International Maritime Dangerous Goods
N/A - Not Applicable	NIOSH - National Institute for Occupational Safety and Health
N/D - Not Determined	NTP - National Toxicology Program
PEL - Permissible Exposure Limit	OSHA - US Occupational Health and Safety Administration
REL - Recommended Exposure Limit	SARA - US EPA Superfund Amendments and Reauthorization Act
STEL - Short-term Exposure Limit	TSCA - US EPA Toxic Substances Control Act
TWA - Time weighted average	UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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