



## MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT: Fructose

MSDS DATE: 18 July, 2011

### Notice

NSF Reference Standards are for test and assay use only and are not intended for human or animal consumption. This document communicates information relating to test and assay use only and may not be applicable for any unauthorized use.

#### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Fructose  
Catalog Code: RS1-0035  
Synonym: Levulose, Fruit sugar  
Chemical Formula:  $C_6H_{12}O_6$   
CAS #: 57-48-7

#### Contact Information:

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#### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Name: Fructose

CAS#: 57-48-7

% by Weight: 100%

Toxicological Data on Ingredients: Not Applicable

#### SECTION 3: HAZARDS IDENTIFICATION

##### Potential Acute Health Effects:

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), or eye contact, of ingestion, of inhalation.

##### Potential Chronic Health Effects:



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CARCINOGENIC EFFECTS: Not Available  
MUTAGENIC EFFECTS: Not available.  
TERATOGENIC EFFECTS: Not available  
DEVELOPMENTAL TOXICITY: Not available

### SECTION 4: FIRST AID MEASURES

**Eye Contact:**

Check for and remove contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

**Skin Contact:**

In case of contact, wash skin with soap and water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes and thoroughly wash before reuse. Get medical attention if irritation develops.

**Serious Skin Contact:**

Not Available

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

**Serious Inhalation:**

Not available.

**Ingestion:**

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing. Seek medical attention immediately.

**Serious Ingestion:** Not available.

### SECTION 5: FIRE-FIGHTING MEASURES

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not Available.

Flammable Limits: Not available.

Flash Points: Not available

Products of Combustion: These products are carbon oxides (CO, CO<sub>2</sub>)

Special Remarks on Explosion Hazards: Not available.



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Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Special Remarks on Fire Hazards: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional requirements.

Large Spill:

Use appropriate tools to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional requirements.

### SECTION 7: HANDLING AND STORAGE

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Protect from light.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION



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### Engineering Controls:

If laboratory operations generate dust, fume or mist, use local exhaust ventilation or other appropriate engineering controls to keep exposure to airborne contaminants below the exposure limit.

### Personal Protection:

Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Crystalline Solid.

Odor: Odorless.

Taste: Strong Sweet

Molecular Weight: 180.16 g/mol

Color: White

pH (1% soln/water): Not available

Boiling Point: Not available.

Melting Point: Decomposition Temperature 103°C

Critical Temperature: Not available

Specific Gravity: 1.52

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Soluble in cold water.



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### SECTION 10: STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

### SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Ingestion, Inhalation

Toxicity to Animals: Acute oral toxicity (LD50): 4000 mg/kg [Rat].

Chronic Effects on Humans: Not available

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available

Special Remarks on Chronic Effects on Humans: Passes through placenta.

Special Remarks on other Toxic Effects on Humans:

Skin: May cause skin irritation, not expected to be a health hazard.

Eyes: Dust may cause mechanical eye irritation.

Inhalation: May cause respiratory tract irritation

Ingestion: Extremely large doses may cause GI tract disturbances.

Low hazard expected for usual laboratory handling.

### SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.



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Toxicity of the Products of Biodegradation: The products of degradation and the product itself are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

### SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material (United States)

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

### SECTION 15: REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: D-Fructose

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to EU regulations.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):



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Health: 1

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

### SECTION 16: OTHER INFORMATION

References: Not available.

Other Special Considerations: Not available.

### DISCLAIMER:

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