

## SAFETY DATA SHEET

### D-Mannose

#### 1. Identification

##### Product identifier

Product name D-Mannose

Product number BM4400P330AS

##### Recommended use of the chemical and restrictions on use

Application Ingredient for use in dietary supplements, food supplements, and other nutrition products, as applicable.

Uses advised against No specific uses advised against are identified.

##### Details of the supplier of the safety data sheet

Supplier Jiangsu Khonor Chemicals Co.,  
Limited  
Rm 1902 Easey Comm BLDG,  
253-261, Hennessy Rd  
Wanchai Hongkong

##### Emergency telephone number

Emergency telephone Jiangsu Khonor Chemicals Co., Limited  
0086-18052309100

#### 2. Hazard(s) identification

##### Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

##### Label elements

Hazard statements NC Not Classified

##### Other hazards

This product does not contain any substances classified as PBT or vPvB.

#### 3. Composition/information on ingredients

##### Mixtures

D-Mannose	60-100%
CAS number: 3458-28-4	
Classification	
Not Classified	

The full text for all hazard statements is displayed in Section 16.

Composition comments The exact composition and or concentration has been withheld as a trade secret per OSHA 29 CFR 1910.1200.

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### 4. First-aid measures

#### Description of first aid measures

General information	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Ingestion	Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin Contact	Brush off loose particles from skin. Remove affected person from source of contamination. Rinse immediately with plenty of water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

#### Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Dust may irritate the respiratory system. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Ingestion	May cause discomfort if swallowed.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Dust may cause slight irritation.

#### Indication of immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
Specific treatments	No special treatment required.

### 5. Fire-fighting measures

#### Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

#### Special hazards arising from the substance or mixture

Specific hazards	None known.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

#### Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.
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Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.
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### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage.
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#### Environmental precautions

Environmental precautions	Avoid discharge to the aquatic environment.
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#### Methods and material for containment and cleaning up

Methods for cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Reuse or recycle products wherever possible. Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations.
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Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.
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### 7. Handling and storage

#### Precautions for safe handling

Usage precautions	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep container tightly sealed when not in use. Avoid handling which leads to dust formation.
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Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.
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#### Conditions for safe storage, including any incompatibilities

Storage precautions	Store away from incompatible materials (see Section 10). No specific recommendations.
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Storage class	Unspecified storage.
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#### Specific end uses(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.
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### 8. Exposure controls/Personal protection

#### Control parameters

##### Occupational exposure limits

Long-term exposure limit (8-hour TWA): OSHA 15 mg/m<sup>3</sup> Total Dust (Particulate Not Otherwise Regulated-PNOR)

Long-term exposure limit (8-hour TWA): OSHA 5 mg/m<sup>3</sup> Respirable Fraction (Particulate Not Otherwise Regulated-PNOR)

OSHA = Occupational Safety and Health Administration.

#### Exposure controls

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### Protective equipment



### Appropriate engineering controls

Provide adequate ventilation. Good general ventilation should be adequate to control worker exposure to airborne contaminants.

### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. No specific eye protection required during normal use.

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

### Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

### Hygiene measures

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

### Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.

### Environmental exposure controls

Not regarded as dangerous for the environment.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Solid. (Powder.)
Color	White.
Odor	Not available
Odor threshold	Not available.
pH	Not available.
Melting point	126-134°C
Initial boiling point and range	Not available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.

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Other flammability	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Bulk density	0.25-.0.60 g/cm3
Solubility(ies)	Soluble in water.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Explosive under the influence of a flame	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
Oxidizing properties	Not applicable.

### 10. Stability and reactivity

Reactivity	See the other subsections of this section for further details.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
Materials to avoid	Oxidizing materials.
Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### 11. Toxicological information

#### Information on toxicological effects

Acute toxicity - oral	
Summary	Based on available data the classification criteria are not met.
Acute toxicity - dermal	
Summary	Based on available data the classification criteria are not met.

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### Acute toxicity - inhalation

#### Summary

Based on available data the classification criteria are not met.

### Skin corrosion/irritation

#### Summary

Based on available data the classification criteria are not met.

### Serious eye damage/irritation

#### Summary

Based on available data the classification criteria are not met.

### Respiratory sensitization

#### Summary

Based on available data the classification criteria are not met.

### Skin sensitization

#### Summary

Based on available data the classification criteria are not met.

