

Personal Care
Product Dossier
DL-Panthenol 50 L
Product Code: 0480746

Table of Contents

Below are listed all available Statements and Technical Data Sheets, listed by name and by section order as per the Product Dossier.

Additional data is provided in the Technical Dossier document chapters 1-9.

To navigate in the dossier, please activate the bookmark bar of your PDF reader.

Please note that some chapters of the technical dossier might not be listed in the table of contents. In such cases, statements belonging to the respective chapter are not available.

Technical data sheets

Product Data Sheet

Quantitative Composition Sheet

Manufacturing Principle

Specifications & Test

Technical dossier

Technical Dossier document

1. Source of ingredient(s)

GMO statement

BSE/TSE statement

3. Substance(s) potentially contained

Heavy metal statement

Residual solvents

Pesticide statement

4. Regulatory information

Compliance confirmation

Fragrance allergen statement

CMR statement

Animal testing statement
REACH statement
SVHC statement
California proposition 65 statement
China regulatory status
Global regulatory status

5. Safety and Environment

Toxicological information statement

6. Product suitability

Kosher certificate
Halal certificate

7. Packaging materials

Treatment of pallets statement
Compliance of packaging materials statement
Traceability of packaging materials statement

9. Supportive documentation

Microbiology statement
Sustainability document
Lot code explanation

10. Additional information

Glossary Technical Dossier

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

Product Data Sheet

DL-Panthenol 50 L

Description

DL-Panthenol 50 L is a practically odourless, clear liquid. It contains a minimum of 50 % (*R,S*)-panthenol in water stabilized with citric acid.

Product identification

Product code: 04 8074 6

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

Synonyms: (*R,S*)-panthenol; DL-panthenol; DL-pantothenyl alcohol; racemic pantothenyl alcohol; pantothenol; provitamin B₅

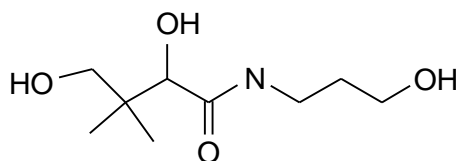
CAS No.: 16485-10-2

EINECS No.: 240-540-6

INCI name: Panthenol

Empirical formula: C₉H₁₉NO₄

Molecular mass: 205.25 g/mol



Specifications

Appearance:	clear, liquid
Colour:	colourless to slightly yellow
pH:	5.5 - 7.0
Sulphated ash (residue on ignition):	not more than 0.5 %
Heavy metals:	not more than 10 ppm
DL-Lactone:	not more than 2.0 %
Aminopropanol:	not more than 1.0 %
Assay:	min. 53 %
Residual Solvents:	Dichloromethane: max. 50 ppm
	Methanol: max. 500 ppm

Microbiology:

• Total Aerobic Microbial Count	max. 100 CFU/g or ml
• Total Combined Yeasts/Moulds	max. 100 CFU/g or ml
• Escherichia coli	negative in 1 g or ml
• Staphylococcus aureus	negative in 1 g or ml
• Pseudomonas aeruginosa	negative in 1 g or ml
• Candida albicans	negative in 1 g or ml

Product Information

Product Data Sheet

DL-Panthenol 50 L

Solubility

DL-Panthenol 50 L is freely miscible in water and miscible in ethanol, propylene glycol and glycerine, but does not mix with fats or oils.

Stability and storage

The product may be stored for 24 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.

During manufacturing DL-Panthenol 50 L is stable at temperatures of up to 70 °C. Prolonged heat should be avoided.

Uses

For various cosmetic formulations.

Safety

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

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.

Product Information

Product Data Sheet

DL-Panthenol 50 L

Additional information

To find out more about our ingredients, please contact your nearest DSM Nutritional Products office.

DSM Nutritional Products Ltd Product Management Building 241 PO Box 2676 CH-4002 Basel Switzerland	Tel.: +41 (0) 61 815 8899 Internet www.dsmnutritionalproducts.com
DSM Nutritional Products LLC 45 Waterview Boulevard Parsippany, NJ 07054-1298	Tel.: +1 (800) 526 0189 (Human Nutrition, Personal Care) Tel.: +1 (800) 451-8325 (Animal Nutrition) Internet www.unlimitednutrition-na.dsm.com
DSM Nutritional Products Europe Ltd. PO Box 2676 CH-4002 Basel Switzerland	Tel.: +41 (0) 61 815 7777 Internet www.unlimitednutrition-eu.dsm.com
DSM Singapore Industrial Pte Ltd. trading as DSM Nutritional Products Asia Pacific 30 Pasir Panjang Road #13-31 Mapletree Business City Singapore 117440	Tel.: + (65) 66326500 Internet www.dsmnutritionalproducts.com
DSM Nutritional Products China No. 476, Li Bing Road Zhangjiang High-Tech Park Pudong Area, Shanghai 201203 P.R. of China	Tel.: + 86 (0)21 6141 8188 Internet www.dsmnutritionalproducts.cn
DSM Produtos Nutricionais Brasil S.A. Avenida Engenheiro Billings, nº 1729 - Prédio 31 Sala A CEP:05321-010 São Paulo - SP Brasil	Tel.: + 55 (11) 3760-6300 Internet www.dsmnutritionalproducts.com

DL-Panthenol 50 L

Composition

	1g contains
DL-Panthenol	530 mg
Water	463 mg
Citric Acid	7 mg

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <http://webshop.dsm.com> for latest version of this document or the latest information.

Product Information

DL Panthenol 50 L

Manufacturing Principle

RS Pantolactone (DL Lactone) is added to aminopropanol at elevated temperature. After the reaction the product is diluted with an aqueous 1.5% citric acid solution to give DL panthenol 50 L, which is filtered and then filled into containers.

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

DL-Panthenol 50 L

Specification and Tests

1. **Appearance:** **clear, colourless to slightly yellow liquid**

2. **pH:** **5.5 - 7.0**
 Measure the pH value potentiometrically.

3. **Sulphated ash:** **not more than 0.5 %**
 Proceed according to the guidelines outlined in Ph.Eur 2.4.14, Sulphated Ash.

4. **Heavy metals:** **not more than 10 ppm**
 Dissolve 1 g of sample in approximately 30 ml of milli Q water in a 50 ml volumetric flask. Dilute to volume with milliQ water. Proceed according to the general test "Heavy Metals" of Ph.Eur.

