Safety Data Sheet

Section 01 – Identification

Product Identifier	Potassium Bicarbonate
Other Means of Identification	Potassium hydrogencarbonate, monopotassium salt of carbonic acid
Product Use and Restrictions on Use	Leavening agent, cleaner ingredient, bath salt ingredient, water softener, fire extinguishers, soil pH modifier, fungicide, water pH modifier
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

This product has been assessed in accordance with the Hazardous Products Regulations and is not classified as a hazardous substance or mixture.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Potassium Bicarbonate	298-14-6	>99%	

Section 04 - First Aid Measures

Inhalation	If symptoms are experienced, remove source of contamination or move victim to fresh air. Obtain medical advice.
Skin Contact / Absorption	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists. Wash clothing, shoes and leather goods before reuse.
Eye Contact	DO NOT allow victim to rub eye(s). Let the eye(s) water naturally for a few minutes. Have victim look right and left, and then up and down. If particle/dust does not dislodge, flush with lukewarm, gently flowing water for 30 minutes or until particle/dust is removed, while holding the eyelid(s) open. If irritation persists, immediately obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye(s).
Ingestion	If irritation or discomfort occurs, obtain medical advice.
Additional Information	**Note to physician:** Treat symptomatically, large doses, particularly in patients with renal insufficiency, may produce systematic alkalosis and/or expansion in the extra-cellular fluid volume with edema.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Potassium Bicarbonate does not burn and does not support combustion. Use extinguishing media suitable for surrounding fire. Potassium Bicarbonate is used as a dry powder extinguishing agent suitable for all classes of fires.
Unsuitable Extinguishing Media	Not Available
Specific Hazards Arising From the Chemical	Corrosive fumes of sodium oxide, carbon monoxide and carbon dioxide are formed in a fire. Potassium Bicarbonate starts decomposing when heated over 50°C, releasing carbon dioxide, sodium carbonate and water, with total decomposition at 270°C. If extremely large quantities are involved in a fire, significant levels of carbon dioxide may be generated by heat. Closed containers may rupture violently when heated.
Special Protective Equipment and Precautions for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers.
Environmental Precautions	Avoid contamination of bodies of water during cleanup.
Methods and Materials for Containment and Cleaning Up	Dry sweeping is not recommended. Pre-damping the material or use of a vacuum is preferred. Shovel into clean, dry, labelled containers and cover. Flush area with water.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Store in suitable, labelled containers, preferably the supplier container. Protect contents from accidental contact with water. Protect from damage. Practice keeping storage containers closed when not in use and when empty.
Incompatibilities	Acids, monoammonium phosphate, sodium-potassium alloy, 2-furaldehyde.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Potassium Bicarbonate	Not Established		

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	No specific requirement, but it is good practice to wear chemical safety goggles.
Hand Protection	No specific requirement, but it is good practice to prevent skin contact.
Skin and Body Protection	Dry product is generally non-irritating to intact skin. However, this product can be irritating where skin has been damaged and can create skin irritation after long exposures when moisture is present. Under such conditions, long-sleeved clothing is recommended to minimize skin contact. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	No specific guidelines are available. An approved respirator suitable for non-toxic dust may be adequate.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Powder
Colour	White
Odour	Odourless
Odour Threshold	Not Applicable

Property

pH	8.3-8.4 @ 5%
Melting Point/Freezing Point	Decomposes
Initial Boiling Point and Boiling Range	Decomposes
Flash Point	Not Applicable
Evaporation Rate	Not Applicable
Flammability	Non-Flammable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20^{o}C)	Not Applicable
Vapour Density (Air=1)	Not Applicable
Relative Density	2.17 g/cm^3
Solubility(ies)	Moderately soluble in water. Insoluble in ethanol
Partition Coefficient: n-octanol/water	Not Applicable

Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Begins to decompose at 100°C with complete decomposition at 200°C
Viscosity	Not Applicable
Explosive Properties	Not Applicable
Specific Gravity (Water=1)	Not applicable
% Volatiles by Volume	Not Available
Formula	$KHCO_3$
Molecular Weight	100.12 g/mol

Section 10 - Stability and Reactivity

Reactivity	Readily decomposed by acids. In aqueous solution, it begins to break up into carbon dioxide and sodium carbonate at about 20°C and completely on boiling.
Stability	Normally stable in dry air at room temperature. In moist air, it slowly decomposes and loses carbon dioxide.
Possibility of Hazardous Reactions	None known.
Conditions to Avoid	Heat
Incompatible Materials	Acids, monoammonium phosphate, sodium-potassium alloy, 2-furaldehyde.
Hazardous Decomposition Products	Corrosive fumes of sodium oxide, carbon monoxide and carbon dioxide are formed in a fire. Potassium Bicarbonate starts decomposing when heated over 50°C, releasing carbon dioxide, sodium carbonate and water.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Potassium Bicarbonate	2825 mg/kg (rat)	Not Available	> 4.88 mg/L (rat, 4.5hr)

Chronic Toxicity – Carcinogenicity

Component	IARC
Potassium Bicarbonate	Not known to be carcinogenic.

Skin Corrosion/Irritation	Non-irritant to very mild skin irritant.
Ingestion	May cause nausea, vomiting and abdominal pain. Large doses can cause alkalosis.
Inhalation	May cause coughing or difficulty in breathing. Adverse symptoms may include: respiratory tract irritation, coughing.
Serious Eye Damage/Irritation	Very mild eye irritant.
Respiratory or Skin Sensitization	Skin irritation may be aggravated in persons with skin lesions.
Germ Cell Mutagenicity	Not known to be a mutagen.

Reproductive Toxicity	Potassium Bicarbonate is not known to cause reproductive or developmental toxicity. No adverse effects in the offspring were seen in a study where rats, rabbits and mice were exposed orally during pregnancy.
STOT-Single Exposure	Acute oral ingestion by patients may result in a ruptured stomach due to excessive gas development.
STOT-Repeated Exposure	Long-term ingestion of high doses can also cause high blood pressure.
Aspiration Hazard	Breathing of dust may aggravate acute or chronic asthma and other chronic pulmonary disease.
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Potassium Bicarbonate	Not available	Not available	EC_{50}(Daphnia magna 48hr): 1200 mg/L

Biodegradability	Not Available
Bioaccumulation	Potassium Bicarbonate is present in the environment as sodium and bicarbonate ions, which implies that it will not adsorb on particulate matter or surfaces and will not accumulate in living tissues.
Mobility	High mobility.
Other Adverse Effects	Not Available

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	Not Regulated
UN Proper Shipping Name	Not Regulated
Transport Hazard Class(es)	Not Regulated
Packaging Group	Not Regulated
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available
Transport in Bulk	Not Available

TDG

Other	Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date October 11, 2018

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA
7) PAN

ClearTech Industries Inc. - Locations

Corporate Head Office: 1500 Quebec Avenue, Saskatoon, SK, S7K 1V7
Phone: 1(306) 664 – 2522
Fax: 1(888) 281-8109

www.cleartech.ca

24 Hour Emergency Number - All Locations – 1(306) 664-2522