

Product Information

Product Data Sheet

D-Panthenol

Description

D-Panthenol is a clear, colourless to slightly yellow, viscous liquid. It is practically odourless, slightly hygroscopic, and may crystallize on prolonged storage.

Product identification

Product code: 04 1385 2

Chemical names: (*R*)-2,4-dihydroxy-*N*-(3-hydroxypropyl)-3,3-dimethylbutyramide;
 D(+)- α,γ -dihydroxy-*N*-(3-hydroxypropyl)- β,β -dimethylbutanamide

Synonyms: (*R*)-panthenol; D-panthenol; D-pantothenyl alcohol; dexpanthenol; pantothenol; provitamin B₅

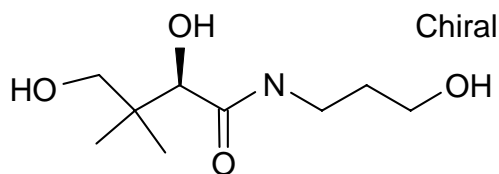
CAS No.: 81-13-0

EINECS No.: 201-327-3

INCI name: panthenol

Empirical formula: C₉H₁₉NO₄

Molecular mass: 205.25 g/mol



Specifications

Appearance:	Clear, colourless to slightly yellow, viscous liquid; may crystallise on storage
Identity:	corresponds
Solution 5% in water:	meets Ph. Eur. requirements
pH of this solution:	9.0 - 10.5
Refractive index (589 nm):	1.497-1.501
Specific optical rotation (589 nm, c = 5 in water):	+29.0° to + 31.5° (on anhydrous material)
Water:	not more than 1.0%
Sulfated ash (residue on ignition):	not more than 0.1%
Heavy metals:	not more than 10 ppm
Lead:	not more than 5 ppm
3-Aminopropanol:	not more than 0.5%
Residual Solvents:	Dichloromethane: not more than 600ppm Methanol: not more than 3000ppm

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Related substances:

Pantoic acid: not more than 0.5%

D-Pantolactone: not more than 1.0%

Assay: 98.0-101.0% (on anhydrous material)

Solubility

D-Panthenol is soluble in water, freely soluble in ethanol, slightly soluble in ether, and insoluble in fats and oils.

Stability and storage

D-Panthenol is fairly stable to air and light. It is hygroscopic and sensitive to heat; heating to over 70 °C may cause racemization. However, it may be heated to 40 °C for short periods in order to improve flowability. The product may be stored for 36 months from the date of manufacture in the unopened original container and at a temperature below 25 °C. The 'best use before' date is printed on the label. In aqueous solutions, D-Panthenol is markedly more stable than the salts of pantothenic acid, in particular at a pH of 3 to 6.

Uses

For pharmaceutical drops and syrups.

For various cosmetic formulations.

This product is not intended for use in the manufacture of sterile drug products. The purchaser assumes all responsibility for additional processing, testing, labelling and registration required for such use.

Compendial compliance

D-Panthenol meets all requirements of the USP, FCC and Ph. Eur. when tested according to these compendia.

Safety

This product is safe for the intended use. Avoid ingestion or direct contact by applying suitable protective measures and personal hygiene.

For full safety information and necessary precautions, please refer to the respective DSM Material Safety Data Sheet.

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Legal notice

The information given in this publication is based on our current knowledge and experience, and may be used at your discretion and risk. It does not relieve you from carrying out your own precautions and tests. We do not assume any liability in connection with your product or its use. You must comply with all applicable laws and regulations, and observe all third party rights.

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