5. **DL-Lactone:** **not more than 2.0 %**

DL-Lactone in Panthenol is measured using HPLC Reverse Phase Chromatography utilising the following conditions.

Instrument Conditions HPLC

Column	Manufacturer: Merck
Type	LiChroCart 250-4 Cartridge
Stationary Phase	Lichrospher 100 RP-8 5 mcm
Length	250 mm
Mobile Phase	2% acetonitrile in 0.1M potassium dihydrogen orthophosphate- pH adjusted to 3.1 with orthophosphoric acid
Flow	1.6 ml / min
Wavelength	200 nm
Temperature	35 °C
Run Time	55 min
Injection	20 mcl

Product Information

DL-Panthenol 50 L

Specification and Tests

Standard Preparation

Accurately weigh 0.25 g of Panthenol reference material into a 100 ml volumetric flask. Dissolve in and dilute to volume with mobile phase. Transfer by pipette 10 ml of this solution into a 25 ml volumetric flask, dilute to volume with mobile phase and mix thoroughly (Solution A).

Pipette 1.0 ml of Solution A into a 50 ml volumetric flask, dilute to volume with mobile phase and mix thoroughly (Solution B).

With a 0.2 µm filter fitted to a syringe, flush the Solution B through the Rheodyne loop and inject onto the column.

Calibrate the HPLC using Solution B.

Sample Preparation

Into a 100 ml conical flask or beaker, weigh accurately, 1 g of the sample.

Add 50.0 ml of mobile phase and mix well until dissolved. With a 0.2 µm filter fitted to a syringe, flush the solution through the Rheodyne loop and inject onto the column.

Relative Retention Times and Relative Response Factors:

Compound	Relative Retention Time	Relative Response Factor (Rrf)
Panthenol	1.00	1.0
Pantolactone	0.86	35.3

Calculation

$$\frac{\text{Area Response Sample} \times \text{Standard weight} \times \text{Dilution Factor} \times \text{Rrf} \times 100}{\text{Area Response Standard} \times \text{Sample weight}}$$

For unspecified impurities use the Relative Response factor for Panthenol

Product Information

DL-Panthenol 50 L

Specification and Tests

6. Aminopropanol: not more than 1.0 %

Dissolve 3 - 4 g, accurately weighed, in 60 ml of glacial acetic acid and immediately titrate with 0.1 N perchloric acid, determining the end point potentiometrically.

1 ml of 0.1 N HClO₄ is equivalent to 0.007511 g of C₃H₉NO.

$$\% \text{ aminopropanol} = \frac{\text{titre} \times \text{factor} \times 0.007511 \times 100}{\text{weight taken}}$$

7. Assay: min 53 % as DL-Panthenol

Accurately weigh 0.40 - 0.44 g of sample into a 100 ml glass-stoppered roundbottom flask. Add 50.0 ml of 0.1 N perchloric acid and boil under reflux for 7 hours. Cool and transfer the contents quantitatively into a 250 ml beaker with glacial acetic acid. Add 50.0 ml of 0.11 N sodium acetate solution in glacial acetic acid. Titrate with 0.1 N perchloric acid. Prepare and titrate a blank in the same way.

1 ml of 0.1 N HClO₄ = 0.020525 g of C₉H₁₉NO₄

$$\% \text{ Assay (as dry)} = \frac{(\text{titre} - \text{blank}) \times \text{factor} \times 0.020525 \times 100}{\text{weight taken}}$$

8. Residual Solvents:

Dichloromethane:	max. 50 ppm
Methanol:	max. 500 ppm

Residual Solvents are measured using Gas Chromatography utilizing the following conditions.

Product Information

DL-Panthenol 50 L

Specification and Tests

Instrument Conditions

Column	Manufacturer	Restek
	Type	RTX 5
	Stationary Phase	RTX 5
	Length	30 m
	Inside Diameter	0.53 mm
	Film Thickness	5.0 µm
	Flow	8.8 ml/min

Oven	Initial Temperature	35 °C
	Initial Time	5 mins
	Rate	8 °C/min
	Final Temperature	130 °C
	Final Time	0 mins

Injector	Type	Splitless
	Temperature	70 °C

Detector	Type	FID
	Temperature	260 °C

Injection Volume	1.0 ml
------------------	--------

Standard Preparation

Prepare a solution of 200 ppm Methanol and 2 ppm Dichloromethane in milli Q water Solution A.

Pipette 5.0 ml of Solution A into a 20 ml headspace vial.

Add approx. 1 g of anhydrous sodium sulphate to the vial and seal.

Product Information

DL-Panthenol 50 L

Specification and Tests

Sample Preparation

Accurately weigh about 0.1 g of the sample under test into a 20 ml headspace vial.

Add approx. 1 g of anhydrous sodium sulphate to the vial then pipette 5.0 ml of water to the vial and contents and seal.

Calculation

$$\frac{\text{Area Response Sample} \times \text{Standard weight} \times \text{Dilution Factor}}{\text{Area Response Standard} \times \text{Sample weight}}$$

Technical Dossier

Personal Care

Product: 0480746 DL-Panthenol 50 L
Origin: Dalry (United Kingdom)

1. Source of ingredient(s)

Source of active ingredient(s)	Yes	No	Comments
Synthetic	X		Panthenol
Biotechnology		X	
Vegetable		X	
Animal		X	
Mineral		X	

Source of formulation ingredient(s)	Yes	No	Comments
Synthetic		X	
Biotechnology	X		Citric Acid (fermentation)
Vegetable		X	
Animal		X	
Mineral	X		Aqua

Additional ingredient(s) source information	Yes	No	Comments
GMO statement available	X		
BSE/TSE statement available	X		
Palm oil or palm oil derived		X	
Petroleum derived	X		Panthenol

Ionisation/Irradiation	Yes	No	Comments
Ionisation or irradiation applied to this product		X	

Technical Dossier

Personal Care

Product: 0480746 DL-Panthenol 50 L
Origin: Dalry (United Kingdom)

2. Function of the ingredient(s)

Function	Yes	No	Comments
Active substance(s)	X		Panthenol (skin and hair conditioning agent, humectant)
Solvent(s) / carrier(s)	X		Aqua
Antioxidant(s)		X	
Ingredient(s) listed in Annexes (II, III, IV, V, VI) of Cosmetic Regulation (EC) 1223/2009		X	
Others	X		Citric Acid

