

Maltodextrin

CAS: [9050-36-6]

DESCRIPTION

Maltodextrin is a purified, concentrated, nonsweet, nutritive mixture of saccharide polymers obtained by the partial hydrolysis of edible starch. It occurs as a white, slightly hygroscopic powder, as granules of similar description, or as a clear to hazy solution in water. Powders or granules are freely soluble or readily dispersible in water.

Functional Use in Foods Anticaking and free-flowing agent; formulation aid; processing aid; bulking agent; stabilizer and thickener; surface-finishing agent.

REQUIREMENTS

Labeling Indicate the presence of sulfur dioxide if the residual concentration is greater than 10 mg/kg.

Identification To 5 mL of hot alkaline cupric tartrate TS add a few drops of a 1 in 10 solution of the sample. A red precipitate of cuprous oxide forms.

Assay Less than 20.0% reducing sugar content (dextrose equivalent) expressed as D-glucose.

Heavy Metals (as Pb) Not more than 5 mg/kg.

Lead Not more than 0.5 mg/kg.

Protein (Total) Not more than 0.5%, except not more than 1.0% in maltodextrins produced from high-amylose starches.

Residue on Ignition Not more than 0.5%.

Sulfur Dioxide Not more than 0.0025%.

Total Solids *Powders and Granules*: Not less than 90.0%;
Liquids: Not less than 50.0%.

TESTS

Assay Determine as directed in the *Reducing Sugars Assay*, Appendix X.

Heavy Metals A solution of 2 g in 25 mL of water meets the requirements of the *Heavy Metals Test*, Appendix IIIB, using 10 µg of lead ion (Pb) in the control (*Solution A*).

Lead Determine as directed under *Method I* in the *Atomic Absorption Spectrophotometric Graphite Furnace Method* under the *Lead Limit Test*, Appendix IIIB, using a 5-g sample.

Protein (Total) Determine as directed under *Nitrogen Determination (Kjeldahl Method)*, Appendix IIIC. Protein content is $N \times 6.25$.

Residue on Ignition, Appendix IIC Ignite 1 g as directed in the general method.

Sulfur Dioxide Determine as directed in the general method, Appendix X.

Total Solids

Powders and Granules Prepare an approximate 60% solution by dissolving 60 g of Maltodextrin, accurately weighed, in water to a final total weight of 100 g. Heat the sample slightly, if necessary, to get the solution. Determine the refractive index of this solution at 20° or 45°, and use the tables for *Maltodextrin*, Appendix X, to obtain the percent *Total Solids* for the prepared solution. Calculate the *Total Solids* of the sample taken by the formula

$$(TS \times W_T)/W_S,$$

in which *TS* is the percent *Total Solids* for the prepared solution, W_T is the total weight of the prepared solution, and W_S is the weight of the sample taken.

Liquids Determine the refractive index of a sample of Maltodextrin at 20° or 45°, and use the tables for *Maltodextrin*, Appendix X, to obtain the percent *Total Solids*.

Packaging and Storage Keep dry, and store at ambient temperatures.