

**Calcium D-Pantothenate****0412678**

Version 2.3

Revision Date 01.02.2023

Date of last issue: 24.04.2019

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : Calcium D-Pantothenate

Substance name :  $\beta$ -Alanine, N-[(2R)-2,4-dihydroxy-3,3-dimethyl-1-oxobutyl]-, calcium salt (2:1)

CAS-No. : 137-08-6

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Use of the Substance/Mixture : For the fortification of foods, Ingredient for capsules and/or tablets

Remarks : A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 and/or Annex IV or V of REACH regulation (EC) No 1907/2006.

**1.3 Details of the supplier of the safety data sheet**

Company : DSM Nutritional Products Europe Ltd  
PO Box 2676  
CH-4002 Basel

Telephone : +41618157777

Telefax : +41618157770

E-mail address of person responsible for the SDS : sds.nutritionalproducts@dsm.com

**1.4 Emergency telephone number**

+41 848 00 11 77 (Carechem 24 International)

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008) as amended by The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019)**

Not a hazardous substance or mixture.

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008) as amended by The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019)**

Not a hazardous substance or mixture.

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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Risk of dust explosion.

**SECTION 3: Composition/information on ingredients**

Synonyms : (R)-N-(2,4-dihydroxy-3,3-dimethyl-1-oxobutyl)- $\beta$ -alanine calcium salt (2:1)  
Calcium pantothenate

Brief description of the product : Substance

**3.1 Substances****Hazardous components**

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Substances with a workplace exposure limit :		
calcium pantothenate, D-form	137-08-6 205-278-9	$\geq 90$ - $\leq 100$

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air.  
If symptoms persist, call a physician.

In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.

In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.

If swallowed : Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.

**4.2 Most important symptoms and effects, both acute and delayed**

Symptoms : No specific symptoms known.

**4.3 Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Water

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Foam

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire-fighting : None known.

**5.3 Advice for firefighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Consider dust explosion hazard.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**Personal precautions : Use personal protective equipment.  
Avoid dust formation.**6.2 Environmental precautions**

Environmental precautions : Try to prevent the material from entering drains or water courses.

**6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Sweep up and shovel.

**6.4 Reference to other sections**

For personal protection see section 8., For disposal considerations see section 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Advice on safe handling : For personal protection see section 8.

Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Take precautionary measures against static discharges.

Hygiene measures : General industrial hygiene practice.

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : To maintain product quality, do not store in heat or direct sunlight.

Keep container tightly closed and dry.

Advice on common storage : No special restrictions on storage with other products.

**7.3 Specific end use(s)**

Specific use(s) : Not applicable

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
calcium pantothenate, D-form	137-08-6	TWA	10 mg/m <sup>3</sup>	DSM Internal Limit

**8.2 Exposure controls****Personal protective equipment**

Eye protection : Safety glasses

Hand protection : Glove material: for example nitrile rubber

Skin and body protection : Lightweight protective clothing

Respiratory protection : No personal respiratory protective equipment normally required.  
In case of high dust concentration use a dust mask applicable to local conditions.**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance : free flowing powder

Colour : white

Odour : odourless

Odour Threshold : No information available.

pH : 6.8 - 8.0 (5%)  
(as aqueous solution)

Melting point/range : ca. 195 - 196 °C  
with decomposition

Boiling point/boiling range : not determined

Flash point : Not applicable

Flammability (solid, gas) : May form combustible dust concentrations in air.

Vapour pressure : < 0.000001 hPa (25 °C; calculated (citation from literature))

Relative vapour density : Not applicable

Density : not determined

Water solubility : ca. 360 g/l

Solubility in other solvents : Glycerol: soluble  
Acetone: moderately soluble  
Methanol: ca.25 g/l

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	Ethanol: ca.10 g/l
	Diethylether: insoluble
	Chloroform: insoluble
Partition coefficient: n-octanol/water	: log Pow -5.35 (calculated (citation from literature))
Auto-ignition temperature	: No data available
Thermal decomposition	: Not relevant
Explosive properties	: Not explosive
Oxidizing properties	: No data available

