

Technical Information

D-Panthenol CareValid since 05.03.2019
Revision 2.1

PRD 30703421

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Care Chemicals**Active ingredient for further processing in the cosmetics industry. Improves the appearance of skin and hair****INCI name(s)**

Panthenol

Chemical description

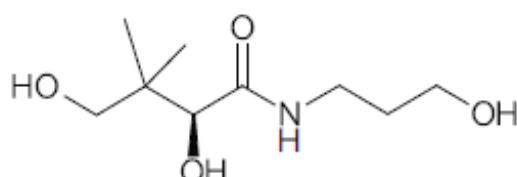
D-Panthenol

Physical form:

Viscous liquid or crystalline substance

Molecular weight

205.3 g/mol

Structural Formula**CASR-No.**

81-13-0

Ingredient

Panthenol

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Care Chemicals**Characteristic values**

The specifications stated in the paragraphs 'Quality control data' and 'Additional product descriptive data' finally and conclusively describe the properties of the product.

Quality control data

(Data which is used for quality release and is certified for each batch.)

Test property	Specification	Test method
Appearance	Viscous liquid or crystalline substance	PM/01055
Specific rotation (D, 25 °C, 50 g/I, calculated on the anhydrous substance)	+ 29.0 ° - + 31.5 °	"Dexpanthenol" USP/NF
Refractive Index n(20/D)	1.495 - 1.502	"Dexpanthenol" USP/NF
Water (Karl-Fischer)	max. 1.0 g/100 g	PM/00153
Aminopropanol (titr., USP)	max. 1.0 g/100 g	PM/00055
Content of D-Panthenol (calculated on the anhydrous substance)	98.0 - 102.0 g/100 g	PM/00055
Residual solvents	Must conform	"Dexpanthenol" USP/NF

Additional product descriptive data

(Data which is proven statistically but not determined regularly.)

Test property	Specification	Test method
Identification	Must conform	USP/NF
Residue on ignition	max. 0.1 %	USP/NF

Storage information**Shelf life**

36 months

Storage temperature

Between + 15 °C and + 25 °C

Storage conditions

In original sealed containers and protected from moisture

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Care Chemicals**Stabilising additives / Auxiliaries****Preservatives**

not present

Antioxidants

not present

Solvents

not present

Others

not present

General information**Raw material basis**

Synthetic: (mineral oil / natural gas)

Composition hints for finished product label**INCI Components****INCI Name (US/EU/CN)**

Panthenol

Content

Complete *

* Complete means conclusively describes the substance

Miscellaneous information

D-Panthenol Care is primarily intended for use as ingredients in personal care applications and conform alone to the analytical specification of the respective pharmaceutical monograph (Ph. Eur. and/or USP). This is not to be understood as conformance with pharmaceutical or food regulations management system requirements in excess of the analytical specification.

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Care Chemicals**Example of use**

Panthenol is an active ingredient for sophisticated cosmetic skin care and hair care products. It improves the appearance of skin, hair and nails.

D-Panthenol is the provitamin of D-Pantothenic acid (Vitamin B5). D-Pantothenic acid plays a key role in the human intermediary metabolism. It is a part of the Coenzym A. Deficiency of Vitamin B5 results in many dermatological disorder.

Coenzym A is important for:

- structure and function of living tissue
- resistance of the mucous membrane
- growth and pigmentation of hair

Role in the skin:

- deep penetrating moisturizer
- stimulates epithelisation
- has wound healing effect
- has an anti-inflammatory effect

Role in the hair:

- long lasting moisturizer
- prevents hair damage
- thickens hair
- improves luster and sheen

Role in nail care:

- improves hydration
- imparts flexibility

Only the D-Panthenol is the provitamin of D-Pantothenic acid (Vitamin B5), not the L-Panthenol.

The human body converts D-Panthenol to Vitamin B5, which is D-Pantothenic acid. DL-Panthenol is a lit racemic mixture of D-Panthenol and L-Panthenol. Due to the fact that only D-Panthenol is converted to Vitamin B5 and not

L-Panthenol, the racemic DL-Panthenol has only half of the physiological activity of the D-Panthenol. These include stimulation of epithelisation, wound healing effect and anti-inflammatory effect.

But for all the none physiological activities like moisturizer effect, improvement of hair structure, giving luster and sheen to the hair D- and DL-Panthenol are equally active.



We create chemistry

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Care Chemicals

Intended for use as cosmetic ingredient

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Care
Creations™