

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



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Eye Contact	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.
Skin Contact	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.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	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.

Section 5. Fire Fighting Measures

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

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	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.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep
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Storage container closed. Do not ingest.
Keep container in a cool, well-ventilated area.

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.

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 C₆H₁₂O₆

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.

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Conditions of Instability Not available.

Incompatibility with Reactive with oxidizing agents.

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Various Substances

Rem/Incompatibility Not available.

Hazardous Not available.

Decomposition

Products

Hazardous Will not occur.

Polymerization

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).

Humans

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.

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

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.

Section 14. Transport Information

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

D(-)-Fructose

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

Section 15. Regulatory Information

U.S. Federal Regulations	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.
WHMIS (Canada)	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.
International Regulations	
EINECS	D(-) FRUCTOSE 200-333-3
DSCL (EEC)	R36/37/38- Irritating to eyes, respiratory system and skin.
International Lists	Australia (NICNAS): D(-) FRUCTOSE Japan (MITI): D(-) FRUCTOSE Korea (TCCL): D(-) FRUCTOSE Philippines (RA6969): D(-) FRUCTOSE China: No products were found.
State Regulations	No products were found. California prop. 65: No products were found.

Section 16. Other Information

National Fire

0 Fire

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Protection
Association
(U.S.A.)

00 Hazard
Health
Reactivity
Specific
Hazard

Changed Since Last +
Revision

Notice to Reader

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