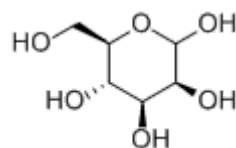




[ChemicalBook](#) >> [CAS DataBase List](#) >> D-Mannose

D-Mannose

Description References



D-Mannose

| | |
|--------------------|--|
| CAS No. | 3458-28-4 |
| Chemical Name: | D-Mannose |
| Synonyms | D-MAN;SEMINOSE;d-mannos;D-MANOSE;CB1175305;D-MANNOSE;NSC 26247;CARUBINOSE;D-MannMtol;D-(+)-Maose |
| CBNumber: | CB1175305 |
| Molecular Formula: | C6H12O6 |
| Formula Weight: | 180.16 |
| MOL File: | 3458-28-4.mol |

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D-Mannose Properties

| | |
|-------------------------------|---|
| Melting point: | 133-140 °C(lit.) |
| alpha | 14 ° (589nm, c=10, H2O) |
| Boiling point: | 232.96°C (rough estimate) |
| Density | 1,539 g/cm ³ |
| refractive index | 1.5730 (estimate) |
| storage temp. | Store at RT. |
| solubility | H ₂ O: 50 mg/mL |
| form | powder |
| pka | 12.08(at 25°C) |
| color | White |
| Water Solubility | 2480 g/L (17 °C) |
| Sensitive | Hygroscopic |
| Merck | 14,5747 |
| BRN | 1564373 |
| Stability: | Stable. Combustible. Incompatible with strong oxidizing agents. |
| InChIKey | WQZGKKKJIJFFOK-ATJJXCEKSA-N |
| CAS DataBase Reference | 3458-28-4(CAS DataBase Reference) |
| NIST Chemistry Reference | D-Mannose(3458-28-4) |
| EPA Substance Registry System | D-Mannose(3458-28-4) |

SAFETY

| | |
|-------------------|-----------------------------|
| Hazard Codes | Xi |
| Risk Statements | 36/37/38 |
| Safety Statements | 24/25-36-26 |
| WGK Germany | 3 |
| F | 3 |
| TSCA | Yes |
| HS Code | 29400010 |

D-Mannose price [More Price\(24\)](#)

| Manufacturer | Product number | Product description | CAS number | Packaging | Price | Updated | Buy |
|---------------|----------------|---|------------|-----------|----------------|------------|-----|
| Sigma-Aldrich | 1375182 | Mannose United States Pharmacopeia (USP) Reference Standard | 3458-28-4 | 1EA | \$294 | 2017-11-08 | Buy |
| Sigma-Aldrich | 1375182 | Mannose United States Pharmacopeia (USP) Reference Standard | 3458-28-4 | 300mg | \$298.2 | 2017-11-08 | Buy |
| TCI Chemical | M0045 | D-(+)-Mannose >98.0%(HPLC) | 3458-28-4 | 25g | \$32 | 2017-12-01 | Buy |
| TCI Chemical | M0045 | D-(+)-Mannose >98.0%(HPLC) | 3458-28-4 | 100g | \$81 | 2017-12-01 | Buy |
| Alfa Aesar | A10842 | D-(+)-Mannose, 99% | 3458-28-4 | 25g | \$36.9 | 2017-11-08 | Buy |

D-Mannose Chemical Properties,Uses,Production

Description

D-Mannose is a nutritional supplement that can be found in cranberries, peaches, apples, other berries, and some plants. D-mannose is a sugar that has an important role in human metabolism, especially in the glycosylation of certain proteins. D-mannose functionalizes by the inhibition of bacterial adherence to uroepithelial cells.

More than 90 percent of recurrent urinary tract infections (UTIs) are caused by Escherichia coli (E. coli), which is normally found in the intestinal tract. The cell walls of each E. coli are covered with tiny fingerlike projections called fimbria. Mannose can bind to the lectin on the bacteria's fimbria so that the bacteria can be effectively rinsed out by urination.

D-Mannose is by far the most effective supplement for both treatment and prevention of UTIs. And it is used for the treating carbohydrate-deficient glycoprotein syndrome, an inherited metabolic disorder.

References

[1] <http://www.webmd.com>

[2] Bojana Kranjčec, Dino Papesč, Silvio Altarac (2013) D-mannose powder for prophylaxis of recurrent urinary tract infections in women: a randomized clinical trial, World J Urol, 32, 79-84

Chemical Properties

White crystalline powder

Uses

D-Mannose is a carbohydrate that is important in the glycosylation of molecules in a variety of cellular processes. It is involved in N and O glycosylation of bovine whey protein products, used in infant formulas. It is also responsible for the O-glycosylation of the T helper cell-derived cytokine interleukin-17A, an important cell-signaling molecule.

Uses

It has been used in a study to assess the synthesis of a family of amphiphilic glycopolymers. It has also been used in a study to investigate the early detection of bronchiolitis obliterans after lung transplantation.

Definition

ChEBI: D-Mannopyranose having alpha-configuration at the anomeric centre.

