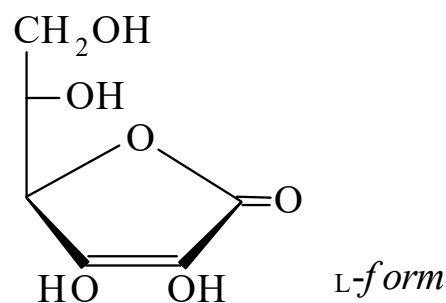




>>Entry Name: Ascorbic acid, BAN, INN, USAN

ENTRY UNDER REVIEW

Synonym(s): *threo*-Hex-2-enonic acid γ -lactone, 9CI, 8CI. *threo*-Hexulosono-1,4-lactone-2,3-enediol. Hexuronic acid. Lyxoascorbic acid. Xyloascorbic acid



Related CAS Registry Numbers(s): 299-36-5 5743-28-2 6485-44-5 6730-29-6 25395-66-8 124928-57-0

Molecular Formula: C₆H₈O₆

Molecular Weight: 176.126

Accurate Mass: 176.03209

Percentage Composition: C 40.92%; H 4.58%; O 54.50%

Calculated Log P Data: Log P -2.21 (calc)

>>Variant: D-form

CAS Registry Number: 10504-35-5

Molecular Formula: C₆H₈O₆

Molecular Weight: 176.126

Accurate Mass: 176.03209

Percentage Composition: C 40.92%; H 4.58%; O 54.50%

Melting Point: Mp 190 dec.°

Optical Rotation: $[\alpha]_D^{18} -23$ (c, 2 in H₂O). $[\alpha]_D^{18} -48$ (MeOH)

Other Data: Shows little antiscorbutic action

>>Variant: L-form

Synonym(s): Vitamin C. Vitamin C³. Ascorbicap. Cebione. Celaskon. Cenolate. Cevalin. Cevital. Citrovit. Roscorbic. Vitacimin. Vitascorbol. E 300

CAS Registry Number: 50-81-7

WC0700 WK8000

Molecular Formula: C₆H₈O₆

Molecular Weight: 176.126

Accurate Mass: 176.03209

Percentage Composition: C 40.92%; H 4.58%; O 54.50%

Biological Source: Occurs widely in animals and plants. Good sources are citrus fruits and hip berries. Isol. from ox adrenal cortex, lemons and paprika. Prod. industrially on a large scale from glucose

Use/Importance: Vitamin (antiscorbutic); urinary acidifier. Used as a reducing agent, masking agent in photometric detn. of Ti, Nb. Antioxidant, nutrient, preservative.

Valuable inexpensive starting material for chiral synthesis. Enzymic browning inhibitor

Melting Point: Mp 190-192°

Optical Rotation: $[\alpha]_D^{25} +24$ (c, 1 in H₂O). $[\alpha]_D^{18} +49$ (MeOH)

pKa Value: pK_{a2} 11.34 (25°, 0.1M KNO₃)

Other Data: Component of numerous preparations

Hazard & Toxicity: Human systemic effects when administered intravenously. Exp. reprod. and teratogenic effects (v. large doses). LD₅₀ (rat, orl) 11900 mg/kg

Aldrich: 25556-4

Fluka: 95210

Sigma: A5960

Supelco: 4-6930

>>Derivative: Na salt

Synonym(s): Sodium ascorbate, INN. E301

CAS Registry Number: 134-03-2

Optical Rotation: $[\alpha]_D +24$ (c, 3 in H₂O)

Aldrich: 26855-0

Fluka: 11140

Sigma: A7631