

## Starch sugar

### Ingredients

Maltodextrin

### Culinary data

Starch sugar derivative from starch is used:

- to thicken,
- to stabilize foams,
- to inhibit crystallization,
- to prevent water uptake to keep the crisp,
- to promote dispersion of dry products,
- to turn liquid fat in powder.



### Technological data

There is a large number of maltodextrin, they differ in their degree of hydrolysis (dextrose equivalency, DE). The lower the DE value, the higher the maltodextrin molecular weight (it is "bigger"). The DE value of starch is close to 0, the DE value of pure dextrose (D-glucose) is 100.

To be classified as maltodextrin, a starch derivative has a DE below 20. Above this value, it's called glucose syrup.

#### Sensory properties

Maltodextrin has a low sweetening power; it provides no sensation of sweetness. Maltodextrins are colorless and odorless.

#### Preservation

Maltodextrin slowly absorbs room humidity. Starch sugar made of products doesn't change quickly in time in terms of texture (crispy, dry...).

#### Storage

Store in a closed hermetic packaging, in a cool and dry place.

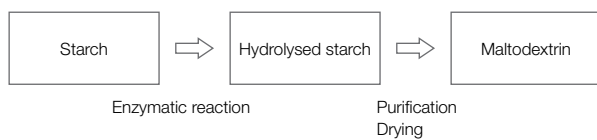
### Toxicological data

- Resulting from starch hydrolysis, maltodextrins are not considered as food additives, so they are not identified by "E number".
- No acceptable daily intake level.
- No known side effects in the concentrations used to obtain the desired effect

## Scientific data

### Origin

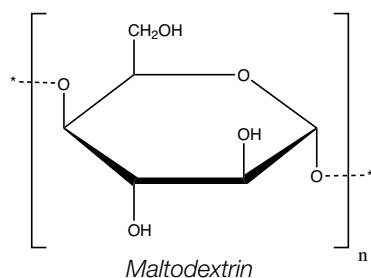
Maltodextrin is obtained by partial starch hydrolysis. It is a polysaccharide, i.e several sugars (in chemistry's words) attached one after the other.



*Maltodextrin production from starch*

### Chemical composition

Maltodextrin consists of different sugar coming from partial starch hydrolysis, all composed of D-glucose units. As the degree of hydrolysis is low (below 20), maltodextrin is mostly made of polymers comprising at least 5 glucose units linked. But it also made of more hydrolyzed polymers up to single glucose units.



Informations extracted from:

- Belitz et al., **2004**. *Food chemistry* – 3<sup>rd</sup> revised edition. Springer Elsevier.
- Gabriel, J.P. **2009**. *La Cuisine contemporaine* – Les Essentiels. Unilever Food Solutions, 80-81.