### Germ cell mutagenicity

#### Summary

Based on available data the classification criteria are not met.

### Carcinogenicity

#### Summary

Based on available data the classification criteria are not met.

### IARC carcinogenicity

None of the ingredients are listed or exempt.

### Reproductive toxicity

#### Summary

Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

#### Summary

Based on available data the classification criteria are not met.

### Specific target organ toxicity - repeated exposure

#### Summary

Based on available data the classification criteria are not met.

### Aspiration hazard

#### Summary

Not relevant. Solid.

### General information

No specific health hazards known. Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

### Inhalation

Dust may irritate the respiratory system. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

### Ingestion

May cause discomfort if swallowed.

### Skin Contact

Prolonged contact may cause dryness of the skin.

### Eye contact

Dust may cause slight irritation.

### Route of exposure

Ingestion Inhalation Skin and/or eye contact

### Target Organs

No specific target organs known.

## 12. Ecological information

### Ecotoxicity

Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

### Acute aquatic toxicity

#### Summary

Based on available data the classification criteria are not met.

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### Chronic aquatic toxicity

Summary Based on available data the classification criteria are not met.

### Persistence and degradability

Persistence and degradability The degradability of the product is not known.

### Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient Not available.

### Mobility in soil

Mobility No data available.

### Other adverse effects

Other adverse effects None known.

## 13. Disposal considerations

### Waste treatment methods

General information The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

Disposal methods Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

## 14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

### UN Number

UN No. (International) Not applicable.

UN No. (DOT) Not applicable.

### UN proper shipping name

Proper shipping name (International) Not applicable.

Proper shipping name (DOT) Not applicable.

### Transport hazard class(es)

Transport Labels (International) No transport warning sign required.

### DOT transport labels

No transport warning sign required.

### Packing group

Packing group (International) Not applicable.

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DOT packing group Not applicable.

### Environmental hazards

Environmentally Hazardous Substance  
No.

### Special precautions for user

Not applicable.

DOT reportable quantity Not applicable.

DOT TIH Zone Not applicable.

Transport in bulk according to  
Annex II of MARPOL 73/78 and  
the IBC Code Not applicable.

## 15. Regulatory information

Regulatory References OSHA Hazard Communication Standard 29 CFR §1910.1200

### US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities  
None of the ingredients are listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)  
None of the ingredients are listed.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities  
None of the ingredients are listed.

SARA 313 Emission Reporting  
None of the ingredients are listed.

CAA Accidental Release Prevention  
None of the ingredients are listed.

FDA - Essential Chemical  
None of the ingredients are listed or exempt.

FDA - Precursor Chemical  
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals  
None of the ingredients are listed.

### US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins  
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)  
None of the ingredients are listed.



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[California Air Toxics "Hot Spots" \(A-II\)](#)

None of the ingredients are listed.

[California Directors List of Hazardous Substances](#)

None of the ingredients are listed.

[Massachusetts "Right To Know" List](#)

None of the ingredients are listed.

[Rhode Island "Right To Know" List](#)

None of the ingredients are listed.

[Minnesota "Right To Know" List](#)

None of the ingredients are listed.

[New Jersey "Right To Know" List](#)

None of the ingredients are listed.

[Pennsylvania "Right To Know" List](#)

None of the ingredients are listed.

[Inventories](#)[US - TSCA](#)

All the ingredients are listed or exempt.

[US - TSCA 12\(b\) Export Notification](#)

None of the ingredients are listed or exempt.

**16. Other information**

[Abbreviations and acronyms used in the safety data sheet](#) TDG: The transport of dangerous goods act

IATA: International air transport association.  
ICAO: Technical instructions for the safe transport of dangerous goods by air.  
IMDG: International maritime dangerous goods.  
CAS: Chemical abstracts service.  
ATE: Acute toxicity estimate.  
LC<sub>50</sub>: Lethal concentration to 50 % of a test population.  
LD<sub>50</sub>: Lethal dose to 50% of a test population (median lethal dose).  
EC<sub>50</sub>: 50% of maximal effective concentration.  
PBT: Persistent, bioaccumulative and toxic substance.  
vPvB: Very persistent and very bioaccumulative.

[Training advice](#) Read and follow manufacturer's recommendations. Only trained personnel should use this material.

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