

Calcium D-Pantothenate

Human Nutrition

 **BASF**
The Chemical Company

Chemical names

Calcium D-pantothenate, calcium R-pantothenate, vitamin B₅

CAS No.	137-08-6
EINECS No.	205-278-9

Product number

10070659 kosher

Description

White, slightly hygroscopic, almost odorless powder with a slightly bitter taste.

Solubility

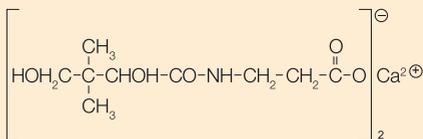
Readily soluble in water, soluble in glycerol, somewhat soluble in ethanol and virtually insoluble in ether and chloroform.

Specification

Assay:	98.0-101.0%
Identification (TLC):	conforms
Specific rotation (5% in water, 20°C):	+25.5° to +27.5°
pH value (5% in water):	6.8-8.0
Lead (FCC):	max. 2 mg/kg
Heavy metals:	20 mg/kg
Chloride:	200 mg/kg
Loss on drying:	3.0% (3 h, 105°C)
Calcium content (USP):	8.2-8.6%
Nitrogen content:	5.7-6.0%
Alkalinity (USP):	conforms
Organic volatile impurities (USP):	conforms
β-alanine:	0.5%
Ordinary Impurities (USP):	1.0%

Unless otherwise stated, the methods of analysis can be found in the Ph.Eur.

Calcium D-pantothenate



$\text{C}_{18}\text{H}_{32}\text{CaN}_2\text{O}_{10}$

Molar mass 476.6 g/mol

Monographs

The product complies with the current "Calcium Pantothenate" Ph.Eur., the "Calcium Pantothenate" USP and the "Calcium Pantothenate" FCC monographs.

Particle-size distribution

Min. 95% smaller than 300 μm (50 mesh USP)
Max. 10% smaller than 50 μm (300 mesh USP)

These typical values are based on measurements in an air-jet sieve.

Bulk density

Approx. 0.6 g/ml

Stabilization/Stability

Stored in the unopened original packaging at room temperature (max. 25°C), the product is stable for at least 36 months. It is hydrolyzed by strong alkalis and acids and is slightly hygroscopic.

Standard packaging

25 kg.

Please see appendix I for further information.

Storage

The product should be stored in the tightly sealed original packaging in a dry place at temperatures below 25°C.

Applications

Dietary supplements:

For the prevention and therapy of D-pantothenic acid deficiency, e.g. in multivitamin or B-complex preparations.

Calcium D-pantothenate is best used in solid dosage forms (tablets, sugar-coated tablets, effervescent tablets, film-coated tablets, chewable tablets, capsules). The product is hygroscopic and is suitable for direct compression. In liquid and semi-solid dosage forms, particularly when used in combination with other vitamins, D-panthenol (= provitamin B₅) is preferable to Calcium D-Pantothenate, because it is more stable.

Food products:

In the ingredients and food industry, calcium D-pantothenate is added to a number of foods, e.g. food products for babies and small children, food products for athletes, low-calorie and calorie-reduced foods, vitamin-fortified juices etc. and for the prevention of pantothenic acid deficiency as well as meeting particular nutritional requirements. It is also used for the fortification of fruit, vegetable and multivitamin juices, confectionery, isotonic beverages, instant drink powders, milk and other dairy products, breakfast cereal etc.

Cosmetic products:

D-pantothenic acid improves hair growth and pigmentation and protects the skin. As it is more stable and easier to process, D-panthenol is usually preferred to calcium D-pantothenate, e.g. in hair care products, sun care products, shaving lotions and baby care products.

Note

Calcium D-pantothenate must be handled in accordance with the Safety Data Sheet.

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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