3. Substance(s) potentially contained

Food allergens	Yes	No	Comments
Cereals containing gluten and products thereof			Not applicable
Milk and dairy products (incl. lactose)			Not applicable
Nuts and nut products (incl. peanuts)			Not applicable
Coconut and products thereof			Not applicable

Other various substances	Yes	No	Comments
Ethanol and denatured alcohol		X	Not expected and not determined
Formaldehyde and formaldehyde releasers		X	Not expected and not determined
Acetaldehyde		X	Not expected and not determined
Phthalates		X	Not expected and not determined
Glycol ethers		X	Not expected and not determined
1,4-Dioxane		X	Not expected and not determined
Free amines		X	Not expected and not determined
Nitrosamines		X	Not expected and not determined
Acrylamide		X	Not expected and not determined
Monomer residues		X	Not expected and not determined
Dioxin/PCB		X	Not expected and not determined

Technical Dossier

Personal Care

Product: 0480746 DL-Panthenol 50 L
Origin: Dalry (United Kingdom)

Other various substances	Yes	No	Comments
PAH(s)		X	Not expected and not determined
Heavy metals statement available	X		See also Product Data Sheet
Residual solvents statement available	X		See also Product Data Sheet
Pesticide statement available	X		

4. Regulatory information

EU cosmetic legislation (Reg (EC) 1223/2009)	Yes	No	Comments
Compliance statement available	X		
Fragrance allergen statement available	X		
CMR statement available	X		
Animal testing statement available	X		
Last animal testing date for cosmetic purpose		X	Neither the product nor its ingredients have been tested on animals for cosmetic purposes, by or on behalf of DSM Nutritional Products Ltd.
Last animal testing date for non-cosmetic purpose	X		Acute eye irritation on Citric Acid, 1994 (worker safety)

EU chemical legislation (Reg (EC) 1907/2006)	Yes	No	Comments
REACH statement available	X		
PBT/vPvB information	X		For any available information see Safety Data Sheet, section 12.5
SVHC statement available	X		

Technical Dossier

Personal Care

Product:	0480746 DL-Panthenol 50 L
Origin:	Dalry (United Kingdom)

US legislation	Yes	No	Comments
Californian Proposition 65 statement available	X		
China legislation	Yes	No	Comments
China regulatory status statement available	X		
Global regulatory overview	Yes	No	Comments
Global regulatory status statement available	X		
Nanomaterial information	Yes	No	Comments
Nano statement (Reg (EC) 1223/2009) available			Not applicable: The product does not contain nano material according to the definition of Regulation (EC) No 1223/2009 (Article 2, (k)).
Nano declaration information			Not applicable
Additional nano information			Not applicable
Other confirmations	Yes	No	Comments
Compendia compliance			Not applicable
Cites listed			Not applicable
In scope of Nagoya Protocol			Not applicable

5. Safety and environment

Toxicology	Yes	No	Comments
Toxicological information statement available	X		
Ecotoxicological information available	X		For any available information see Safety Data Sheet, section 12

Technical Dossier

Personal Care

Product:	0480746 DL-Panthenol 50 L
Origin:	Dalry (United Kingdom)

Volatile organic compound(s)	Yes	No	Comments
VOC substance(s) according to positive list of Swiss VOC Regulation contained		X	

6. Product suitability

Eco certification	Yes	No	Comments
Ecocert certificate available			Not applicable
Natrue certificate available			Not applicable
Cosmos certificate available			Not applicable
Fair Trade certificate available			Not applicable

Kosher / Halal status	Yes	No	Comments
Kosher certificate/statement available		X	
Halal certificate/statement available	X		

7. Packaging materials

Packaging compliance	Yes	No	Comments
Traceability of packaging materials statement available	X		
Compliance of packaging materials statement available	X		
Treatment of pallets statement available	X		

8. Quality information

Quality standards	Yes	No	Comments
GMP standard applied for this product	X		ICH Q7 GMP compliant

Technical Dossier

Personal Care

Product: 0480746 DL-Panthenol 50 L
Origin: Dalry (United Kingdom)

9. Supportive documentation

General statements	Yes	No	Comments
Microbiology statement available		X	See Product Data Sheet
Sustainability document available	X		
Lot code explanation available	X		

10. Additional information

Technical Dossier	Yes	No	Comments
Glossary Technical Dossier available	X		

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

DL-Panthenol 50 L

GMO Statement

We hereby confirm that the active substance used for DL-Panthenol 50 L is manufactured by conventional processes** and does not contain GMO-DNA.

With regard to the ingredients used in the application form of the active substance we hereby confirm that they are manufactured by conventional processes** and are not produced from GMOs. They do not contain GMO-DNA.

** The term "conventional process" refers to chemical synthesis, fermentation using non GMM, extraction from conventional plants.

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <http://webshop.dsm.com> for latest version of this document or the latest information.

Product Information

BSE/TSE Statement

DL-Panthenol 50 L

Product code: 0480746

With regards to TSE/BSE potential risk transmission, the EU Cosmetic Products Regulation (EC) 1223/2009 prohibits the use of below materials in cosmetic products:

- Annex II, entry 416: Cells, tissues or products of human origin
- Annex II, entry 419: Category 1 and Category 2 materials as defined in Articles 8 and 9 of Regulation (EC) 1069/2009 (repealing Articles 4 and 5 respectively of Regulation (EC) No 1774/2002). Category 1 materials include all Specified Risk Materials as defined by Annex V of Regulation (EC) 999/2001.

We hereby confirm that this product is not derived from animal or human, furthermore no animal or human origin material is used during the manufacture of this product.

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

DL-Panthenol 50 L

To Whom it May Concern

Heavy Metals Statement

We hereby state that there are appropriate procedures in place to prevent and control heavy metals contamination.

The following specifications are met:

Heavy metals	max. 10 ppm
Arsenic	max. 1.0 ppm
Lead	max. 1.0 ppm
Mercury	max. 0.1 ppm
Cadmium	max. 0.5 ppm
Nickel*	max. 2.0 ppm
Antimony*	max. 2.0 ppm

The procedures are based on relevant Quality and/or Good Manufacturing Practice (GMP) standards including Hazard Analysis and Critical Control Points (HACCP).

