



# Safety Data Sheet

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## Section 01 - Identification

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<b>Product Identifier</b>	Ammonium Bicarbonate
<b>Other Means of Identification</b>	Acid ammonium carbonate, ammonium acid carbonate, ammonium hydrogen carbonate, ammonium hydrogencarbonate
<b>Product Use and Restrictions on Use</b>	Food additive, fertilizer, manufacture of plastic and rubber
<b>Initial Supplier Identifier</b>	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
<b>Prepared By</b>	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
<b>24-Hour Emergency Phone</b>	Phone: 1 (306) 664 – 2522

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## Section 02 - Hazard Identification

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### GHS-Classification

**Acute Toxicity-Oral** Category 4

### Physical Hazards

No known physical hazards.

### **Warning**

### **Hazard Statements**

H302 – Harmful if swallowed.

### **Pictograms**



### **Precautionary Statements**

P264 – Wash hands thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 – Rinse mouth.

P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act

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## Section 03 - Composition / Information on Ingredients

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Chemical Name	CAS Number	Weight %	Unique Identifiers
Ammonium Bicarbonate Ingredients not classified as hazardous under the Hazardous Products Regulations	1066-33-7	≥ 99% Balance	Not Available Not Available

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## Section 04 - First Aid Measures

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<b>Inhalation</b>	If symptoms are experienced, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
<b>Skin Contact / Absorption</b>	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
<b>Eye Contact</b>	Contact lenses should never be worn when working with this product. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. If irritation persists, seek medical attention.
<b>Ingestion</b>	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Additional Information</b>	Ingesting large doses can lead to sufficient absorption which may produce diuresis and systemic ammonia poisoning.

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## Section 05 - Fire Fighting Measures

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<b>Suitable Extinguishing Media</b>	Use extinguishing media appropriate for the surrounding fire.
<b>Unsuitable Extinguishing Media</b>	Not Available
<b>Specific Hazards Arising From the Chemical</b>	When heated to decomposition, carbon dioxide and ammonia gas may be generated.
<b>Special Protective Equipment and Precautions for Fire-Fighters</b>	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
<b>Further Information</b>	Not Available

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## Section 06 - Accidental Release Measures

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<b>Personal Precautions / Protective Equipment / Emergency Procedures</b>	Wear appropriate personal protective equipment. Ventilate area. Avoid dust formation. Avoid breathing vapours, mist, gas or dust.
<b>Environmental Precautions</b>	Prevent materials from entering sewers. Discharge into the environment must be avoided.
<b>Methods and Materials for Containment and Cleaning Up</b>	Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas.

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## Section 07 - Handling and Storage

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<b>Precautions for Safe Handling</b>	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.
<b>Conditions for Safe Storage</b>	Store in a cool, dry and well-ventilated place. Keep away from incompatibles. Containers should be kept tightly closed. Store below 33°C
<b>Incompatibilities</b>	Oxidizers, acids

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## Section 08 - Exposure Controls and Personal Protection

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### Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Ammonia	ACGIH	TWA	25ppm
		STEL	35ppm
	OSHA	PEL-TWA	35ppm

### 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** Chemical safety glasses with side shields should be worn while product is being handled.

**Hand Protection** Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

**Skin and Body Protection** Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

**Respiratory Protection** Dust mask should be worn if dust levels exceed 10mg/m<sup>3</sup>. An air purifying respirator is required if ammonia gas concentrations exceed 25ppm.

