

# D(-)-Fructose

## Material Safety Data Sheet

### Section 1. Product and Company Identification

Product Name D(-)-Fructose

Product Code FX0455

Manufacturer EMD Chemicals Inc.

Effective Date 3/3/2003

P.O. Box 70

480 Democrat Road

Gibbstown, NJ 08027

Prior to January 1, 2003 EMD Chemicals Inc. was

EM Industries, Inc. or EM Science, Division of

EM Industries, Inc.

#### For More Information Call

856-423-6300 Technical Service

Monday-Friday: 8:00 AM - 5:00 PM

#### In Case of Emergency Call

800-424-9300 CHEMTREC

(USA)

613-996-6666 CANUTEC

(Canada)

24 Hours/Day: 7 Days/Week

Synonym FRUIT SUGAR; LEVULOSE

Material Uses Analytical reagent.

Chemical Sugar

Family

### Section 2. Composition and Information on Ingredients

Component

CAS #

% by

Weight

D(-) FRUCTOSE

57-48-7

100

### Section 3. Hazards Identification

Physical State and Solid. (Crystals solid.)

Appearance

Emergency CAUTION!

Overview MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Routes of Entry Absorbed through skin. Eye contact. Inhalation. Ingestion.

Potential Acute Health

Effects

Eyes May be hazardous in case of eye contact (irritant).

Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation May be hazardous in case of inhalation (lung irritant).

Ingestion No known acute effects of this product resulting from ingestion.

Potential Chronic Health Effects

Carcinogenic This material is not known to cause cancer in animals or humans.

Effects

Additional information See Toxicological Information (section 11)

Medical Conditions Repeated or prolonged exposure is not known to aggravate medical

Aggravated by condition.

Overexposure:

### Section 4. First Aid Measures



## D(-)-Fructose

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get 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.

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### Section 5. Fire Fighting Measures

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-ignition Temperature</b>	Not available.
<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ).
<b>Fire Hazards in Presence of Various Substances</b>	Not available.
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of static discharge: No. Risks of explosion of the product in presence of mechanical impact: No.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Protective Clothing (Fire)</b>	Be sure to use an approved/certified respirator or equivalent.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Not available.

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### Section 6. Accidental Release Measures

<b>Small Spill and Leak</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
<b>Large Spill and Leak</b>	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
<b>Spill Kit Information</b>	No specific spill kit required for this product.

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### Section 7. Handling and Storage

<b>Handling</b>	Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep
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## D(-)-Fructose

**Storage** container closed. Do not ingest.  
Keep container in a cool, well-ventilated area.

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### Section 8. Exposure Controls/Personal Protection

**Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### Personal Protection

**Eyes** Splash goggles.

**Body** Lab coat.

**Respiratory** Dust respirator. Be sure to use an approved/certified respirator or equivalent.

**Hands** Gloves.

**Feet** Not applicable.

#### Protective Clothing

##### (Pictograms)

**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.

Product Name	Exposure Limits
D(-) FRUCTOSE	Not available.

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### Section 9. Physical and Chemical Properties

**Odor** Not available.

**Color** White.

**Physical State and Appearance** Solid. (Crystals solid.)

**Molecular Weight** 180.16 g/mole

**Molecular Formula** C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

**pH** Not available.

**Boiling/Condensation Point** Not available.

**Melting/Freezing Point** Not available.

**Specific Gravity** Not available.

**Vapor Pressure** Not available.

**Vapor Density** Not available.

**Odor Threshold** Not available.

**Evaporation Rate** Not available.

**LogKow** Not available.

**Solubility** Soluble in water.

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### Section 10. Stability and Reactivity

**Stability and Reactivity** The product is stable.

**Conditions of Instability** Not available.

**Incompatibility with** Reactive with oxidizing agents.

## D(-)-Fructose

### Various Substances

**Rem/Incompatibility** Not available.

**Hazardous** Not available.

### Decomposition

### Products

**Hazardous** Will not occur.

### Polymerization

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### Section 11. Toxicological Information

#### RTECS Number:

D(-)-Fructose

LS7120000

#### Toxicity

LD50: Not available.

LC50: Not available.

**Chronic Effects on** Not available.

#### Humans

**Acute Effects on** May be hazardous in case of eye contact (irritant). May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May be hazardous in case of inhalation (lung irritant).

**Synergetic Products** Not available.

#### (Toxicologically)

**Irritancy** Draize Test: Not available.

**Sensitization** Not available.

**Carcinogenic** This material is not known to cause cancer in animals or humans.

#### Effects

**Toxicity to** Not available.

#### Reproductive

#### System

**Teratogenic Effects** Not available.

**Mutagenic Effects** Not available.

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### Section 12. Ecological Information

**Ecotoxicity** Not available.

**BOD5 and COD** Not available.

**Toxicity of the** The product itself and its products of degradation are not toxic.

#### Products of

#### Biodegradation

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### Section 13. Disposal Considerations

**EPA Waste** Not available.

#### Number

**Treatment** Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. ALWAYS CONTACT A PERMITTED WASTE DISPOSAL (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

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### Section 14. Transport Information

**DOT Classification** Proper Shipping Name: CHEMICALS,  
N.O.S.



## D(-)-Fructose

<b>TDG Classification</b>	RQ: Not applicable.
<b>IMO/IMDG Classification</b>	Not available.
<b>ICAO/IATA Classification</b>	Proper Shipping Name: CHEMICALS, N.O.S.
	RQ: Not applicable.

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### Section 15. Regulatory Information

<b>U.S. Federal Regulations</b>	TSCA 8(b) inventory: D(-) FRUCTOSE  SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution – chemical inventory – hazard identification: No products were found. SARA 313 toxic chemical notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.
<b>WHMIS (Canada)</b>	Not controlled under WHMIS (Canada). CEPA DSL: D(-) FRUCTOSE This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.
<b>International Regulations</b>	
<b>EINECS</b>	D(-) FRUCTOSE 200-333-3
<b>DSCL (EEC)</b>	R36/37/38- Irritating to eyes, respiratory system and skin.
<b>International Lists</b>	Australia (NICNAS): D(-) FRUCTOSE  Japan (MITI): D(-) FRUCTOSE  Korea (TCCL): D(-) FRUCTOSE  Philippines (RA6969): D(-) FRUCTOSE China: No products were found.
<b>State Regulations</b>	No products were found. California prop. 65: No products were found.

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### Section 16. Other Information

National Fire

0 Fire

D(-)-Fructose

Protection  
Association  
(U.S.A.)

00 Hazard  
Health  
Reactivity  
Specific  
Hazard

Changed Since Last +  
Revision

Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

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