

FINISHED PRODUCT INFORMATION

PRODUCT NAME: **TREHALOSE**

1)	NOMENCLATURE	:	a-D-Glucopyranosyl-a-D-Glucopyranoside, Mycose D (+) –Trehalose 2-Hydrate Alpha, Alpha—Trehalose Alpha-D-Glucopyranosyl-alpha-D-Glucopyranoside, Dyhydrate
2)	CAS NO.	:	6138-23-4
3)	EMPIRICAL FORMULA	:	C ₁₂ H ₂₂ O ₁₁ . 2H ₂ O
4)	MOL. WT.	:	378.34
5)	MELTING RANGE	:	97°C
6)	HS CODE No	:	29400000
7)	APPLICATIONS	:	In Food Industries
8)	PACKING	:	25 Kgs. Fiber Drum with double PE Liner inside
9)	STORAGE	:	Store at 10°C to 30°C away from bright light.
10)	SHELF LIFE	:	48 Months (4 years)

FINISHED PRODUCT SPECIFICATION

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1)	DESCRIPTION	:	White or almost white crystals with sweet taste Virtually odourless.
2)	SOLUBILITY	:	Freely Soluble in water Very slightly soluble in Ethanol.
3)	IDENTIFICATION (IR)	:	Comparable to Ref. Spectrum
4)	CLARITY & COLOUR OF SOLUTION. (APPEARANCE OF SOLUTION)	:	Clear colorless solution at 5 gm. in 100 ml of Water.
5)	LOSS ON DRYING (LOD)	:	Not more than 1.5% (60°C Temp for 5 hours)
6)	WATER CONTENT	:	8.80% to 10.00%
7)	pH (5% Water) at 20°C	:	5.00 to 7.00
8)	RESIDUE ON IGNITION	:	Not more than 0.1%
9)	IRON CONTENT	:	Less than 5 ppm
10)	LEAD (Heavy Metal)	:	Less than 1 ppm
11)	ARSENIC	:	Not more than 1 ppm.
12)	ASSAY (ODB)	:	Not less than 98%
13)	MICROBIOLOGICAL CRITERIA		
	TOTAL VIABLE COUNT	:	300 / gm. Max.
	COLIFORM ORGANISMS	:	Negative
	SALMONELLA	:	Negative
	YEAST & MOULDS	:	100 / gm. Max.

APPLICATION OF TREHALOSE

GOOD FOR FREEZE DRYING / AIR DRYING

Trehalose is stable, highly resistant to hydrolysis and chemically inert in its interaction with proteins. It has ability to stabilize phospholipids and proteins due to direct interaction between sugar and polar groups during Freeze-drying or Air-drying.

GOOD PRESERVATIVE

It is majorly useful in cryopreservation of Sperms, Oocytes, Platelets, Macrophages and other Blood Cells, Fibroblasts, Retroviruses and most importantly, Embryonic Stem Cells.

When Trehalose is used for cryopreservation of fish ES cells, pluripotency (undifferentiated state) of the cells is retained after recovery.

This property would be highly useful for future in vitro differentiation and manipulation of ES cells.

In addition to its usage in Cryopreservation of cells, Trehalose is also used in preservation of Macromolecular assemblies such as Bioactive Proteins, Antibodies, Liposomes and Enzymes. It protects enzymes from heat inactivation in vitro and reduces formation of protein aggregates.

TREHALOSE IN FOODS

Trehalose has wide application in Food Products, utilizing its unique properties of Stability to Heat and Acid and Non-Reducing feature.

The preventive effect of Trehalose on retrogradation of starch prolongs the shelf life of starch containing Food Products, which renders Trehalose an ideal sugar for confectionery.

In addition, Trehalose protects phospholipids, proteins, and gells from damage by freezing and drying. This characteristics providing excellent restitution from damage by freezing and drying is expected to increase its utilization in frozen and dry food products containing Eggs and Ground Fish Meat.

GOOD MASKING EFFECT

Trehalose also suppresses unfavorable and bitter / astringent taste, and this distinction of Trehalose, known as a masking effect, is a great help to improve quality of taste of Food products.

TREHALOSE, GOOD HEALTHY SUGAR

The Multi-reasons Trehalose can be added to almost every dish because

- 1) Trehalose enhances flavor.
- 2) Trehalose increases Health Benefits.
- 3) Trehalose keeps water pockets from forming when Refrigerated or Frozen.
- 4) Trehalose helps to preserve food and extend life and Freshness.
- 5) Trehalose is a simple way to reduce the use of bad sugars and hence, no worries about too much Sugar.
- 6) Because Trehalose is only 45% as sweet as table sugar, no worries of making the dishes too sweet.
- 7) It has an interesting side benefit that the more Trehalose one eats, the more the crave for Sugar is removed.
- 8) Diabetics are encouraged to continue to monitor their sugar load; and indicate that their sugar balance is more normal while using Trehalose.

TREHALOSE IN MEAT PRODUCTS

Some of the new uses of Trehalose include Meats in the early stages of preparation, like Beef, Pork, Deer and Fowl Sausage and Hamburger.

Sprinkle and mix Trehalose throughout the Sausage and Hamburger Meat