**Thermal Hazards** Not Available

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## Section 09 - Physical and Chemical Properties

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### Appearance

<b>Physical State</b>	Solid
<b>Colour</b>	White
<b>Odour</b>	Faint ammonia odor
<b>Odour Threshold</b>	Not Available

## **Property**

<b>pH</b>	7.8
<b>Melting Point/Freezing Point</b>	107.5°C
<b>Initial Boiling Point and Boiling Range</b>	Not Applicable
<b>Flash Point</b>	Not Applicable
<b>Evaporation Rate</b>	Not Available
<b>Flammability</b>	Non-Flammable
<b>Upper Flammable Limit</b>	Not Applicable
<b>Lower Flammable Limit</b>	Not Applicable
<b>Vapour Pressure (mm Hg, 20°C)</b>	58.9
<b>Vapour Density (Air=1)</b>	2.73
<b>Relative Density</b>	Not Available
<b>Solubility(ies)</b>	17.4g/100mL water at 20°C Insoluble in ethanol, benzene, alcohol, acetone.
<b>Partition Coefficient: n-octanol/water</b>	Log P <sub>ow</sub> = -2.4 at 25°C
<b>Auto-ignition Temperature</b>	Not Applicable
<b>Decomposition Temperature</b>	49°C
<b>Viscosity</b>	Not Applicable
<b>Explosive Properties</b>	Not Available
<b>Specific Gravity (Water=1)</b>	1.59
<b>% Volatiles by Volume</b>	Not Available
<b>Formula</b>	NH <sub>4</sub> HCO <sub>3</sub>
<b>Molecular Weight</b>	79.06

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## **Section 10 - Stability and Reactivity**

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<b>Reactivity</b>	Not Available
<b>Stability</b>	Product stable at room temperature, will decompose at 49°C
<b>Possibility of Hazardous Reactions</b>	Polymerization will not occur.
<b>Conditions to Avoid</b>	Heat, dust generation
<b>Incompatible Materials</b>	Oxidizers, acids, nitrates, nitrites, alkalis, reducing agents.

**Hazardous Decomposition Products**

Temperatures above 49°C and contact with acids can cause carbon dioxide and ammonia gases to be formed.

**Section 11 - Toxicological Information****Acute Toxicity**

Component	Oral LD <sub>50</sub>	Dermal LD <sub>50</sub>	Inhalation LC <sub>50</sub>
Ammonium bicarbonate	1576mg/kg (rat)	Not Available	Not Available

**Chronic Toxicity – Carcinogenicity**

Component	IARC
Ammonium Bicarbonate	Not listed as carcinogenic.

**Skin Corrosion/Irritation**

Irritation. Repeated skin contact may lead to dermatitis. Symptoms are generally alleviated when exposure ends.

**Ingestion**

Moderately toxic, ingesting more than a teaspoon can cause further injury.

**Inhalation**

Generation of dust may cause respiratory irritation.

**Serious Eye Damage/Irritation**

Irritation

**Respiratory or Skin Sensitization**

Not Available

**Germ Cell Mutagenicity**

Not Available

**Reproductive Toxicity**

Not Available

**STOT-Single Exposure**

Ingestion (especially in large volumes) can irritate the tissues of the mouth, esophagus and other tissues of the digestive system. Respiratory irritation. Exposure can cause coughing, chest pains, and difficulty in breathing.

**STOT-Repeated Exposure**

Not Available

**Aspiration Hazard**

Material is irritating to mucous membranes and upper respiratory tract.

**Synergistic Materials**

Not Available

**Section 12 – Ecological Information****Ecotoxicity**

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Ammonium Bicarbonate	Not Available	LC <sub>50</sub> (Rainbow trout, 96hr):17.3mg/L	LC <sub>50</sub> (Grass shrimp, 48hr): 1.2mg/L
<b>Biodegradability</b>	Ammonium compounds are biodegradable. The products of degradation are more toxic.		
<b>Bioaccumulation</b>	Will not accumulate in the food chain.		
<b>Mobility</b>	Not Available		
<b>Other Adverse Effects</b>	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.

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## Section 14 – Transport Information

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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 devices 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.

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## Section 15 – Regulatory Information

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**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.**

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## Section 16 – Other Information

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**Preparation Date** August 17, 2015

**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<sup>®</sup> 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

### **ClearTech Industries Inc. - Locations**

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