**9.2 Other information**

Combustibility index for deposited dust	: 3 ( 25 °C)
	: 3 ( 100 °C)
Dust explosion class	: St(H)1 (Milled sample, Median value of the tested sample 0.054 mm, Loss on drying 2.3 %; The value was determined in the modified Hartmann tube.)
Minimum ignition energy	: 30 - 100 mJ (Milled sample, Median value of the tested sample 0.054 mm, Loss on drying 2.3 %, EN 13821) The Minimum ignition energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE. : General remark: The indicated dust explosion characteristics are only valid for this product and are sensitive to the sample's parameters.
Powder volume resistivity	: ca. 2E+12 Ohmm (Product sample, Median value of the tested sample 0.085 mm, Loss on drying 2.1 %) The material can accumulate static charge and can therefore cause electrical ignition.
Minimum ignition temperature of a dust/air mix	: 400 °C (Median value of the tested sample 0.085 mm) determined in the BAM oven
Molecular weight	: 476.54 g/mol
Further information	: hygroscopic

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No hazards to be specially mentioned.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Dust may form explosive mixture in air.

**10.4 Conditions to avoid**

Conditions to avoid : Heat

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**10.5 Incompatible materials**

Materials to avoid : Acids  
Bases  
Strong oxidizing agents

**10.6 Hazardous decomposition products**

No decomposition if used as directed.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Acute oral toxicity : LD50 (Rat): 21,920 mg/kg  
: LD50 (Mouse): 18,090 mg/kg

Skin irritation : Prolonged skin contact may cause skin irritation.

Eye irritation : Dust contact with the eyes can lead to mechanical irritation.

Sensitisation : No data available

Genotoxicity in vitro : not mutagenic (Ames test, OECD Test Guideline 471)

Carcinogenicity : No indication for carcinogenicity known.

Reproductive toxicity : No indication for adverse effects on fertility known.

STOT - single exposure (Acute exposure) : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure : This information is not available.

Aspiration toxicity : No aspiration toxicity classification

**11.2 Information on other hazards**

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish : *Salmo gairdneri* (rainbow trout)

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LC50 (96 h) > 1,000 mg/l  
(OECD Test Guideline 203)  
: LC0 (96 h) > 1,000 mg/l

Toxicity to bacteria : activated sludge  
Concentration of the substance (28 d) 100 mg/l  
No inhibition was observed under the biodegradation test conditions.  
(OECD Test Guideline 301C)

**12.2 Persistence and degradability**

Biodegradability : Readily biodegradable.  
99 % (28 d)  
(OECD Test Guideline 301C)  
  
: Well inherently biodegradable.  
99 % (7 d)  
(OECD Test Guideline 302B)

**12.3 Bioaccumulative potential**

Partition coefficient: n-octanol/water : log Pow -5.35 (calculated (citation from literature))

**12.4 Mobility in soil**

Distribution among environmental compartments : No data available

**12.5 Results of PBT and vPvB assessment**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties****12.7 Other adverse effects****Product:**

Additional ecological information : There is no data available for this product.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product : Offer surplus and non-recyclable solutions to a licensed disposal company.  
  
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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**SECTION 14: Transport information****14.1 UN number or ID number**

Not regulated as a dangerous good

**14.2 UN proper shipping name**

Not regulated as a dangerous good

**14.3 Transport hazard class(es)**

Not regulated as a dangerous good

**14.4 Packing group**

Not regulated as a dangerous good

**14.5 Environmental hazards**

Not regulated as a dangerous good

**14.6 Special precautions for user**

Remarks : Not classified as dangerous in the meaning of transport regulations.

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

UK REACH List of restrictions (Annex 17) : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) Not applicable

**15.2 Chemical safety assessment**

A Chemical Safety Assessment is not required for this substance.

**SECTION 16: Other information****Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration as-



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sociated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative  
DNEL - Derived No-Effect Level; NFPA - National Fire Protection Association (USA); PNEC - Predicted No-Effect Concentration; STEL - Short term exposure limit; TLV-C - Ceiling Limit Value; TWA - Time Weighted Average; WEL - Workplace Exposure Limit.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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