

## Product Technical Dossier

|                  |           |
|------------------|-----------|
| Product          | D-Mannose |
| CCL Product Code | P32179    |

### Specification Details

|                       |                    |
|-----------------------|--------------------|
| Identification (FTIR) | Positive           |
| Assay (HPLC)          | Min 99%            |
| Appearance            | crystalline powder |
| Colour                | White              |
| Aroma                 | Characteristic     |
| Flavour               | Characteristic     |

|                          |                         |
|--------------------------|-------------------------|
| Sieve Analysis % passed* | Min 95% through 30 Mesh |
| Loss on Drying           | Max 0.5%                |
| Ash                      | Max 0.1%                |
| Bulk Density             | 0.3 – 0.5g/ml           |
| Tapped Density           | 0.45 – 0.75 g/mL        |
| Melting Point            | 126 – 134 °C            |
| Specific Rotation        | +13.3° – +14.3°         |
| Residual Solvents        | Meets USP limits        |
| Solubility               | Clear and colorless     |

- This product may be affected by agglomeration.

### Microbiological Limits

|                       |                |
|-----------------------|----------------|
| Total Viable Count    | Max 1,000cfu/g |
| Yeasts & Moulds       | Max 100cfu/g   |
| E. Coli               | Negative/10g   |
| Salmonella            | Negative/25g   |
| Staphylococcus aureus | Negative/10g   |

### Heavy Metal Limits

|                    |            |
|--------------------|------------|
| Total Heavy Metals | Max 10ppm  |
| Lead (Pb)          | Max 3ppm   |
| Cadmium (Cd)       | Max 1ppm   |
| Mercury (Hg)       | Max 0.1ppm |
| Arsenic (As)       | Max 1ppm   |

Product Code: P32179

Version: 8

Page 1 of 7

Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association  
Organic . Halal . Kosher .

For a full range of our accreditations visit [www.cambridgecommodities.com/quality-accreditations/certificates](http://www.cambridgecommodities.com/quality-accreditations/certificates)



+44 (0) 1353667258 | [www.cambridgecommodities.com](http://www.cambridgecommodities.com) | [enquiries@cambridgecommodities.com](mailto:enquiries@cambridgecommodities.com)

#### Additional Technical Information

|   |   |
|---|---|
| Raw Material Full Botanical / Chemical Name | D-Mannose   |
| The material is Food Grade                  | Yes   |
| Solvent used                                | Water and Ethanol   |
| Country of Origin                           | China   |
| Country of Manufacture                      | China   |
| Average Molecular weight                    | 180.16  |
| Molecular Formula                           | C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>   |
| CAS Number                                  | 3458-28-4   |
| EC/EINECS Number                            | 222-392-4   |
| Shelf Life from Date of Manufacture         | Min 2 Years   |
| Suitable for Vegetarians?                   | Yes   |
| Suitable for Vegans?                        | Yes   |
| Storage Conditions                          | This Material is to be stored in a tightly sealed bag/container and to be kept in a cool place away from moisture and direct sunlight |

#### Composition Origin, Function and Percentages

| Ingredients | Function | % composition | Source                   |
|-------------|----------|---------------|--------------------------|
| Mannose     | -        | 100%          | Glucose from Corn Starch |

Please note that surveillance testing may mean that not all the parameters stated on this specification are tested for every batch.

The allergen information is supplied by the manufacturer, we have not tested for each individual allergen to ensure they are not present. The information given is based on a documented risk assessment and is accurate to the best of our knowledge. If you intend to make a voluntary "free from" claim on your pack, additional testing may need to be carried out. For technical and labelling guidance, you should always speak to the competent authority for the market or member state in which the final products are placed.

Product Code: P32179

Version: 8

Page 2 of 7

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association  
Organic . Halal . Kosher .**

For a full range of our accreditations visit [www.cambridgecommodities.com/quality-accreditations/certificates](http://www.cambridgecommodities.com/quality-accreditations/certificates)



+44 (0) 1353667258 | [www.cambridgecommodities.com](http://www.cambridgecommodities.com) | [enquiries@cambridgecommodities.com](mailto:enquiries@cambridgecommodities.com)