Purification Methods

Crystallise L-D(+)-mannose repeatedly from EtOH, aqueous 80% EtOH, AcOH or MeOH/propan-2-ol and then dry it in vacuo over P₂O₅ at 60°C. [For 1H NMR and equilibria]

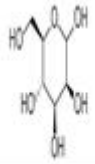
D-Mannose Preparation Products And Raw materials

Raw materials

[D-Mannitol](#)

Preparation Products

D-Mannose Suppliers

| | | | | | | | |
|--|------------|--|-----------------|------|-----|-------|-------------------------|
|  | 2018-08-02 | D-Mannose 3458-28-4 | US \$30.00 / KG | 10KG | 99% | 100kg | Inquiry |
|--|------------|--|-----------------|------|-----|-------|-------------------------|

3458-28-4(D-Mannose)Related Search:

[D-Mannose](#) | [1-NAPHTHYL-ALPHA-D-MANNOPYRANOSIDE](#) | [2,3:5,6-DI-O-CYCLOHEXYLIDENE-D-MANNOLACTONE, 98](#) | [1,2,3,4,6-Penta-O-acetyl-b-D-mannopyranose](#) | [D-MANNONO-1,4-LACTONE](#) | [P-AMINOPHENYL ALPHA-D-MANNOPYRANOSIDE](#) | [D-mannose 6-phosphate monosodium,SODIUM MANNOSE PHOSPHATE](#) | [Methyl 2-O-Allyl-3-O-\(2346tetra-O-acetyl-a-D-mannopyranosyl\)-a-D-mannopyranoside](#) | [TATM](#) | [BETA-D-GLCNAC-\[1->6\]-ALPHA-D-MAN-1->OME](#) | [D-Mannose-6-13C](#) | [Calcium Alginate](#) | [Mannose a1,3-Mannose, a-MethylGlycoside](#) | [6-BROMO-2-NAPHTHYL-ALPHA-D-MANNOPYRANOSIDE](#) | [D-MANNONICAMIDE](#) | [METHYL 2,3-O-ISOPROPYLIDENE-ALPHA-D-MANNOPYRANOSIDE](#) | [METHYL-ALPHA-D-MANNOPYRANOSIDE](#) | [ALPHA-D-MAN-\[1->2\]-ALPHA-D-MAN-1->OME](#)

[DL-allo-2,3,4,5,6-Pentahydroxy-hexanal](#) | [carbohydrate](#) | [d-\[1,2,3-13C3\]Mannose](#) | [d-\[1-12C\]Mannose \(13C depleted at C1\)](#) | [d-\[1-13C:1-2H\]Mannose](#) | [d-\[1-18O\]Mannose](#) | [d-\[2,3,4,5,6-13C5\]Mannose](#) | [d-\[3,4-13C2\]Mannose](#) | [d-\[UL-12C6\]Mannose \(13C depleted\)](#) | [d-\[UL-13C6:UL-2H7\]Mannose](#) | [d-\[UL-2H7\]Mannose](#) | [>=95% \(Radiochemical Purity, HPLC\)](#) | [YM MEDIUM BROTH E](#) | [D-Mannose\(Plant Extract\)](#) | [CB1175305](#) | [CARUBINOSE](#) | [D-MANNOPYRANOSE](#) | [D-\(+\)-MANNOSE](#) | [D-MANNOSE](#) | [D-MAN](#) | [MANNOSE, D-\(+\)-](#) | [BioChemical](#) | [Biochemicals and Reagents](#) | [BioChemika Ultra](#) | [Base Ingredients](#) | [Carbohydrates](#) | [Carbohydrate Sources \(Sugars/Extracts\)](#) | [3458-28-4](#) | [SEMINOSE](#) | [Microbiology](#) | [Monosaccharide](#) | [Sugars for Media](#) | [Basic Sugars \(Mono & Oligosaccharides\)](#) | [Sugars](#) | [d-mannos](#) | [D-MANOSE](#) | [D\(+\)-MANNOSE SIGMAULTRA](#) | [D\(+\)-MANNOSE MIXED ANOMERS*CELL CULTURE TESTED](#) | [D-MANNOSE, 99%, MIXTURE OF ANOMERS](#) | [D-\(+\)-MANNOSE 99.5+% ULTRA PURE](#) | [D-\(+\)-MANNOSE 99% CELL CUTLURE REAGENT](#) | [D-MannoseForBiochemistry99%](#) | [D \(+\) MANNOSE FOR BIOCHEMISTRY](#) | [D-MANNOSE FOR BIOCHEMISTRY 99%](#) | [D-\(+\)-Mannose,99%](#) | [D-MANNOSE,REAGENT](#) | [\(3S,4S,5R,6R\)-6-\(hydroxymethyl\)oxane-2,3,4,5-tetrol](#) | [MALTOSE, D-\(RG\)](#) | [MANNOSE, D-\(+\)-\(RG\)](#) | [Sugars, Carbohydrates & Glucosides](#) | [D-\(+\)-MANNOSE - NATURAL GMO FREE](#) | [Carbohydrates](#) | [13C & 2H Sugars](#) | [Basic Sugars \(Mono & Oligosaccharides\)](#) | [Biochemistry](#) | [Sugars](#) | [Dextrins、 Sugar & Carbohydrates](#) | [Carbohydrates & Derivatives](#)