*Information for Personal Care customers

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

Residual Solvent Statement

DL-Panthenol 50 L

Product code: 0480746

We hereby certify that **DL-Panthenol 50 L** fully complies with

- ICH guideline for residual solvents Q3C (R8)
- Chemical test <467> of USP/NF: Residual Solvents Limits
- General chapter 5.4 <Residual solvents> and Limit test 2.4.24 of Ph.Eur.: <Identification and control of residual solvents>

Only Class 2 solvents Dichloromethane and Methanol are likely to be present. Both are below the Option 1 limit.

The following limits are met:

Solvent	ICH Limit (mg/kg)	DSM Specification (mg/kg)
Dichloromethane	600	max. 50
Methanol	3000	max. 500

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Product Information

DL-Panthenol 50 L

Pesticide Statement

This confirmation refers to the definition and limits of pesticide residues as laid down in the international pharmaceutical or food regulations, such as the European Pharmacopoeia or Regulation (EC) No 396/2005¹, applying to ingredients derived from vegetable sources.

Above mentioned product does not contain any ingredient of vegetable origin.

We, therefore, confirm that the product is not expected to contain any pesticide residues.

¹ Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC and subsequent amendments.

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

DL-Panthenol 50 L

Compliance Confirmation

We hereby confirm that the above mentioned product at the DSM recommended applications and use levels, conforms to all the requirements laid down for cosmetic ingredients in the Regulation (EC) No 1223/2009¹ on cosmetic products.

This includes the compliance with:

1. Article 14.1. (a) of this Regulation which relates to the absence of prohibited substances as listed in Annex II
2. Article 14.1. (b) of this Regulation which relates to the absence of restricted substances if not used in accordance with the restrictions laid down in Annex III
3. Article 17 of this Regulation which relates to the allowance of traces of banned substances under the condition that they are technically unavoidable in good manufacturing practices and do not cause damage to human health when applied under normal or reasonably foreseeable conditions of use

.....
¹ and subsequent amendments

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

DL-Panthenol 50 L

Fragrance Allergen Statement

Regulation (EU) 1223/2009 and subsequent amendments, lists a number of substances that may cause allergic reactions following dermal application in sensitized individuals. These substances have to be stated in the ingredients list if present at specified levels in the finished cosmetic product.

We hereby confirm that none of the potential fragrance allergens¹ is intentionally added and not expected to be present in this product.

.....
¹ see annexed list

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

List of potential fragrance allergens as listed in Regulation (EC) 1223/2009 and subsequent amendments:

Ingredient name	CAS number(s)
Alpha-Isomethyl Ionone	127-51-5
Amyl Cinnamal	122-40-7
Amylcinnamyl Alcohol	101-85-9
Anise Alcohol	105-13-5
Benzyl Alcohol	100-51-6
Benzyl Benzoate	120-51-4
Benzyl Cinnamate	103-41-3
Benzyl Salicylate	118-58-1
Butylphenyl Methylpropional	80-54-6
Cinnamal	104-55-2
Cinnamyl Alcohol	104-54-1
Citral	5392-40-5
Citronellol	106-22-9
Coumarin	91-64-5
Eugenol	97-53-0
Evernia Prunastri (oakmoss) Extract	90028-68-5
Evernia Furfuracea (treemoss) Extract	90028-67-4
Farnesol	4602-84-0
Geraniol	106-24-1
Hexyl Cinnamal	101-86-0
Hydroxycitronellal	107-75-5
Isoeugenol	97-54-1
Limonene (sum of d, l and dl)	5989-27-5
Linalool	78-70-6
Methyl 2-Octynoate	111-12-6

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

CMR Statement

DL-Panthenol 50 L

Product Code: 0480746

Article 15 of Regulation (EC) n°1223/2009¹ related to Cosmetic Products prohibits the use of substances which are classified and listed under Regulation (EC) n°1272/2008¹ in Part 3 of Annex VI as CMR (Carcinogenic, Mutagenic, Reprotoxic), categories 1A, 1B and 2.

In some cases, the use of CMR classified substances may be allowed if certain conditions are fulfilled, including the evaluation and approval by the European Scientific Committee for Consumer Safety (SCCS) and exemption granted by the Commission.

Furthermore, according to Regulation (EC) n°2019/831 of 22 May 2019, called the first annual “Omnibus Act”, amending Regulation (EC) n°1223/2009¹, CMR classified substances are now and will also be in future included and listed either in the prohibited substances list (Annex II) or the restricted/authorized substances lists (Annexes III/IV to VI) to that Regulation.

We hereby confirm that this product does not contain intentionally added substances classified and listed as CMR either in Annexes II to VI under Regulation (EC) n°1223/2009¹ or in Annex VI under Regulation (EC) 1272/2008¹.

We finally confirm the compliance with Article 17 of Regulation (EC) n°1223/2009¹ which relates to the allowance of traces of banned substances under the condition that they are technically unavoidable in good manufacturing practices and do not cause damage to human health when applied under normal or reasonably foreseeable conditions of use.

¹ and subsequent amendments

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Product Information



DL-Panthenol 50 L

Animal Testing Statement

Article 11 (2) (e) of Regulation (EC) No 1223/2009¹ on cosmetic products requires that cosmetic companies shall keep information on animal tests readily available, including information on animal tests carried out on the finished cosmetic product as well as its ingredients.

We hereby confirm that, this product and its components were not tested on animals by or on behalf of our company after 11 September 2004, and are in compliance with Regulation (EC) 1223/2009¹ (Article 18).

An update of this statement will be made in the exceptional case that animal tests should be necessary.

.....
¹ and subsequent amendments

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

EU REACH Statement

DL-Panthenol 50 L

Product code: 0480746

DSM Nutritional Products is fully aware of the REACH requirements and timetable.

Hereby, we confirm that all products commercialized by DSM Nutritional Products are compliant with the EU REACH Regulation (EC 1907/2006)¹.

All relevant substances have been registered under REACH either by DSM Nutritional Products or by the relative supplier, or are exempt from REACH registration. For all relevant substances in DSM Nutritional Products, an Only Representative (OR) in accordance with Article 8 of EU REACH Regulation (EC 1907/2006)¹ has been appointed.