| Allergens   | Product Contains YES/NO | Listed Item on Site at Manufacturer YES/NO | Where applicable, is there risk of cross-contamination? YES/NO or N/A |
|---|-------------------------|--|---|
| Peanuts and Peanut Derivatives (including possible cross contamination)   | No                      | No   | F   |
| Nut and Nut Derivatives<br><i>Almond (Amygdalus communis L.), Hazelnut (Corylus avellana), Walnut (Juglans regia), Cashew (Anacardium occidentale), Pecan nut (Carya illinoensis (Wangenh.) K. Koch), Brazil nut (Bertholletia excelsa), Pistachio nut (Pistacia vera), Macadamia nut and Queensland nut (Macadamia ternifolia)</i> | No                      | No   | F   |
| Sesame Seeds and Sesame Seed Derivatives  | No                      | Yes  | E   |
| Milk and Milk Derivatives (including lactose)   | No                      | No   | F   |
| Egg and Egg Derivatives   | No                      | No   | F   |
| Cereals and Derivatives containing OR POTENTIALLY CONTAMINATED WITH Gluten<br><i>(wheat, wheatgrass, faro, freekeh, spelt, kamut, rye, oats, barley, barley grass)</i>  | No                      | No   | F   |
| Soya and Soya Derivatives   | No                      | No   | F   |
| Lupin and Lupin Derivatives   | No                      | No   | F   |
| Mustard and Mustard Derivatives   | No                      | No   | F   |
| Celery or Celery Derivatives (including Celeriac)   | No                      | No   | F   |
| Fish and Fish Derivatives   | No                      | No   | F   |
| Molluscs and their Derivatives  | No                      | No   | F   |
| Crustaceans and their Derivatives   | No                      | No   | F   |
| Sulphur Dioxide and Sulphites (E220, E228) at levels > 10mg/kg or 10mg/litre  | No                      | No   | F   |

A - Risk of contact at source during harvesting and may contain traces

B - Raw material handled on same line as other allergenic materials and may contain traces

C - Raw material handled on same line as other allergenic materials however formal control programme in place to minimise cross contact risk

D - Exempt from labelling according to EU regulations

E - Not handled on the same line

F - Not handled at manufacture site and therefore no risk of cross contamination

Product Code: P32179

Version: 8

Page 3 of 7

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association  
Organic . Halal . Kosher .**

For a full range of our accreditations visit [www.cambridgecommodities.com/quality-accreditations/certificates](http://www.cambridgecommodities.com/quality-accreditations/certificates)



**+44 (0) 1353667258 | [www.cambridgecommodities.com](http://www.cambridgecommodities.com) | [enquiries@cambridgecommodities.com](mailto:enquiries@cambridgecommodities.com)**

| Additives / Contaminants / Dietary Requirements / Intolerances   | Product Contains YES/NO | Listed Item on Site at Manufacturer YES/NO | Where applicable, is there risk of cross-contamination? YES/NO or N/A |
|--|-------------------------|--|---|
| Additives / E Numbers  | No                      | No   | F   |
| Antioxidants   | No                      | No   | F   |
| Ethylene Oxide   | No                      | No   | F   |
| Gelatine   | No                      | No   | F   |
| Flavourings (Artificial / Nature Identical / Natural / Smoked)   | No                      | No   | F   |
| Maize / Corn and any Derivatives   | Yes                     | Yes  | Source is Corn Starch   |
| Legumes / Pulses   | No                      | No   | F   |
| Rice and Rice Derivatives  | No                      | No   | F   |
| Added Salt   | No                      | No   | F   |
| Added Sugar / artificial or natural sweeteners   | Yes                     | Yes  | D-Mannose is a sugar  |
| Aspartame  | No                      | No   | F   |
| BHA / BHT (E320 / E321)  | No                      | No   | F   |
| Caffeine   | No                      | No   | F   |
| Colours (Artificial / Nature Identical / Natural / Smoked)   | No                      | No   | F   |
| Dextrose   | No                      | No   | F   |
| other Seeds and Seed Derivatives (Poppy Seeds, Cotton Seeds, Sunflower Seeds)  | No                      | No   | F   |
| Polyols (sugar alcohols)   | No                      | No   | F   |
| Sorbic Acid (E200, E203)   | No                      | No   | F   |
| Any other Preservatives  | No                      | No   | F   |
| Ethanol  | Yes                     | Yes  | Used as solvent   |
| Honey  | No                      | No   | F   |
| Lactose  | No                      | No   | F   |
| Yeast and Yeast Derivatives  | No                      | No   | F   |
| All Animal Products (Beef, Pork, Poultry or other) and Derivatives (which may include growth/yield hormones, antibiotics etc.) | No                      | No   | F   |
| Bovine Products or Derivatives (which may include growth/yield hormones, antibiotics etc.)                                     | No                      | No   | F   |

A - Risk of contact at source during harvesting and may contain traces

B - Raw material handled on same line as other allergenic materials and may contain traces

C - Raw material handled on same line as other allergenic materials however formal control programme in place to minimise cross contact risk

