MATERIAL SAFETY DATA SHEET

Potassium Carbonate Solution

Section 01 - Chemical And Product And Company Information

Product Identifier .................. Potassium Carbonate 47%

Product Use .......................... Glass industry, chemical processing, cleaning agent, detergents, gas purification, polymer catalyst, rubber additives, raw wool washing

Supplier Name ........................ ClearTech Industries Inc.  
2303 Hanselman Avenue  
Saskatoon, SK, Canada  
S7L 5Z3

Prepared By ............................ ClearTech Industries Inc. Technical Department  
Phone: (306)664-2522

Preparation Date ..................... February 25, 2010

24-Hour Emergency Phone .......... 306-664-2522

Section 02 - Composition / Information on Ingredients

Hazardous Ingredients .................. Potassium Carbonate 46-48%

CAS Number .......................... Potassium Carbonate 584-08-7

Synonym (s) ............................ Pearl ash, salt of tartar, carbonic acid dipotassium salt

Section 03 - Hazard Identification

Inhalation ............................ This material can produce dust during processing. Breathing high concentrations may be harmful. Breathing this material causes irritation of the throat and lungs with cough and difficult breathing.
Skin Contact / Absorption................. Causes skin irritation with redness, an itching or burning feeling, and/or swelling of the skin. May cause skin damage.

Eye Contact.................................. Causes severe eye irritation if untreated with tearing, redness, or a stinging or burning feeling. May cause swelling of the eyes with blurred vision. Can injure eye tissue. Effects may become more serious with repeated or prolonged contact.

Ingestion........................................ Swallowing this material may be harmful or cause death. Harmful effects include burns and permanent damage to the digestive tract, including the mouth, throat, stomach and intestines. Symptoms may include severe abdominal pain and vomiting of blood. Blood loss through damaged tissue may lead to low blood pressure and shock.

Exposure Limits.............................. No occupational exposure levels have been established for potassium carbonate solution.

Section 04 - First Aid Measures

Inhalation........................................ Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.

Skin Contact / Absorption............... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact.................................. Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

Ingestion........................................ Have person drink a glass of water immediately if able to swallow. Get immediate medical attention. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Additional Information.................... Not available

Section 05 - Fire Fighting

Conditions of Flammability.............. Not flammable. Decomposes above 950°C.

Means of Extinction........................ Choose extinguishing media suitable for surrounding materials.

Flash Point.................................... None
Auto-ignition Temperature........ Not applicable

Upper Flammable Limit ............. Not applicable

Lower Flammable Limit............. Not applicable

Hazardous Combustible Products... Not available

Special Fire Fighting Procedures...... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Explosion Hazards................... Product itself not considered to be an explosion hazard. Mixing product with sodium hydrosulphite, aluminum powder and benzaldehyde may cause mixture to explode.

**Section 06 - Accidental Release Measures**

Leak / Spill............................ Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Flush with water to remove any residue.

Deactivating Materials............. Not available

**Section 07 - Handling and Storage**

Handling Procedures................ 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.

Storage Requirements............. Store in labeled, sealed containers in a cool, dry, well-ventilated area.

**Section 08 - Personal Protection and Exposure Controls**

Protective Equipment

Eyes................................. Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Respiratory.......................... Where airborne potassium carbonate mists may be present, a NIOSH/MSHA approved high-efficiency particulate filter with full face piece or self-contained breathing apparatus should be used. Follow any applicable respirator use standards and regulations.
Gloves. Impervious gloves of chemically resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

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

Footwear. Impervious boots of chemically resistant material should be worn at all times.

Engineering Controls

Ventilation Requirements. Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other. Safety shower and eyewash station must be provided in the immediate work area.

Section 09 - Physical and Chemical Properties

Physical State. Liquid

Odor and Appearance. Odorless, clear liquid

Odor Threshold. Not applicable

Specific Gravity (Water=1). 1.498

Vapor Pressure (mm Hg, 20°C). Not available

Vapor Density (Air=1). Not available

Evaporation Rate. Not available

Boiling Point. Not available

Freeze/Melting Point. -12°C

pH. 11.6 (3% solution)

Water/Oil Distribution Coefficient. Not available

Bulk Density. Not available

% Volatiles by Volume. Not available
Solubility in Water.......................... 100%
Molecular Formula.......................... K₂CO₃
Molecular Weight.......................... 138.21

Section 10 - Stability and Reactivity

Stability........................................ Stable
Incompatibility.............................. Lime, chlorine trifluoride, magnesium, acids, prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys.

Hazardous Products of Decomposition: Potassium carbonate and lime will react in the presence of water to form caustic potash (K₂O). Thermal decomposition may yield oxides of carbon and potassium.

Polymerization.............................. Will not occur

Section 11 - Toxicological Information

Irritancy....................................... Not available
Sensitization............................... Not available

Chronic/Acute Effects.................... Repeated or prolonged contact may result in dermatitis.

Synergistic Materials..................... Not available

Animal Toxicity Data..................... LD₅₀(oral, rat): 1870mg/kg
............................................. LD₅₀(oral, mouse): 2570mg/kg

Carcinogenicity............................ This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

Reproductive Toxicity..................... Not available

Teratogenicity.............................. Not available

Mutagenicity.............................. Not available
Section 12 - Ecological Information

Fish Toxicity

LC50 (Rainbow trout, 96 hrs): 68mg/L
LC50 (Bluegill sunfish, 96 hrs): 230mg/L

Biodegradability

This material is inorganic and not subject to biodegradation.

Environmental Effects

This material is believed not to bioaccumulate and persist in environment. Leak or spill may increase pH of waterways and affect aquatic life.

Section 13 - Disposal Consideration

Waste Disposal

Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transportation Information

TDG Classification

Class: 8
Group: II
PIN Number: UN1760

Other

Secure containers (full and/or empty) with suitable hold down devises during shipment.

Section 15 - Regulatory Information

WHMIS Classification: E

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

Section 16 - Other Information

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 / MSDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CADC) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Material 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 or technical service department.

ClearTech Industries Inc. - Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Postal Code</th>
<th>Phone Number</th>
<th>Fax Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richmond, B.C.</td>
<td>12431 Horseshoe Way</td>
<td>V7A 4X6</td>
<td>604-272-4000</td>
<td>604-272-4596</td>
</tr>
<tr>
<td>Calgary, AB.</td>
<td>5516E - 40th St. S.E.</td>
<td>T2C 2A1</td>
<td>403-279-1096</td>
<td>403-236-0989</td>
</tr>
<tr>
<td>Edmonton, AB.</td>
<td>11750 - 180th Street</td>
<td>T5S 1N7</td>
<td>780-452-6000</td>
<td>780-452-4600</td>
</tr>
<tr>
<td>Saskatoon, SK.</td>
<td>2302 Hanselman Avenue</td>
<td>S7L 5Z3</td>
<td>306-933-0177</td>
<td>306-933-3282</td>
</tr>
<tr>
<td>Regina, SK.</td>
<td>555 Henderson Drive</td>
<td>S4J 5X2</td>
<td>306-721-7737</td>
<td>306-721-8611</td>
</tr>
<tr>
<td>Winnipeg, MB.</td>
<td>340 Saulteaux Crescent</td>
<td>R3J 3T2</td>
<td>204-987-9777</td>
<td>204-987-9770</td>
</tr>
<tr>
<td>Mississauga, ON.</td>
<td>7480 Bath Road</td>
<td>L4T 1L2</td>
<td>905-612-0566</td>
<td>905-612-0575</td>
</tr>
</tbody>
</table>

24 Hour Emergency Number - All Locations - 306-664-2522