DSM Nutritional Products also tracks all necessary details of the supply chains to ensure continuity of supply to the Personal Care Industry in Europe. The REACH status of the individual substances is listed in the table below:

Substance	CAS No.	EINECS/ ELINCS No.	REACH Registration No.	Status
Panthenol	16485-10-2	240-540-6	01-2119954752-31	Registered
Citric Acid	77-92-9	201-069-1	01-2119457026-42	Registered
Aqua	7732-18-5	231-791-2	Not applicable	Exempt, Annex IV (§)

(§) Annex IV of EU REACH Regulation (EC 1907/2006)¹ sets out substances that are exempted from the registration, evaluation and downstream user provisions of REACH as sufficient information is known about them. Those substances are considered to cause minimum risk due to their intrinsic properties.

Substances included in Annex IV are exempted from REACH registration (as well as downstream user requirements and evaluation) for all their possible uses irrespective of the tonnage in which they are manufactured or imported (currently or in the future).

For classified substances imported or manufactured in quantity above 10 tons/year exposure scenarios are needed (Regulation (EC) 1278/2008). DSM Nutritional Products covers Cosmetics Europe (COLIPA) uses (PC39) and corresponding risk management summarized in the extended SDS.

¹ and subsequent amendments

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information



DL-Panthenol 50 L

SVHC Statement

The information related to the presence of Substances of Very High Concern (SVHC) is contained in section 3 of the Safety Data Sheet of above mentioned product.

Based on product composition and manufacturing process we confirm that the above mentioned product does not contain any substance(s) listed on the ECHA web site¹ at more than 0.1%.

.....
1

- Candidate list of Substances of Very High Concern (SVHC) for authorization as defined in the REACH Regulation (EC) No 1907/2006, Articles 57 and 59(1). For the current version of the list, please consult: <http://echa.europa.eu/web/guest/candidate-list-table>

- Authorization list (Annex XIV) as defined in the REACH Regulation (EC) No 1907/2006, Article 58. For the current version of the list, please consult: <https://echa.europa.eu/de/authorisation-list>

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information



DL-Panthenol 50 L

Proposition 65 Statement

DSM Nutritional Products as a global company is fully committed to ensure the safety of all our raw materials and products to be in compliance with global legislations.

Based on knowledge of the production process, trace amounts of impurities listed under California law Proposition 65 Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65 list dated from January 27, 2017) may be present in chemicals used in the manufacturing process and we can certify that our final product will be below the established maximum limits set below.

Dichloromethane \leq 50 ppm

Methanol \leq 500 ppm

Cadmium \leq 0.5 ppm

Lead \leq 1.0 ppm

Arsenic \leq 1.0 ppm

Mercury \leq 0.1 ppm

Nickel \leq 2.0 ppm

Inclusion rates may vary in finished consumer products due to impact from other ingredients in the final formula. Please consider the above reference values when calculating consumer exposure in the commercially available product.

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative for the latest version of this document or the latest information.

This statement is for the intended recipient only. Further disclosure, copying, distribution or reliance of it by anyone else is prohibited.

DL-Panthenol 50 L

Regulatory Status - China

Usability of raw materials for Personal Care Products in China is depending on the listing of raw materials on IECSC and IECIC inventories or on the notification/ registration status of the raw material. Below table provides the above mentioned status:

Composition		Chemical IECSC listing ¹ or New Chemical notification done (Y/ N/ E)	Cosmetic IECIC listing ² or New Cosmetic Ingredient registration done (Y/ N)	Notes banned/ restricted In finished cosmetic product ³
CFDA INCI name	Chinese INCI name			
Panthenol	泛醇	Y	Y	-
Citric Acid	柠檬酸	Y	Y	α -Hydroxy acids and their salts, esters, max 6% by total acid, pH \geq 3.5 (except for rinse-off, with label requirement)
Aqua	水	Y	Y	-

Y = Yes

N = No

E = Exempted

Please note that there is no positive cosmetic ingredient list existing in China except for colorants, UV filters, preservative, hair dyes and restricted ingredients. This information does not exclude that Chinese cosmetic authorities may ask for additional information related to the above mentioned product during the finished cosmetic product registration or notification process.

¹ IECSC = Inventory of Existing Chemical Substances in China.

² IECIC = Inventory of Existing Cosmetic Ingredients in China, June 30, 2014, also called CFDA inventory of cosmetic ingredients which have been used in China.

³ Refers to Chinese Hygienic Standard for Cosmetics Version 2007

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

DL-Panthenol 50L

Regulatory Status

Country/region ¹	Chemical Inventory	Chemical Registration status based on the listing of individual ingredients in inventory and volume exemption applying (Y/N/R/E)	Cosmetic ¹ (Y/N) <i>Note: Claims on finished cosmetic products must comply with national cosmetic legislation</i>
Andean	No inventory	No inventory	Y
ASEAN	No inventory	No inventory	Y
Australia	AICS	Y	Y (see chemical)
Canada	DSL NDSL ICL	Y - -	Y (see chemical)
China	IECSC	Y	See separate statement
Europe	EINECS/ELINCS REACH	Y	Y
Japan	ENCS (CSCL)	E	Y DL-Panthenol: Leave-on products: max. 8.0% Rinse-off products: no upper limit Products which can be applied on mucous membrane (leave-on and rinse-off): max. 0.30%
Korea	KECI (TCCA)	E	Y
Mercosur	No inventory	No inventory	Y
Mexico	INSQ	Inventory is not supported by legal framework	Y Panthenol: For all type of cosmetic products: max. 5.0%
New Zealand	NZIoC	Y	Y
Philippines	PICCS	E	Y
Switzerland	EINECS/ELINCS	Y	Y
Taiwan	NECI	Y	Y
USA	TSCA	E	Y Panthenol: CIR: safe as used, see CIR report

¹ above product can be freely imported and sold as cosmetic ingredient also into further countries as e.g. Algeria, Bahrain, Brunei Darussalam, Egypt, Morocco, the Russian Federation, Tunisia, Turkey, the United Arab Emirates, as long as the safe use is warranted and the products do comply with the legal requirements as laid down in the Regulation on Cosmetic Products (EC) No. 1223/2009

Product Information



Chemical Legislation

Yes (Y): The DSM product contains only substances which are either listed in the respective chemical inventory, have been notified as new chemical substance by DSM or exempted from the chemical notification (e.g. natural)

No (N): The DSM product contains at least a substance not listed or not notified by DSM or not exempted (not compliant with respective chemical inventory)

Restricted (R): The DSM product contains at least a substance not listed or not notified by DSM or not exempted from the respective chemical notification but can be imported in the respective country under volume exemption (e.g. Australia, Canada, Europe, Switzerland)

Exempted (E): under specific exemption applying to cosmetic ingredients (e.g. US, Japan)

Cosmetic Regulation

Yes (Y): product free for sales as cosmetic ingredient for the application and use level recommended by DSM (see marketing documentation). If any condition of use exists for the active substance, this must be mentioned.

