



Safety Data Sheet

Revision Date: 08-Aug-2023

Revision Number: 2

1. Identification

Product Name:
Crystalline Fructose

Product Code:
010034

Use of the Substance / Preparation:
Food Ingredient.

Supplier:
Archer Daniels Midland Company
4666 Faries Parkway
Decatur, IL 62526, USA
Telephone Number: (+1) 217-424-5200

Emergency response telephone number:
Chemtrec 1-800-424-9300 (CCN 1635)

2. Hazard(s) identification

Emergency Overview

Warning. May form combustible dust concentrations in air (during processing and handling). Product dust may cause mild, mechanical irritation.

Appearance
White

Physical State
Powder

Odor
Odorless

This product IS classified as hazardous according to 29 CFR 1910.1200 (known as HCS 2012), amended to conform to the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Depending on the intended use, this product is classified as hazardous according to the criteria contained in the Hazardous Products Regulations (SOR/2015-17), also known as WHMIS 2015.

NOTE: Certain products covered under other Canadian legislation, including but not limited to cosmetics, devices, drugs or food (as defined in the Food and Drugs Act), pest control products (as defined in the Pest Control Products Act), consumer products (as defined in the Canada Consumer Product Safety Act), and Hazardous waste (being a hazardous product that is sold for recycling or recovery and is intended for disposal), are NOT subject to the label and SDS requirements of the Hazardous Products Regulations (SOR/2015-17), also known as WHMIS 2015. As supplied for use in food, an SDS and WHMIS compliant labeling are NOT required for this product. Since Canadian employers must still provide education and training on health effects, safe use, and storage, and in the interest of providing relevant product information to our customers, this SDS is being provided on a voluntary basis.

OSHA Defined Hazard(s)	Combustible Dust
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HPR Defined Hazard(s)	Combustible Dust
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Label Elements

NOTE: While label elements are provided within this SDS, under 29 CFR 1910.1200 (b)(5), products already subject to the labeling requirements of other specified federal acts, may be exempt from OSHA labeling.

Signal Word:	Warning
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Hazard Statement(s):	May form combustible dust concentrations in air.
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3. Composition/information on ingredients

Common Name Crystalline Fructose

Chemical Family Sugars.

NonHazardous

Chemical Name	CAS-No	Weight %	North American Substance Hazard Class
D-Fructose	57-48-7	80 - 100%	None known

4. First-aid measures

Description of first aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids.

Skin Contact Wash off with warm water and soap.

Inhalation Move to fresh air.

Ingestion Health injuries are not known or expected under normal use.

Most important symptoms and affects, both acute and delayed

Eyes Contact with eyes may cause irritation.

Skin Product dust may cause mild, mechanical irritation.

Inhalation Dust may cause irritation of respiratory tract. See section 8 of this sheet for exposure limits pertaining to nuisance dust or "particulates not otherwise regulated".

Ingestion Health injuries are not known or expected under normal use.

Main Symptoms Irritating to respiratory system.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Special forms of treatment and immediate medical attention are not specified. Treat Symptomatically.

5. Fire-fighting measures

Flammable Properties

Powdered material may form explosive dust-air mixtures. Fine dust dispersed in air may ignite. Risk of ignition followed by flame propagation or secondary explosions should be prevented by avoiding accumulation of dust, e.g. on floors and ledges. As with most organic solids, combustion is possible at elevated temperatures or by contact with an ignition source.

Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media None known.

Special hazards arising from the substance or mixture

Hazardous Combustion Products Carbon monoxide (CO), Carbon dioxide (CO₂).

Specific Hazards Arising from the Chemical None known.

Chemical

Sensitivity to mechanical impact No.

Sensitivity to static discharge Yes. (as dust).

Advice for fire-fighters

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health 0

Stability and Reactivity 0

Flammability 1

Physical hazard None known



6. Accidental release measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions

No special environmental precautions required. Prevent further leakage or spillage if safe to do so.

Methods and Materials for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Handling

Avoid dust formation in confined areas. Fine dust dispersed in air may ignite. Refer to NFPA 61, "Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities". Ensure adequate ventilation.

Storage

Keep in a dry, cool and well-ventilated place.

8. Exposure controls/Personal protection

Exposure Limits

Where exposure limits have not been established for specific components of this material, please observe the OSHA and ACGIH established limits for particulates not otherwise classified (PNOC). 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].

Biological Limit Values

No biological limit values have been listed for the component(s) of this product.

Appropriate Engineering Controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits. However it is the duty of the user to verify this and follow given exposure limits at the workplace.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment

Eye/face Protection.

If exposed to airborne dust, appropriate safety glasses with side-shields or safety goggles are recommended. If airborne dust concentrations are excessive, wear goggles.

Skin and Body Protection

Protective clothing and gloves may be worn to reduce the potential of mechanical irritation.

Respiratory Protection

If exposed to airborne dust, use appropriate NIOSH approved (or equivalent) respiratory protection.



