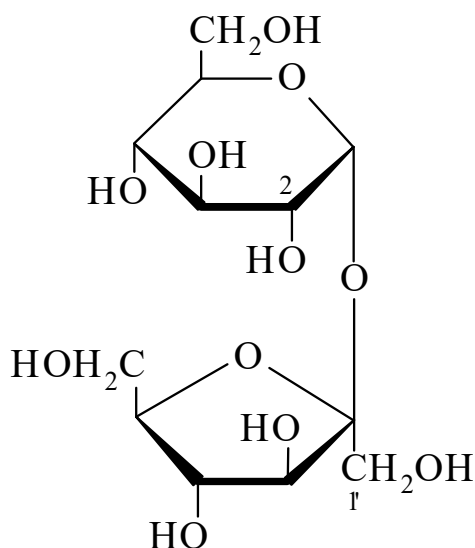




>>Entry Name: Sucrose, 9CI, 8CI

ENTRY UNDER REVIEW

Synonym(s): β -D-Fructofuranosyl α -D-glucopyranoside, 9CI. Saccharose. Cane sugar. Beet sugar



CAS Registry Number: 57-50-1

Related CAS Registry Numbers(s): 12738-64-6 31835-06-0 35867-41-5 54182-58-0 73264-44-5

Molecular Formula: $C_{12}H_{22}O_{11}$

Molecular Weight: 342.299

Accurate Mass: 342.116215

Percentage Composition: C 42.11%; H 6.48%; O 51.42%

Annual world production is in excess of 90×10^6 tons mainly from the juice of sugar cane and sugar beet which contain respectively *ca.* 20% and *ca.* 17% of the sugar

Use/Importance: Sweetening agent and food source assimilated by most organisms. Also used in food products as a preservative, antioxidant, moisture control agent, stabilizer and thickening agent. Reference material used in elemental microanalysis

Physical Description: Cryst. (H_2O or EtOH)

Melting Point: Mp 185-187°

Optical Rotation: $[\alpha]_D +66.5$ (H_2O)

Calculated Log P Data: Log P -5.72 (uncertain value) (calc)

Other Data: Does not reduce Fehling's soln., form an osazone or mutarotate. Hydrol. with invertase or acid gives D-glucose and D-fructose

Hazard & Toxicity: OES long-term 10 mg m^{-3} ; short-term 20 mg m^{-3} . LD₅₀ (rat, orl) 29700 mg/kg. Exp. teratogen (very large doses)

Aldrich: 24761-8

Fluka: 84105

Sigma: S0389

Supelco: 4-7289

>>Derivative: 6'-Phosphate

CAS Registry Number: 4549-10-4

Extra CAS Registry Numbers(s): 22372-29-8 36064-19-4

Molecular Formula: $C_{12}H_{23}O_{14}P$

Molecular Weight: 422.279

Accurate Mass: 422.082547

Percentage Composition: C 34.13%; H 5.49%; O 53.04%; P 7.33%

Use/Importance: Biosynthetic intermed. to sucrose

Physical Description: Microcryst. powder (as di-K salt)

Optical Rotation: $[\alpha]_D^{20} +34$ (c, 1 in H_2O)

Other Data: Ba salt also prepared

>>Derivative: Octakis (hydrogen sulfate)