No (N): product not for sales in the respective country (contain at least a substance not allowed in cosmetic in the respective country)

This document is generated electronically and valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

Summary Toxicology Assessment

DL-Panthenol 50 L

Product code: 0480746

This document and the DSM safety studies referred to therein are proprietary information of DSM relating to the above-named product. The summary information for the DSM studies are specific for this DSM product according to the method of manufacture, and should not be used to support the safety of other non-DSM products.

Conclusion of the Safety Evaluation

The above mentioned product can be used safely in finished cosmetic products as given in the annex of this assessment.

This conclusion is based on the available information and conservative assumptions. This conclusion does not take into consideration any potential ingredient incompatibility within the final cosmetic product and/or other exposure scenarios. Such aspects need to be assessed at a formula level by those responsible for the finished cosmetic goods.

Product Description and Use

The composition and physical-chemical characteristics for the above mentioned product are included in the Product Data Sheet.

This product is recommended for use in finished cosmetic products as given in the annex.

Toxicology

The safety of the product for use in finished cosmetic products has been evaluated based on toxicological data owned by DSM, toxicological data and publically available information in the literature, as well as published expert opinions, that are specifically relevant to the product and its components. Data from related structural analog (surrogate) substances are also considered when appropriate. All used data is included in the following summarized information.

Product Information

Summary Toxicology Assessment

DL-Panthenol 50 L

Product code: 0480746

The safety of D-Panthenol has been evaluated by the Cosmetic Ingredient Review (CIR) Expert Panel (CIR 2018). It was concluded by the panel that D-Panthenol is safe in cosmetics in the present practices of use and concentration described in their safety assessment.

Toxicological data on formulation ingredients

DL-Panthenol 50 L contains a minimum of 50 % DL-Panthenol in water stabilized with citric acid.

Citric acid has been evaluated by CIR in 2014 who concluded that it is safe as used in cosmetics at the present practices of use and concentration. (Fiume et al. 2014)

Safety Assessment Conclusions

Panthenol has been evaluated by CIR (2018) and considered safe as cosmetic ingredient in the present practices of use and concentration described in the safety assessment.

Risk assessment for spray applications needs to be assessed at a formula level by those responsible for the finished cosmetic goods.

Glossary

CIR: Cosmetic Ingredient Review Expert Panel

References

CIR (2018) Safety Assessment of Panthenol, Pantothenic Acid, and Derivatives as Used in Cosmetics. Final Report. Release Date: March 09, 2018. www.cir-safety.org

Fiume MM, Heldreth BA, Bergfeld WF, Belsito DV, Hill RA, Klaassen CD, Liebler DC, Marks JG Jr, Shank RC, Slaga TJ, Snyder PW, Andersen FA (2014) Safety Assessment of Citric Acid, Inorganic Citrate Salts, and Alkyl Citrate Esters as Used in Cosmetics. *Int J Toxicol.* 2014 May 26;33(2 suppl):16S-46S

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://webshop.dsm.com> for the latest version of this document or the latest information.

Product Information

Summary Toxicology Assessment

DL-Panthenol 50 L

Product code: 0480746

Annex: General recommended use levels per application

These recommendations are based on a conservative safety evaluation made on the above mentioned product. This conclusion is based on the available information and conservative assumptions. This conclusion does not take into consideration any potential ingredient incompatibility within the final cosmetic product and/or other exposure scenarios. Such aspects need to be assessed at a formula level by those responsible for the finished cosmetic goods.

Product type	Recommended use level (%)
Rinse-Off	
Shower gel	10% (equivalent to 5% DL-Panthenol)
Hand wash soap	10% (equivalent to 5% DL-Panthenol)
Shampoo	10% (equivalent to 5% DL-Panthenol)
Make-up remover	10% (equivalent to 5% DL-Panthenol)
Feminine hygiene	-
Leave-On	
Hair styling products	-
Semi-permanent hair dyes (and lotions)	-
Oxidative/permanent hair dyes	-
Body lotion	10% (equivalent to 5% DL-Panthenol)
Face cream	10% (equivalent to 5% DL-Panthenol)
Hand cream	10% (equivalent to 5% DL-Panthenol)
Liquid foundation	10% (equivalent to 5% DL-Panthenol)
Eye shadow	2% (equivalent to 1% DL-Panthenol)
Mascara	10% (equivalent to 5% DL-Panthenol)
Eyeliner	2% (equivalent to 1% DL-Panthenol)
Deodorant non-spray	10% (equivalent to 5% DL-Panthenol)
Deodorant aerosol spray	10% (equivalent to 5% DL-Panthenol)
Deodorant spray	10% (equivalent to 5% DL-Panthenol)
Suncare-	
Suncare Lotion - Oils	10% (equivalent to 5% DL-Panthenol)
Suncare Sprays	10% (equivalent to 5% DL-Panthenol)
Oral	
Lipstick, lip salve	10% (equivalent to 5% DL-Panthenol)
Toothpaste (adult)	-
Mouthwash	-
Baby - Infants	
Baby products	10% (equivalent to 5% DL-Panthenol)
Products for infants	10% (equivalent to 5% DL-Panthenol)

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל גואלמן
חבר הבד"ץ

הרב ישראל מאיר לוינגר
חבר הבד"ץ



10 Pages

תעודת כשרות 2022 Kosher Certificate

Here with I confirm that the following products of DSM Nutritional Products Ltd. are kosher.

