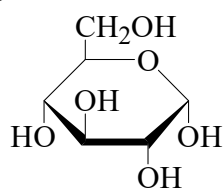




>>Entry Name: Glucose, 9CI, 8CI

Synonym(s): Dextrose. Grape sugar. Blood sugar. Corn sugar. Cerelese



α -D-Pyranose-*form*

Related CAS Registry Numbers(s): 815-92-9 8013-17-0 39281-65-7 41846-85-9 41846-86-0 53691-70-6 53691-71-7

Molecular Formula: C₆H₁₂O₆

Molecular Weight: 180.157

Accurate Mass: 180.06339

Percentage Composition: C 40.00%; H 6.71%; O 53.28%

>>Variant: D-form

CAS Registry Number: 50-99-7

Extra CAS Registry Numbers(s): 5996-10-1

Molecular Formula: C₆H₁₂O₆

Molecular Weight: 180.157

Accurate Mass: 180.06339

Percentage Composition: C 40.00%; H 6.71%; O 53.28%

Biological Source: Most common sugar, abundant in free and combined form. Occurs free in blood, cerebrospinal fluid, lymph, urine of diabetic subjects, fruits, honey and plant juices. Major component of many oligosaccharides and polysaccharides. Occurs in sucrose combined with fructose. Comply. available by the acid hydrolysis of potato starch (Europe) and cornstarch (USA)

Use/Importance: Fluid and nutrient replenisher. Food additive: nutritive sweetener, humectant. Tablet diluent

pKa Value: pK_{a1} 12.34 (25°)

Other Data: Sweet taste, sweetness = 0.46 x sucrose

Hazard & Toxicity: Reacts violently with Na₂O₂ plus KNO₃, and other strong oxidants. LD₅₀ (rat, oral) 25800 mg/kg. Human and experimental reproductive and teratogenic effects (large doses)

Sigma: G7528

Supelco: R42-2080

>>Derivative: Phenylhydrazone

CAS Registry Number: 3713-25-5

Molecular Formula: C₁₂H₁₈N₂O₅

Molecular Weight: 270.285

Accurate Mass: 270.121573

Percentage Composition: C 53.33%; H 6.71%; N 10.36%; O 29.60%

Physical Description: Three forms obtainable

Melting Point: Mp 115°. Mp 142°. Mp 160°

Optical Rotation: [α]_D -47 (H₂O). [α]_D -2. [α]_D -87

>>Derivative: 4-Bromophenylhydrazone

CAS Registry Number: 18841-82-2

Melting Point: Mp 143-146°

>>Derivative: 1-Phosphate

>>Derivative: 2-Phosphate

>>Derivative: 3-Phosphate

>>Derivative: 4-Phosphate