

Safety Data Sheet

KRYSTAR® 450

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER

- Chemical name Fructose
- CAS number 57-48-7

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE AND USES ADVISED AGAINST

Dry food ingredient.

1.3 DETAILS OF THE SUPPLIER

- Company identification Americas:
Tate & Lyle Ingredients Americas LLC.
2200 E. Eldorado Street
Decatur, IL 62521

Europe:
Tate & Lyle Slovakia s.r.o.
Boleraz 114
919 08 bolez
Slovakia

Asia-Pacific:
Tate & Lyle
3 Biopolis Drive, #05-11 Synapse
Singapore 138623

1.4 EMERGENCY PHONE NR.

CHEMTREC
Toll-Free: 1-800-424-9300 (USA and Canada)
Non Toll-Free +1-703-527-3887 (Global)

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

According with the version of the Globally Harmonized System of Classification and labeling adopted in the United States and Regulation 1272/2008/EC [CLP]: Not classified

2.2. LABEL ELEMENTS

SIGNAL WORD:

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Not applicable

HAZARD STATEMENTS:

Not applicable

SYMBOL:

Not applicable

PRECAUTIONARY STATEMENTS:

Not applicable

2.3. OTHER HAZARDS

FIRE AND EXPLOSION HAZARD:

May form combustible dust concentrations in air. Possibility of dust explosion. It is recommended that all dust control equipment and material transport systems involved are engineered to prevent conditions contributing to dust explosions. Do not allow dust to accumulate on flat surfaces, on rafters or building structural components. Keep away from all ignition sources including heat, sparks and flame.

POTENTIAL ACUTE HEALTH EFFECTS FROM OCCUPATIONAL EXPOSURE:

Inhalation: Exposure to high airborne concentrations may cause mild respiratory irritation due to drying effects of dust.

Skin contact: Sustained exposure in a dusty manufacturing environment may result in mechanical irritation in the creases of the skin, particularly at the fingers.

No health effects known or anticipated.

Eye contact: May cause slight mechanical irritation from acute exposure.

Ingestion: No effects known or anticipated.

SECTION 3 : COMPOSITION / INFORMATION OF INGREDIENTS

- Chemical name	Fructose
- CAS number	57-48-7
- EINECS number	200-333-3

SECTION 4 : FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

- General advice	Seek medical attention if irritation develops after first aid application
- Inhalation	Move people from the exposure to fresh air.
- Skin contact	Wash skin with soap and water.

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- Eye contact Remove particulates by irrigating with eye wash solution or clean water, holding eyelids apart.
- Ingestion Wash mouth and flush throat upto the stomach.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None Anticipated

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED.

None Anticipated

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Water spray, dry powder, carbon dioxide or media appropriate for surrounding fire. Use of water jet may cause explosive dust conditions.

5.2 SPECIFIC HAZARDS

FIRE AND EXPLOSION HAZARD: Possibility of dust explosion. It is recommended that all dust control equipment and material transport systems involved are engineered to prevent conditions contributing to dust explosions. Do not allow dust to accumulate on flat surfaces, on rafters or building structural components. Use of water jet may cause explosive dust conditions. SEE NFPA 61, Standard for the prevention of Fire and Dust Explosions in Agricultural and Food Processing Facilities, 2008 or later Edition, and other related standards.

5.3 SPECIFIC PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Wear self-contained breathing apparatus and full protective gear. Use water spray to cool fire exposed containers.

FLAMMABILITY CLASS (OSHA)

Not applicable

HAZARDOUS COMBUSTION PRODUCTS

Carbon dioxide and carbon monoxide

SECTION 6: ACCIDENTAL RELEASE MEASURES

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6.1 PERSONAL PRECAUTIONS

None under normal conditions. Avoid prolonged inhalation of dust.

6.2 ENVIRONMENTAL PRECAUTIONS

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

6.3 METHODS FOR CLEANING UP

Vacuum or sweep spills. Minimize dust generation.

If washing down spilled area is necessary, use copious amounts of water and control runoff. Follow local, state and federal regulations for product disposal

6.4 REFERENCE TO OTHER SECTIONS

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment

See Section 13 for disposal information

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

See NFPA 61, Standard for the Prevention of Fire and Dust Explosions in Agricultural and Food Processing Facilities, 2008 Edition, and other related standards. Use with adequate ventilation. Minimize dust generation and accumulation; dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are disturbed.

All dust control equipment and material transport systems involved are engineered to prevent conditions contributing to dust explosions and may require explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Bonding and grounding systems may be required.

Dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) should be designed to limit or prevent leakage of dust into the work area.

Do not allow dust to accumulate on flat surfaces, on rafters or building structural components. Routine housekeeping should be instituted to reduce dust accumulation. Use Avoid dispersal of dust in the air; use vacuum or wet sweeping methods. Do not use compressed air to clean surfaces.

Keep away from all ignition sources including heat, sparks, and flame. Where dust accumulations occur use non-sparking tools.