9. Physical and chemical properties

Appearance	White
Physical State	Powder
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Flash Point	Not applicable
Autoignition Temperature	No information available
Boiling point	Not applicable
Melting/Freezing Point	103 °C / 217 °F
Decomposition temperature	No information available
Oxidizing Properties	No information available
Water Solubility	Soluble
Evaporation Rate	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Specific Gravity / Relative Density	No information available
Partition Coefficient (n-octanol/water)	No information available

10. Stability and reactivity

Stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to Avoid Avoid dust formation. Heat, flames and sparks.

Incompatible Materials No materials to be especially mentioned.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO₂).

11. Toxicological information

Information on toxicological effects

Acute toxicity	Based on available data, no evidence of acute toxicity.
Skin corrosion/irritation	Based on available data, not, or only slightly irritating.
Serious eye damage/eye irritation	Based on available data, no evidence of serious eye damage / irritation.
Respiratory or skin sensitisation	Based on available data, not expected to be a skin or respiratory sensitiser.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	No evidence of carcinogenicity.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	No evidence of toxicity.

STOT - repeated exposure	No evidence of toxicity.
Aspiration hazard	Based on available data, no known aspiration hazard.

Potential health effects

Eyes	Contact with eyes may cause irritation.
Skin	Product dust may cause mild, mechanical irritation.
Inhalation	Dust may cause irritation of respiratory tract. See section 8 of this sheet for exposure limits pertaining to nuisance dust or "particulates not otherwise regulated".
Ingestion	Health injuries are not known or expected under normal use.
Main Symptoms	Irritating to respiratory system.

12. Ecological information

Ecotoxicity

Contains no substances known to be hazardous to the environment. Contains no substances known to be not degradable in waste water treatment plants.

Persistence/Degradability	Biodegradable.
Mobility	Soluble in water.
PBT and vPvB assessment	No information available.
Other adverse effects	Nothing specific known.

13. Disposal considerations

Whenever possible, as rules and regulations allow, please recycle or manage materials to minimize waste.

Waste Disposal Methods	Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction.
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14. Transport information

Domestic transport regulations (USA)

DOT Not regulated

Domestic transport regulations (Canada)

TDG Not regulated

Domestic transport regulations (Mexico)

MEX Not regulated

International transport regulations

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

International Inventories

The components of this product are reported in the following inventories:.

Chemical Name	TSCA	DSL	NDSL	ICL	EINECS	ELINCS	AICS
D-Fructose	Yes ACTIVE	Yes	No	No	Yes 200-333-3	No	Yes

Chemical Name	ENCS ISHL	CHINA	PICCS	KECL	Taiwan	Turkey	NZIoC
D-Fructose	Yes (8)-47	Yes	Yes	Yes Annex 1	Yes	Yes 200-333-3	Yes

				(KE-17262)			
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USA**Federal Regulations****Ozone Depleting Substances:**

No Class I or Class II material is known to be used in the manufacture of, or contained in, this product.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 372.

CERCLA/SARA 103-302

Sections 103-302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 103-302.

SARA 311/312 Hazardous Categorization

Refer to the OSHA hazard classification(s) provided in section 2 of this SDS.

State Regulations**State Right-to-Know**

No known components subject to "Right-To-Know" legislation in the following States.

Canada**(NPRI) Canadian National Pollutant Release Inventory**

No known component is listed on NPRI.

16. Other information

Prepared By: ADM Corn Processing
Revision Date: 08-Aug-2023
Revision Number: 2
Reason for revision: Periodic review. This version replaces all previous versions.

Abbreviations and acronyms

Ceiling - Ceiling Limit Value: Concentrations that should never be exceeded at any given time (instantaneous)

CAS - Chemical Abstract Service

DNEL - Derived No Effect Level

ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Values

DOT - U.S. Department of Transportation

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

Delisted - Substances Delisted from Report on Carcinogens

IARC - International Agency for Research on Cancer

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Known - Known Carcinogen

IDLH - Immediately Dangerous to Life or Health

Skin notation - Potential for cutaneous absorption

OECD - Organisation for Economic Co-operation and Development

PNEC - Predicted No-Effect Concentration

NTP - National Toxicology Program

LD50 - Median lethal dose of a given test population

LC50 - Lethal concentration that produces fatalities in 50% of a given test population

NFPA - National Fire Protection Association

OSHA - Occupational Safety & Health Administration

OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limits

NIOSH - National Institute of Occupational Safety and Health

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Present - Carcinogen or potential carcinogen to be identified under OSHA's Hazard Communication Standard

NOAEL - No Observed Adverse Effect Level

TWA - Time Weighted Average: Average concentration that should not be exceeded during a work day (usually 8-hours)

STEL - Short Term Exposure Limit: Concentrations that should not be exceeded except for short periods of time (usually 15-minutes)

TSCA - Toxic Substances Control Act, Section 8(b) Inventory (USA)

STOT - Specific Target Organ Toxicity

STV - Short Term Value (same as STEL)

Under Consideration - Under Consideration by the National Toxicology Program

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of sheet