Product code	Product	Status	Passover
0408093	Ascorbic Acid, Fine Granular	Parve	Not for Passover
0408174	Sodium Ascorbate, Crystalline	Parve	Not for Passover
0410276	DL-alpha-Tocopherol	Parve	Passover
0411604	Pyridoxine Hydrochloride	Parve	Passover
0412678	Calcium D-Pantothenate	Parve	Not for Passover
0413038	Thiamine Hydrochloride	Parve	Passover
0413852	D-Panthenol	Parve	Not for Passover
0416118	D-Panthenol 75 L	Parve	Not for Passover
0417823	Folic Acid	Parve	Passover Kitniyot
0418579	Vitamin A Palmitate 1.7 MIU/g (stabilized with tocopherol)	Parve	Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל גואלמן
חבר הבד"ץ

הרב ישראל מאיר לוינגר
חבר הבד"ץ



0418595	Ascorbyl Palmitate	Parve	Not for Passover
0418846	Vitamin A Acetate 1.5 MIU/g	Parve	Passover Kitniyot
0418943	Thiamine Mononitrate	Parve	Passover
0419443	Calcium Ascorbate	Parve	Not for Passover
0420085	DL-alpha-Tocopheryl Acetate	Parve	Passover
0420603	Vitamin A Palmitate 1.0 MIU/g (stabilized with BHA/BHT)	Parve	Passover Kitniyot
0421413	Riboflavin 5'-Phosphate Sodium	Parve	Not for Passover
0421871	Dry Vitamin A Palmitate, Type 250 CWS/F (tocopherol)	Parve	Not for Passover
0422398	life>sGLA™ '10' n-6 OIL	Parve	Not for Passover
0422460	Ascorbic Acid Fine Powder	Parve	Not for Passover
0423009	Vitamin A Acetate 2.3 MIU/g	Parve	Passover Kitniyot
0424005	Vitamin A Palmitate 1.7 MIU/g (without stabilizers)	Parve	Passover
0424013	Vitamin A Palmitate 1.7 MIU/g (stabilized with BHA/BHT)	Parve	Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל גואלמן
חבר הבד"ץ

הרב ישראל מאיר לוינגר
חבר הבד"ץ



0425117	Coated Ascorbic Acid, Type EC	Parve	Not for Passover
0427233	β -Carotene 30% FS	Parve	Not for Passover
0429082	Phytantriol	Parve	Not for Passover
0429090	Vitamin B12 0.1% WS	Parve	Not for Passover
0429155	Vitamin B12 Crystalline	Parve	Not for Passover
0429449	ROCOAT® Niacinamide 33 1/3%	Parve	Not for Passover
0429457	ROCOAT® Pyridoxine Hydrochloride 33 1/3%	Parve	Not for Passover
0429465	ROCOAT® Riboflavin 33 1/3%	Parve	Not for Passover
0429473	ROCOAT® Thiamine Mononitrate 33 1/3%	Parve	Not for Passover
0431400	Vitamin A Palmitate 1.0 MIU/g (stabilized with tocopherol)	Parve	Passover Kitniyot
0434825	β -Carotene 10% CWS	Parve	Not for Passover
0434922	Dry Vitamin K1 5% SD	Parve	Not for Passover
0435015	Vitamin K1	Parve	Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל מאיר לוינגר
הרב ישראל גואלמן
חבר הבד"ץ



0440809	Coated Ascorbic Acid, Type FC	Parve	Not for Passover
0442534	RONOXAN® A	Parve	Not for Passover
0466042	β -Carotene 22% HSS	Parve	Not for Passover
0470295	Riboflavin Tablet Grade	Parve	Not for Passover
0470406	Riboflavin Universal	Parve	Not for Passover
0480487	β -Carotene Crystalline	Parve	Passover
0480541	Carotenal Solution # 73	Parve	Not for Passover
0480746	DL-Panthenol 50 L	Parve	Not for Passover
0480932	Apocarotenal 20% S	Parve	Passover Kitniyot
0482277	Carotenal Solution # 2	Parve	Not for Passover
0482285	β -Carotene 7% CWS	Parve	Not for Passover
0483567	Dry Vitamin E 75 HP	Parve	Not for Passover
0483575	Ethyl Panthenol	Parve	Not for Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל מאיר לוינגר הרב ישראל גולמן
חבר הבד"ץ חבר הבד"ץ



0486574	d-alpha-Tocopheryl Acetate	Parve	Passover Kitniyot
0486884	Dry Vitamin E Acetate 950 NS	Parve	Not for Passover
0487376	Apocarotenal 10% WS/N	Parve	Not for Passover
0487848	Niacinamide	Parve	Not for Passover
0489999	β -Carotene 10% CWS/S	Parve	Not for Passover
5000149	Dry Mixed Tocopherols 30%	Parve	Not for Passover
5000203	redivivo® (lycopene) 10% FS	Parve	Passover Kitniyot
5000238	β -Carotene 30% FS/SF	Parve	Not for Passover
5000858	STAY-C® 50	Parve	Not for Passover
5001129	Dry Vitamin E 50% CWS/S	Parve	Not for Passover
5001285	Dry Vitamin E 15% CC	Parve	Not for Passover
5001420	Sodium Ascorbate 99% TG	Parve	Not for Passover
5002001	OPTISHARP™ (Zeaxanthin) 20% FS	Parve	Not for Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל גואלמן
חבר הבד"ץ

הרב ישראל מאיר לוינגר
חבר הבד"ץ



5002427	β -Carotene 10% EM Yellow	Parve	Not for Passover
5002893	Mixed Tocopherols 95	Parve	Passover Kitniyot
5003563	OPTISHARP™ (Zeaxanthin) 5% CWS/S-TG	Parve	Not for Passover
5003636	β -Carotene 3% CWS/M	Parve	Not for Passover
5003741	β -Carotene 1% CWS/M	Parve	Not for Passover
5003792	redivivo® (lycopene) 10% CWS/S-TG	Parve	Not for Passover
5003814	Dry Vitamin A Palmitate 250 S/N-B	Parve	Not for Passover
5004004	BetaTab® 20% S	Parve	Not for Passover
5004160	ALL-Q® (Coenzyme Q10) 10% CWS/S	Parve	Not for Passover
5004357	Folic Acid Food Grade	Parve	Passover Kitniyot
5004845	BeauPlex™ VH	Parve	Not for Passover
5004942	Allantoin	Parve	Not for Passover
5005256	Canthaxanthin 10% CWS/S	Parve	Not for Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל מאיר לוינגר
הרב ישראל גואלמן
חבר הבד"ץ