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7.2 CONDITIONS OF SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in a cool dry place. Store in a tightly closed container/bag.
The packaging material should have reasonable moisture and air barriers and comply with food regulations.

7.3 SPECIFIC END USE(S)

Not applicable

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Exposure limits: Nuisance dust (also called particulate not otherwise regulated (PNOR)).

OSHA PEL: 15 mg/m3 Total dust

5 mg/m3 Respirable dust

ACGIH TLV: 10 mg/m3 Inhalable dust

5 mg/m3 Respirable dust

15 mg/m3 Total dust

8.2 EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS:

Ventilation: See NFPA 61, Standard for the Prevention of Fire and Dust Explosions in Agricultural and Food Processing Facilities, 2008 Edition, and National Fire Protection Association 650, Standard for Pneumatic Conveying Systems for Handling Combustible Materials, 1997 Edition and other related standards. Normal industrial hygiene measures should be sufficient for protection of employees from exposure to dusts. Local and mechanical exhaust is desirable when dumping bags.

APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT:

Eye protection: Safety glasses are recommended. Safety goggles are desirable when dumping bags.

Emergency wash facilities: Eye wash is recommended for conditions where dust generation is likely.

Special protective clothing: Not normally required.

Gloves: Not normally required. Use ordinary work gloves if dust dries skin.

Respirator: NIOSH approved N-95 dust respirator if working in situations that could generate large amounts of airborne dust.

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FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:
See section 5.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

- Physical form	Crystalline
- Color	White to off-white
- Odor	Odorless
- pH (concentration)	Data on specification sheet if available.
- Boiling point	No data
- Flash point	No data
- Melting/freezing point	No data
- Decomposition temperature	No data
- Auto-ignition temperature	No data
- Explosion properties	No data
- Oxidising properties	No data
- Vapour pressure	No data
- Vapor density	No data
- Relative density	No data
- Bulk density	No data
- Specific gravity	No data
- Viscosity	No data
- Water solubility	Soluble
- Solubility (non aqueous)	No data
- Partition coefficient	No data
- Dissociation constant	No data
- Evaporation rate	No data

9.2 OTHER INFORMATION

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal conditions.

Polymerization will not occur.

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10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Not applicable

10.4 CONDITIONS TO AVOID

Practices which produce dust or disperse finely divided dust in air.
See NFPA 61. Standard for the Prevention of Fire and Dust Explosions in Agricultural and Food Processing Facilities, 2008 Edition, and other related standards.

10.5 INCOMPATIBLE MATERIALS

Oxidizing agents, strong acids

10.6 Hazardous decomposition products:

Nothing unusual

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

- Inhalation Exposure to high airborne concentrations may cause mild respiratory irritation due to drying effects of dust.
- Ingestion No effects known or anticipated.
- Skin irritation / corrosion Sustained exposure in a dusty manufacturing environment may result in mechanical irritation in the creases of the skin, particularly at the fingers, or other drying effects. no health effects known or anticipated.
- Eye irritation May cause slight mechanical irritation from acute exposure.
- Skin sensitisation Not sensitizing
- Chronic toxicity Not known or anticipated
- Genetic toxicity Not known or anticipated
- Carcinogenicity Not classifiable as Carcinogen.
- Reprotoxicity Not known or anticipated
- Specific effects Not applicable

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY

Starch and its breakdown products are not known to be toxic to plant and animal life.

12.2 PERSISTENCE/DEGRADABILITY

Readily biodegradable

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12.3 BIOACCUMULATIVE POTENTIAL

Starch and its breakdown products are not fat-soluble, and do not accumulate in plant or animal tissue.

12.4 MOBILITY IN SOIL

Not applicable

12.5 BPT, vPvB

The substance does not meet the criteria for PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS

None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Follow local, state and federal regulations for product disposal. Not a hazardous waste unless contaminated with hazardous products.

SECTION 14: TRANSPORTATION INFORMATION

International regulations (RID/ADR; RTMDR; IMDG; IATA/OACI): Not classified as dangerous for transport.

DOT shipping label: Non-hazardous

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

According with the version of the Globally Harmonized System of Classification and labeling adopted in the United States and Regulation 1272/2008/EC(CLP): Not classified

15.2 CHEMICAL SAFETY ASSESSMENT

US FEDERAL REGULATIONS:

Clean Air Act:

ODS: Not applicable.

TSCA Status: Not applicable.

SARA (EPCRA) Section 313 (40 C.F.R. § 372.65): Not applicable.

STATE REPORTING REQUIREMENTS:

California Proposition 65: Not applicable.

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SECTION 16: OTHER INFORMATION

See Hazard Communication Guidance for Combustible Dusts, OSHA 3371-08 2009, U.S. Occupational Safety and Health Administration, <https://www.osha.gov/Publications/3371combustible-dust.html> (accessed 10/8/14)

NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for general safe handling and design guidance.

Safety Data Sheet according to Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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