

**Section 1: PRODUCT AND COMPANY IDENTIFICATION**

<b>Product name</b>	D(-)-Fructose
<b>Product code</b>	123-02762,127-02765
<b>CAS No</b>	57-48-7
<b>Formula</b>	C6H12O6
<b>Manufacturer</b>	Wako Pure Chemical Industries, Ltd 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
<b>Supplier</b>	Wako Pure Chemical Industries, Ltd 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
<b>Emergency telephone number</b>	+81-6-6203-3741 / +81-3-3270-8571
<b>Recommended uses and restrictions on use</b>	For research purposes

**Section 2: HAZARDS IDENTIFICATION****GHS classification****Classification of the substance or mixture**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

**Pictograms****Signal word** none**Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

**Precautionary statements-(Prevention)**

- Not applicable

**Precautionary statements-(Response)****Precautionary statements-(Storage)**

- Not applicable

**Precautionary statements-(Disposal)**

- Not applicable

**Others****Other hazards** Not available**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****Single Substance or Mixture** Substance**Formula** C6H12O6

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No
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D(-)-Fructose	99.0	180.16	(8)-47	N/A	57-48-7
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**Impurities and/or Additives :** Not applicable

## Section 4: FIRST AID MEASURES

### Inhalation

Remove to fresh air If symptoms persist, call a physician

### Skin contact

Wash off immediately with soap and plenty of water If symptoms persist, call a physician

### Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediate medical attention is required

### Ingestion

Rinse mouth Never give anything by mouth to an unconscious person Call a physician or poison control center immediately Do not induce vomiting without medical advice

### Protection of first-aiders

Use personal protective equipment as required

## Section 5: FIRE FIGHTING MEASURES

### Suitable extinguishing media

Water spray (fog), carbon dioxide (CO2), Foam, Extinguishing powder,

### Unsuitable extinguishing media

No information available

### Special extinguishing method

No information available

### Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

### Protection of fire-fighters

Use personal protective equipment as required Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

### Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated

### Methods and materials for contaminant and methods and materials for cleaning up

Do not touch spilled material without suitable protection(See section 8). After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing.

### Recovery, neutralization

No information available

### Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations

## Section 7: HANDLING AND STORAGE

### Handling

**Technical measures**

Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.

**Precautions**

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

**Safety handling precautions**

Use personal protective equipment as required

**Storage****Safe storage conditions**

**Storage conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place

**Safe packaging material**

Polyethylene

**Incompatible substances**

Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

**Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**Personal protective equipment**

**Respiratory protection**

Dust mask

**Hand protection**

Protection gloves

**Eye protection**

protective eyeglasses or chemical safety goggles

**Skin and body protection**

Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Form</b>	white crystals - crystalline powder
<b>Odor</b>	No data available
<b>pH</b>	
<b>Melting point/freezing point</b>	102-104 °C (dec.)
<b>Boiling point, initial boiling point and boiling range</b>	No data available
<b>Flash point</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper :</b>	No data available
<b>Lower :</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Vapour density</b>	No data available
<b>Specific Gravity (relative density)</b>	No data available
<b>Solubilities</b>	Water , hot acetone : freely soluble . Ethanol , methanol : slightly soluble .
<b>n-Octanol/water partition coefficient: (log Pow)</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity (coefficient of viscosity)</b>	No data available
<b>Dynamic viscosity</b>	No data available

## Section 10: STABILITY AND REACTIVITY

**Stability**

<b>Stability</b>	Hygroscopic.
<b>Reactivity</b>	No data available

**Hazardous reactions**

None under normal processing

**Conditions to avoid**

Extremes of temperature and direct sunlight, Moisture

**Incompatible materials**

Strong oxidizing agents

**Hazardous decomposition products**

Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)

<b>Section 11: TOXICOLOGICAL INFORMATION</b>
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<b>Acute toxicity</b>	No data available
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<b>Skin irritation/corrosion</b>	No data available
<b>Serious eye damage/ irritation</b>	No data available
<b>Respiratory or skin sensitization</b>	No data available
<b>Reproductive cell mutagenicity</b>	No data available
<b>Carcinogenicity</b>	No data available
<b>Reproductive toxicity</b>	No data available
<b>STOT-single exposure</b>	No data available
<b>STOT-repeated exposure</b>	No data available
<b>Aspiration hazard</b>	No data available

<b>Section 12: ECOLOGICAL INFORMATION</b>
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**Ecotoxicity**

<b>Other data</b>	No data available
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<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility in soil</b>	No information available
<b>Hazard to the ozone layer</b>	No information available

<b>Section 13: DISPOSAL CONSIDERATIONS</b>
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**Waste from residues**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated container and contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

<b>Section 14: TRANSPORT INFORMATION</b>
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<b>ADR/RID</b>	Not regulated
<b>UN number</b>	-
<b>Proper shipping name:</b>	
<b>UN classification</b>	
<b>Subsidiary hazard class</b>	
<b>Labels</b>	

<b>Packing group</b>	
<b>Marine pollutant</b>	Not applicable
<b>IMDG</b>	Not regulated
<b>UN number</b>	-
<b>Proper shipping name:</b>	
<b>UN classification</b>	
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	
<b>Marine pollutant (Sea)</b>	Not applicable
<b>IATA</b>	Not regulated
<b>UN number</b>	-
<b>Proper shipping name:</b>	
<b>UN classification</b>	
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	
<b>Environmentally Hazardous Substance</b>	Not applicable

### Section 15: REGULATORY INFORMATION

#### International Inventories

<b>EINECS/ELINCS</b>	Listed
<b>TSCA</b>	Listed

#### Japanese regulations

<b>Fire Service Act</b>	Not applicable
<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Industrial Safety and Health Act</b>	Not applicable
<b>Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc</b>	Not applicable
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Not applicable
<b>Civil Aeronautics Law</b>	Not applicable
<b>Marine Pollution Prevention Law</b>	
<b>Pollutant Release and Transfer Register Law</b>	Not applicable
<b>Water Pollution Control Act</b>	Not applicable
<b>Export Trade Control Order</b>	Not applicable

### Section 16: OTHER INFORMATION

#### **Literature and references**

**Revision Note** No information available

#### **Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, and is not to be considered 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 materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z7252(2010). \*JIS: Japanese Industrial Standards