D - Exempt from labelling according to EU regulations

E - Not handled on the same line

F - Not handled at manufacture site and therefore no risk of cross contamination

Product Code: P32179

Version: 8

Page 4 of 7

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association  
Organic . Halal . Kosher .**

For a full range of our accreditations visit [www.cambridgecommodities.com/quality-accreditations/certificates](http://www.cambridgecommodities.com/quality-accreditations/certificates)



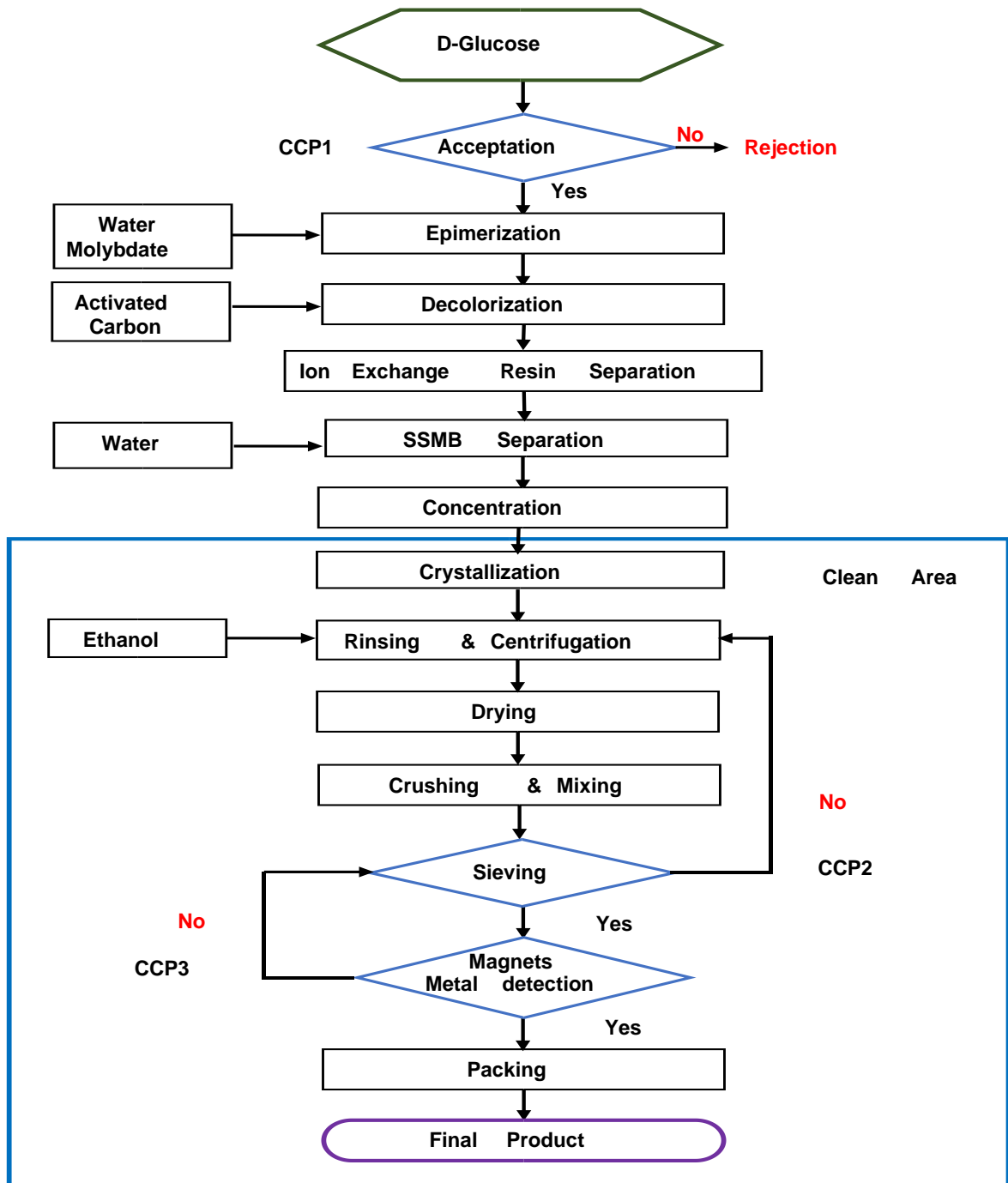
**+44 (0) 1353667258 | [www.cambridgecommodities.com](http://www.cambridgecommodities.com) | [enquiries@cambridgecommodities.com](mailto:enquiries@cambridgecommodities.com)**

