

## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT IDENTIFICATION AND MANUFACTURER/SUPPLIER IDENTIFICATION

<b>Product Name:</b>	Calcium Fumarate Trihydrate; SOL-U-CAL	Bartek Ingredients Inc.
<b>Synonyms:</b>	2-Butenedioic acid, calcium salt, trihydrate	421 Seaman Street
<b>Product Use:</b>	Calcium fortification of food and beverages	Stoney Creek, Ontario
<b>CAS NUMBER:</b>	28376 -12-7	Canada L8E 3J4
<b>EINECS-NR.</b>	None	IN CASE OF A DANGEROUS GOODS EMERGENCY CALL CANUTEC AT THE 24-HOUR NUMBER 613-996-6666
<b>Molecular Formula:</b>	CaC <sub>4</sub> H <sub>2</sub> O <sub>4</sub> ·3H <sub>2</sub> O	
<b>Product Identification Number:</b>	None	

### 2. COMPOSITION OF INGREDIENTS

Chemical Name:	CAS. No.	% by wt
Calcium fumarate trihydrate	28376 -12-7	99.0 min

### 3. HAZARDS IDENTIFICATION

Health injuries are not known or expected under normal use.  
May cause eye irritation if exposed to dust.

### 4. FIRST AID MEASURES

<b>Inhalation:</b>	Remove person from the area of contamination to fresh air. Seek medical help if breathing difficult.
<b>Skin Contact:</b>	Wash off with water.
<b>Eyes:</b>	Flush eyes with clean water, lifting eyelids occasionally, flush with water for 15 minutes. Seek medical advice if irritation persists.
<b>Ingestion</b>	Drink 2-4 cups of water or milk. Seek medical help if needed.

### 5. FIREFIGHTING MEASURES

Explosive Hazard: This material may form flammable dust-air mixtures when finely divided. Prevent dust buildup by providing adequate ventilation.

<b>Means of Extinction:</b>	Water, carbon dioxide, dry chemical powder or appropriate foam.
<b>Hazardous Combustion Products:</b>	Smoulders on ignition. On burning will emit hazardous fumes, carbon monoxide, and carbon dioxide.
<b>Protection of Firefighters:</b>	Should wear proper protective equipment and self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Use appropriate protection (see section 8).
<b>Methods for cleaning up:</b>	See section 13.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Initiate normal safety procedures.
<b>Storage:</b>	Do not store with strong oxidants, strong bases, amines, carbonates, and alkali metals. Store in a cool dry place. Keep containers sealed to avoid contamination and spillage.
<b>Packaging Materials:</b>	Paper bags and fibre bulk bags.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Engineering Measures:</b>	Prevent dust build-up by providing adequate ventilation and regular cleaning.
<b>Respiratory System:</b>	Use NIOSH approved N-95 dust mask.
<b>Skin and Body:</b>	Wear approved protective work boots, work clothing.
<b>Hands:</b>	Gloves - protective recommended.
<b>Eyes:</b>	Safety glass with side shields, chemical goggles if contact likely.
<b>Hair:</b>	Some form of hat or hair covering.
<b>Other Devices:</b>	Maintain eye wash facility in work area.

## 9. PHYSICAL PROPERTIES

<b>Physical State:</b>	Solid	<b>Vapour Density:</b>	Not applicable
<b>Odour and Appearance:</b>	Odourless white crystals	<b>Vapour Pressure:</b>	Not applicable
<b>Specific Gravity:</b>	1.7	<b>Freezing Point:</b>	Not applicable
<b>Solubility in Water:</b>	1.2 g/100 ml at 25°C	<b>Evaporation Rate:</b>	Not applicable
<b>pH - of Aqueous Solution:</b>	5-7	<b>Melting Point:</b>	Decomposes
<b>Flashpoint (Cleveland open cup):</b>	Not applicable		
<b>Upper Flammable Limit:</b>	Unknown		
<b>Lower Flammable Limit:</b>	Unknown		

## 10. REACTIVITY AND STABILITY

<b>Stability:</b>	Stable at normal temperatures.
<b>Conditions to Avoid:</b>	Temperatures over 300°C and incompatible substances.
<b>Materials to Avoid:</b>	Strong oxidants, strong bases, alkali metals, amines, and carbonates.
<b>Hazardous Decomposition Products:</b>	Maleic Acid, Maleic Anhydride, Carbon Monoxide, Carbon Dioxide, Lime.

## 11. TOXICOLOGICAL INFORMATION

<b>Oral LD-50 (rat)</b>	9300 mg/kg
<b>Intraperitoneal LD-50 (mouse)</b>	100 mg/kg
<b>Intraperitoneal LDLo (rat)</b>	587 mg/kg
<b>Oral LDLo (rabbit):</b>	5000 mg/kg
<b>Skin irritation (rabbit):</b>	Mild

## 12. ECOLOGICAL INFORMATION

**Biodegradable:** Product is a salt of fumaric acid, which is readily biodegradable.  
**Ecotoxicity effects:** Not known or expected under normal use.

## 13. DISPOSAL CONSIDERATIONS

**Responsibility of the receiver to have knowledge of national and local regulations.**

**Methods of Disposal:** Sweep up, place in bag and hold for waste disposal. Avoid raising dust.

## 14. TRANSPORTATION INFORMATION

**No Restrictions:** Land, air, sea, and inland waterways.

## 15. REGULATORY INFORMATION

**Responsibility of the receiver to have knowledge of local and national regulations.**

**Label Name:** Calcium Fumarate Food Grade

The product is labelled as follows:

May cause eye irritation if exposed to dust.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice if irritation persists.

### NATIONAL AND INTERNATIONAL REGULATIONS

Approved as a dietary and nutritional additive by the U.S. Food and Drug Administration (21CFR§172.350).  
May be used "in food at a level not in excess of the amount reasonably required to accomplish the intended effect".

## 16. OTHER INFORMATION

Bartek Ingredients Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the users' responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This information is given in good faith, but no warranty, express or implied is made.