

PRODUCT SPECIFICATION

MALTODEXTRIN DE 19

Product description

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| Molecular Formula: | $H(C_6H_{10}O_5)_n-OH$ |
| EI N ECS: | 232-940-4 |
| CAS No: | 9050-36-6 |
| Appearance: | homogeneous free flowing fine powder, microgranules |
| Colour: | white |
| Taste and odour: | peculiar to maltodextrin, without foreign taste and odour |
| Intended use: | intended for use as a carbohydrate component, structure-forming agent, forming agent, natural sweetener, sweetener regulator, stabilizer, neutral carrier of flavouring additives in various industries. |
| Production method: | partial starch cleavage product consisting of a multicomponent mixture of glucose, maltose, maltotriose and polysaccharides in various ratios. |

Plant based product produced from corn grain not containing GMO.

Complies to the Food Chemical Codex and to the European / US Pharmacopeia monographs on Maltodextrin

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|--|-------------------|
| Nutrition value in 100 g of a product, min. | 93/100 g |
| Carbohydrates, %, min | 93 |
| Fats, % | 0 |
| Proteins, % | 0 |
| Energy value (calorific value) kcal / kJ per 100g maltodextrin,min | 372/1581 |
| Composition | Maltodextrin 100% |

Physical and chemical specifications

| <i>Parameter</i> | <i>Units</i> | <i>Typical value</i> | <i>Method of analysis</i> |
|---|--------------------|----------------------|--|
| Moisture, max | % | 6.0 | Determination of loss in mass on drying (130°C / 5 g / 1,5 h) (Ref. ISO 1666:1996) |
| Dextrose Equivalent (Lane-Eynon method), max | % | 18.0 – 20.0 | Titremetry, Lane-Eynon method (Ref. ISO 5377:1981) |
| Sulphated Ash Content, %, max | % | 0,20 | Weighing of residuals from burning a weighed portion of maltodextrin in muffle oven at 550°C (+H ₂ SO ₄) (Ref. ISO5809:1981) |
| Bulk density (loose) | kg/dm ³ | 0.45 – 0.60 | Internal method (Product weight in 1dm ³ in free state) |
| | | Not less than 0.65 | Internal method (Product weight in 1dm ³ in a packed state by shaking) |
| Sulphur dioxide content (SO ₂), max | mg/kg | 10.0 | Iodometry (Oxidation of sulfurous acid in a 50% solution of maltodextrin in the presence of a starch indicator) |
| Solubility, min | % | 98.0 | Internal method (Dissolving 50 g of maltodextrin in 100 g hot water) |
| pH value | pH units | 4.5-6.0 | pH-metry |
| | | | 40 % solution of maltodextrin |
| Particles size: Residue on sieve 200 µm, max | % | 5.0 | Granulometry |
| Particles size: Residue on sieve 40 µm, min | % | 90.0 | Granulometry |

Carbohydrate composition (in DS)

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| Glucose (DP ₁) | % | max 2.0 | HPLC (Ref. ISO 10504) |
| Maltose (DP ₂) | % | max 7.0 | HPLC (Ref. ISO 10504) |
| Maltotriose (DP ₃) | % | max 10.0 | HPLC (Ref. ISO 10504) |
| Higher sugars (DP ₄₊) | % | On balance | HPLC (Ref. ISO 10504) |

Food safety parameters

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| Total Aerobic and Anaerobic Microbial Count, max | CFU/g | 100,0 | Ref. ISO 4833 |
| Yeast, max | CFU/g | 50,0 | Ref. ISO 7954 |
| Molds, max | CFU/g | 100,0 | Ref. ISO 7954 |
| Coliforms | CFU/1,0 g | not allowed | Ref. ISO 4831, ISO 4832 |
| Pathogenic microbes including Salmonella | CFU/25 g | not allowed | Ref. EN ISO 6579-1 |

Content of Heavy Metal (mg/kg), max

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|--------------|------|---|
| Lead (Pb) | 0.50 | Atomic absorptive method (mineralization and determination with atomic absorptive spectrometer) |
| Cadmium (Cd) | 0.10 | |
| Arsenic (As) | 0.50 | |
| Mercury (Hg) | 0.02 | |

Content of GMO (PCR Real - Time)

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| Genetically Modified Organisms | not allowed | PCR Real – Time (Ref. ISO 21569, ISO 21571) |
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Additional information

Shelf life is 2 years. Maltodextrin must be stored at relative humidity not exceeding 75%

Standard packing – 25 kg paper bags with PE lining.