



**ICL Performance
Products LP**

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SNOW FRESH™ PRODUCE STABILIZER
Reference Number: AST10052
Date: November 1, 2005
Chemical Family: Mixture of Organic Acids and Inorganic Salts

Company Information:

ICL PERFORMANCE PRODUCTS LP
622 Emerson Road - Suite 500
St. Louis, Missouri 63141

Emergency telephone: In USA call CHEMTREC: 1-800-424-9300
In Canada call CANUTEC: 1-613-996-6666

General Information: 1-800-244-6169

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>
Calcium Chloride	10043-52-4
Sodium Acid Pyrophosphate	7758-16-9
Citric Acid	77-92-9
L-ascorbic Acid	50-81-7

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: White to off-white powder or granules with no odor

WARNING STATEMENTS

DANGER!
CAUSES BURNS TO EYES
MAY CAUSE IRRITATION TO RESPIRATORY TRACT

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact and inhalation

EYE CONTACT: This product causes eye burns based on toxicity studies.

SKIN CONTACT: No more than slightly toxic or slightly irritating based on toxicity studies.
Prolonged contact with the dry powder may cause drying or chapping of the skin.

INHALATION: This product may cause coughing, chest tightness, runny nose, chest pain, and burning throat based on toxicity tests with the components.

ICL Performance Products LP Material Safety Data Sheet

Material: SNOW FRESH™ PRODUCE STABILIZER

Reference No.: AST10052

Page 2 of 5

November 1, 2005

INGESTION: No more than slightly toxic if swallowed based on toxicity tests with the components. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Swallowing large quantities may cause gastrointestinal tract irritation, nausea, vomiting, and diarrhea.

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. If easy to do, remove any contact lenses. Get medical attention. Remove material from eyes, skin and clothing.

IF ON SKIN, immediately first aid is not likely to be required. However, this material can be removed with water. Wash heavily contaminated clothing before reuse.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

IF SWALLOWED, immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice.

5. FIRE FIGHTING MEASURES

FLASH POINT: Not applicable

EXTINGUISHING MEDIA: In case of fire, use water spray (fog), foam, dry chemical, or CO₂.

HAZARDOUS PRODUCTS OF COMBUSTION: At high temperatures or when moistened under fire conditions, this material may produce toxic or irritating fumes of calcium or hydrogen chlorides.

UNUSUAL FIRE AND EXPLOSION HAZARDS: If this material is milled or the process generates fines, the fines could form an explosive mixture if dispersed in a sufficient quantity of air.

FIRE FIGHTING EQUIPMENT: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

In case of spill, sweep, scoop or vacuum and remove and place in containers. If possible, complete clean up on a dry basis. After all practical dry clean up has been done, flush residual spill area with water.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

7. HANDLING AND STORAGE

HANDLING

Do not get in eyes, on skin, or on clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

Emptied container retains product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed. The reuse of this material's container for non-industrial purposes is prohibited and any reuse must be in consideration of the data provided in this MSDS.

ICL Performance Products LP Material Safety Data Sheet

Material: SNOW FRESH™ PRODUCE STABILIZER

Page 3 of 5

Reference No.: AST10052

November 1, 2005

STORAGE: Product is stable under normal conditions of storage and handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION: Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

SKIN PROTECTION: Wear appropriate chemical resistant gloves and clothing to protect potentially exposed skin. Consult glove manufacturer to determine appropriate type glove for given application. Wash contaminated skin promptly. Launder contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

RESPIRATORY PROTECTION: Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment (full facepiece recommended) when airborne exposure is excessive. If used, full facepiece replaces need for chemical goggles and/or face shield. Consult respirator manufacturer to determine appropriate type equipment for given application. The respirator use limitations specified by NIOSH/MSHA or the manufacturer must be observed. Respiratory protection programs must be in compliance with 29 CFR 1910.134.

VENTILATION: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). The use of local mechanical exhaust ventilation is preferred at sources of air contamination such as open process equipment.

AIRBORNE EXPOSURE LIMITS: OSHA and ACGIH have not established specific exposure limits for this material. However, OSHA and ACGIH have established limits for particulates not otherwise classified (PNOC) which are the least stringent exposure limits applicable to dusts.

OSHA PEL

15 mg/m³ (total dust) 8-hr TWA
5 mg/m³ (respirable) 8-hr TWA

ACGIH TLV

10 mg/m³ (inhalable) 8-hr TWA
3 mg/m³ (respirable) 8-hr TWA

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to off-white powder or granules
Odor:	No odor
pH (1% solution @ 20 degrees C):	2.3-2.5
Melting Point:	Unknown
Bulk Density:	1.0 g/cc
Solubility in Water (wt. 18%):	Totally miscible

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

STABILITY: Product is stable under normal conditions of storage and handling.

