D-(+)-Maltose monohydrate

Product Number M5885
Store at Room Temperature

**Product Description**

- **Molecular Formula:** C_{12}H_{22}O_{11} • H_{2}O
- **Molecular Weight:** 360.3
- **CAS Number:** 6363-53-7
- **Melting point:** 102-103 °C\textsuperscript{1,2}
- **Specific Rotation:** +130.4° ± 1.3° (40 mg/ml H_{2}O, 20 °C) calculated on the basis of the monohydrate.\textsuperscript{1,3}
- **Synonyms:** 4-O-α-D-Glucopyranosyl-D-glucose, malt sugar, maltobiose\textsuperscript{1}

Maltose is a component of starch and glycogen. It is a sugar composed of 2 α-D-glucose molecules\textsuperscript{4} coupled by an α(1→4) glycosidic bond. It is a reducing sugar with one anomeric carbon not linked in an anomeric bond. It contains a hemiacetal function and can mutarotate. Maltose is one product generated from starch and glycogen by the action of α-amylase.\textsuperscript{5} Maltose can be further hydrolyzed to glucose by the action of α-glucosidase (maltase), an enzyme commonly found in yeast\textsuperscript{6} and many other sources.\textsuperscript{7} It is called malt sugar when it is formed in fermenting grains during the production of alcoholic beverages.

Maltose is used as a sweetener with about one-third the sweetness of sucrose and as a nutrient in culture media. It is used in pharmaceutical formulations and as a parenteral supplement of sugar for diabetics.\textsuperscript{1} It is easily digested by humans.

Maltose is available as the following products:
- M5885 From potato.
- M5895 Cell culture tested.
- M9171 SigmaUltra tested for trace elements.
- M2250 Minimum 95% purity.

**Precautions and Disclaimer**

For Laboratory Use Only. Not for drug, household or other uses.

**Preparation Instructions**

This product is soluble in water (50 mg per ml).

**References**

1. The Merck Index, 11th Ed., Entry# 5536.

RLG/JRC 5/06