## Statements

|   |     |
|---|-----|
| <p><b>Confirmation of BSE / TSE Status</b><br/>This is to certify that this product complies with all relevant current UK and EU Legislative requirements in regard to Transmissible Spongiform Encephalopathies (TSE) and Bovine Spongiform Encephalopathy (BSE) for human food, and so is free of TSE/BSE.</p>  | Yes |
| <p>This is also to certify that, during the course of their manufacture, the above-mentioned product did not come into contact with any materials, which could be derived from TSE/BSE risk materials.</p>  | Yes |
| <p><b>Confirmation of GM Status</b><br/>This is to certify that this product is not manufactured from GM raw materials and is therefore not subject to labelling under current regulations.</p>   | Yes |
| <p><b>Confirmation of Non-Irradiation Status</b><br/>This is to certify that this product, whole or in part, has not been subjected to Ionising Radiation as per European Directives.</p>   | Yes |
| <p><b>Confirmation of Nandrolone Status</b><br/>This is to certify that this product, whole or in part, has not come into contact with Nandrolone or any of its precursors in any way.</p>  | Yes |
| <p><b>Confirmation of IOC Product Status</b><br/>This is to certify that this product, whole or in part, has not come into contact with any product/s, which is banned by the IOC (International Olympics Committee) and or WADA.</p>   | Yes |
| <p><b>Confirmation of Animal Testing Status</b><br/>This is to certify that all the products sold by Cambridge Commodities have not been tested on animals in any part of its manufacture in accordance with current regulations.</p>   | Yes |
| <p><b>Confirmation of Pesticides Status</b><br/>This is to certify that the above-mentioned product complies with the EU max residue limits (MRLs) on pesticides.</p>   | Yes |
| <p><b>Confirmation of Nanoparticles Status</b><br/>This is to certify that unless otherwise stated, the above-mentioned product is free of nanoparticles. Commission Recommendation, defines as follows: "Nanomaterial" means a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 % or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm - 100 nm".</p> | Yes |
| <p><b>Packaging Status</b><br/>We hereby certify that the packaging used in the above-mentioned material conforms to EU regulations and subsequent amendments on food grade packaging</p>   | Yes |
| <p><b>Confirmation of PAH status</b><br/>This is to certify that the above-mentioned product complies with the max PAH limits set by the EU regulations</p>   | Yes |



## Product Flow Chart



### Material Safety Data Sheet

To download this product's material safety data sheet, please click [here](#) and search for the Cambridge Commodities product code. If there is no MSDS available, please follow the on-screen instructions to request one.

The Information provided in this document is subject to change and the batch specific certificate of analysis should always be referenced.

To be used as per local legislation.

### Change History

| Version | Change   | Customer Notification required Yes / No |
|---------|--|---|
| 1       | First Issue  | N/A                                     |
| 2       | Added production flow chart and corrected error where starch was not listed in additives table.  | No                                      |
| 3       | Confirmed product is manufactured from Glucose/Dextrose using a synthetic process.<br>Added information regarding storage conditions.  | Yes                                     |
| 4       | Changed specification for bulk density from ~0.53g/ml to 0.3 - 0.5g/ml<br>Changed source from synthetic to plant<br>Removed specification for tapped density<br>Confirmed product is a sugar<br>Specified size of sample tested for E. coli & Salmonella<br>Updated MSDS. General reformat   | Yes                                     |
| 5       | Added water and ethanol as solvents used during production and residual solvent statement. Allergen table amended to state sesame seeds are handled at manufacturing site, cross contamination is low risk due to the controls on site.  | Yes                                     |
| 6       | Updated Product Flow Chart<br>Added Additional Supplementary Technical Information<br>Changed Assay from 99 – 101% to Min 99%, Yeast & Moulds from Max 200cfu/g to Max 100cfu/g, Arsenic (As) from Max 0.1ppm to Max 1ppm & Crustaceans and their Derivatives in Allergens table to state "No" Item listed on site & "N/A" for risk of Cross Contamination | Yes                                     |
| 7       | Added technical statement that this product may be affected by agglomeration   | Yes                                     |
| 8       | Updated the Allergens/Additives table using the letter system  | Yes                                     |

### Document Approval

| Originator   | Approver   |
|--|--|
| <br>Mel Lee<br>Quality Administrator<br><small>10/03/2023 09:16</small> | <br>Cecilia Anzani<br>Senior Quality Specialist<br><small>10/03/2023 09:58</small> |

Product Code: P32179

Version: 8

Page 7 of 7

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association Organic . Halal . Kosher .**

For a full range of our accreditations visit [www.cambridgecommodities.com/quality-accreditations/certificates](http://www.cambridgecommodities.com/quality-accreditations/certificates)



**+44 (0) 1353667258 | [www.cambridgecommodities.com](http://www.cambridgecommodities.com) | [enquiries@cambridgecommodities.com](mailto:enquiries@cambridgecommodities.com)**