MATERIALS TO AVOID: Strong oxidizers, methyl vinyl ether, zinc, iron, aluminum, bromine trifluoride, mixtures of lime and boric acid, barium chloride, and 2-furan percarboxylic acid. This material is corrosive to aluminum, aluminum alloys and yellow brass.

HAZARDOUS DECOMPOSITION PRODUCTS: Explosive concentrations of hydrogen gas may form if aqueous solutions come in contact with reactive metals (i.e., iron, zinc, or aluminum). May form hydrogen chloride in presence of sulfuric and phosphoric acids, or water at elevated temperatures. Toxic chlorine fumes emitted when heated to decomposition.

HAZARDOUS POLYMERIZATION: Does not occur.

ICL Performance Products LP Material Safety Data Sheet

Material: SNOW FRESH™ PRODUCE STABILIZER

Reference No.: AST10052

Page 4 of 5

November 1, 2005

11. TOXICOLOGICAL INFORMATION

Data from ICL Performance Products LP single-dose (acute) animal studies with this material are given below:

Oral - Slightly Toxic (rat LD50 - 4,300 mg/kg)

Dermal - Practically Nontoxic (rabbit LD50 - >5,000 mg/kg)

Eye Irritation - (rabbit, 24-hr Corrosive)

Skin Irritation - Slightly Irritating (rabbit, 4-hr) Slight erythema in all animals. Animals were free of dermal irritation within 3 to 7 days.

COMPONENTS

Data from ICL Performance Products LP studies and/or the available scientific literature on the components of this material which have been identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200) are discussed below:

Calcium Chloride, Ascorbic Acid, and Citric Acid

These components are deemed to be generally recognized as safe (GRAS) by the Food and Drug Administration and are regulated for use in food. Citric acid and ascorbic acid are naturally occurring dietary constituents of food for man and normal components of the cells of the human body. As a result of this, there is a considerable amount of data on these components available in the scientific literature.

The results of published acute toxicity studies on individual components indicates that they are moderate to severe eye irritants and mild to moderate skin irritants, which may contribute to the irritation potential of this product as reported above. The irritant effect of one component, calcium chloride, is reported to be enhanced due to effects of hydration, particularly when in contact with moist or abraded tissues. Excessive exposure to this same component in the form of airborne dust may be irritating to the upper respiratory tract and other mucous membranes. Experiments conducted to assess the mutagenic potential of calcium chloride were reported to be negative.

Toxicity and oncogenicity studies in rats and mice were conducted for the National Toxicology Program (NTP) with ascorbic acid, another of the components of this product. Thirteen-week oral toxicity studies were conducted in both species. Administration of ascorbic acid at dietary concentrations of 25,000 ppm or above for 13 weeks was reported to produce weight gain reductions, alterations of the bone marrow in female rats and endometrial gland alterations in uteri of female mice. In oncogenicity studies, no treatment-related increase in tumors was reported in either rats or mice fed diets containing up to 50,000 ppm of ascorbic acid. The NTP report cited references indicating ascorbic acid induced sister-chromatid exchange (SCE) in Chinese hamster bone marrow cells *in vitro* and somatic mutations in Chinese hamster ovary cells *in vitro*, but did not induce SCE in Chinese hamster bone marrow cells *in vivo*. No teratogenic effects were reported in the offspring of rats, mice, rabbits, and guinea pigs or hamsters exposed to ascorbic acid and to citric acid, another of the components of this product. Citric acid was reported to reduce weight gain and packed cell volume in laboratory animals given low-calcium diets supplemented with 4% or 5% citric acid.

12. ECOLOGICAL INFORMATION

ICL Performance Products LP has not conducted environmental toxicity or biodegradation studies with this product.

13. DISPOSAL CONSIDERATIONS

This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dry material may be landfilled or recycled in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations

ICL Performance Products LP Material Safety Data Sheet

Material: SNOW FRESH™ PRODUCE STABILIZER

Reference No.: AST10052

to properly classify your shipment for transportation.

US DOT

Not regulated for transport

Canadian TDG

Not regulated for transport

15. REGULATORY INFORMATION

TSCA Inventory: Listed
DSL Inventory: Listed
WHMIS Classification: D2(B) - Materials causing other toxic effects

SARA Hazard Notification
Hazard Categories Under Title III Rules (40 CFR 370): Immediate
Section 302 Extremely Hazardous Substances: Not Applicable
Section 313 Toxic Chemical(s): Not Applicable

CERCLA Reportable Quantity: Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

16. OTHER INFORMATION

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	3	0	0	
Suggested HMIS Rating	3	0	0	J

Reason for revision: New Company Supersedes MSDS dated: November 21, 2003
Product Use: Food Ingredient

SNOW FRESH™ is a trademark of ICL Performance Products LP

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