5005590	Beta-Ionone	Parve	Not for Passover
5005809	ALL-Q® (Coenzyme Q10) plus	Parve	Not for Passover
5006066	Niacinamide PC	Parve	Not for Passover
5006317	Apocarotenal 1% CWS/M	Parve	Not for Passover
5007143	PeptoPro®	DAIRY	Not for Passover
5007577	Ascorbic Acid 90% Granulation	DAIRY	Not for Passover
5007747	Ascorbic Acid 95% Granulation	Parve	Not for Passover
5008409	β -Carotene 15% LCS	Parve	Not for Passover
5008530	Vitamin A Palmitate/M 1.0 MIU/g (stabilized with tocopherol)	Parve	Passover Kitniyot
5008611	B2 Universal Fine Powder	Parve	Not for Passover
5009278	Vitamin D3 Crystalline	Parve	Passover
5009456	FloraGLO® Lutein 10% VG TabGrade	Parve	Not for Passover
5009472	FloraGLO® Lutein 20% Safflower Oil	Parve	Not for Passover
5009766	Ascorbic Acid Ultra Fine Powder	Parve	Not for Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל גואלמן
חבר הבד"ץ

הרב ישראל מאיר לוינגר
חבר הבד"ץ



5010330	Dry Vitamin A Acetate 325 CWS/A	Parve	Not for Passover
5010934	CaroCare® Nat. β -Carotene 10% CWS Star	Parve	Not for Passover
5010950	Dry Vitamin D3 100 SD/S	Parve	Not for Passover
5011256	β -Carotene 5% EM K	Parve	Not for Passover
5011477	Dry Vitamin D3 100 CWS/AM	Parve	Not for Passover
5011558	Vitamin A Palmitate 1.0 MIU/g + Vitamin D3 100,000 IU/g	Parve	Passover Kitniyot
5011574	Vitamin D3 1.0 MIU/g	Parve	Not for Passover
5011655	D-Biotin	Parve	Passover
5011868	FloraGLO® Lutein 10% CWS/S-TG	Parve	Not for Passover
5011876	FloraGLO® Lutein 20 % SAF	Parve	Not for Passover
5011892	Dry Vitamin E 700 NS	Parve	Not for Passover
5012066	FloraGLO® Lutein 5% CWS/S-TG	Parve	Not for Passover
5012120	CaroCare® Nat. β -Carotene 1% CWS/M	Parve	Not for Passover
5012511	Vitamin B12 1% SD	Parve	Not for Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל מאיר לוינגר הרב ישראל גואלמן
חבר הבד"ץ חבר הבד"ץ



5012538	β -Carotene 10% Emulsion Red	Parve	Not for Passover
5012554	Dry Vitamin A Palmitate 250 S/N	Parve	Not for Passover
5012724	Fruitflow® I	Parve	Not for Passover
5012732	Bitrit-1® - Type A	Parve	Not for Passover
5012740	Dry Vitamin E 50% CWS/S	Parve	Not for Passover
5013526	Dry Vitamin A Acetate 325 CWS/A	Parve	Not for Passover
5014004	CaroCare® Nat. β -Carotene 7.5% CWDN	Parve	Not for Passover
5014006	CaroCare® Nat. β -Carotene 10% CWDN	Parve	Not for Passover
5014014	CaroCare® Nat. β -Carotene 30% OS	Parve	Not for Passover
5014015	CaroCare® Nat. β -Carotene 30% OSN	Parve	Not for Passover
5014344	β -Carotene Crystalline Ph	Parve	Passover
5014352	BetaTab® 20% S Ph	Parve	Not for Passover
5014387	β -Carotene 30% FS Ph	Parve	Not for Passover
5014395	resVida™	Parve	Not for Passover

Kosher Certificate 2022

25.11.2021

בס"ד

בד"ץ מאור הכשרות
Maor Hakashrut



הרב ישראל גואלמן
חבר הבד"ץ

הרב ישראל מאיר לוינגר
חבר הבד"ץ

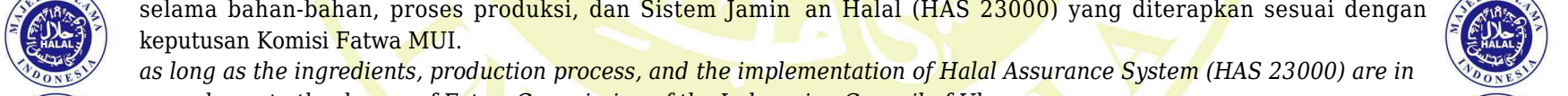
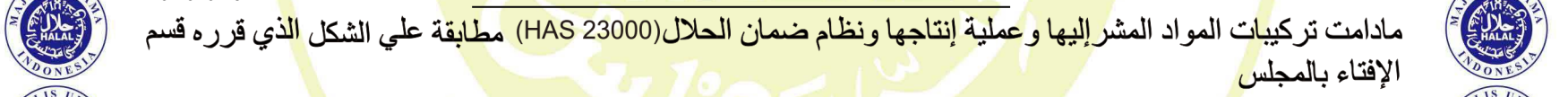
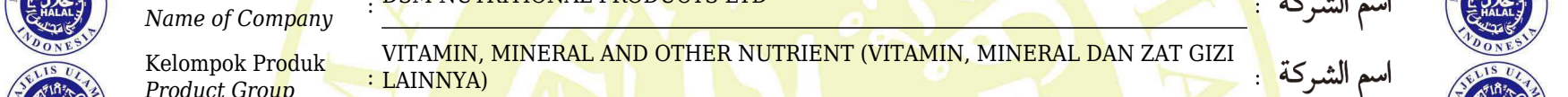
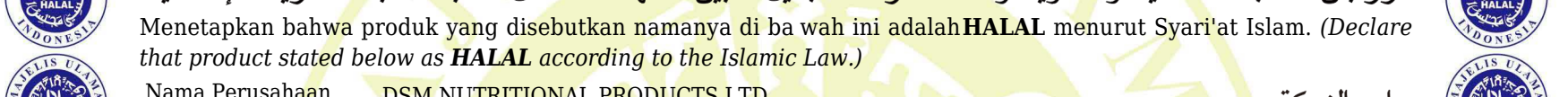
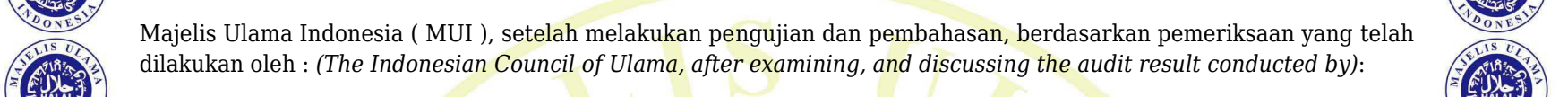
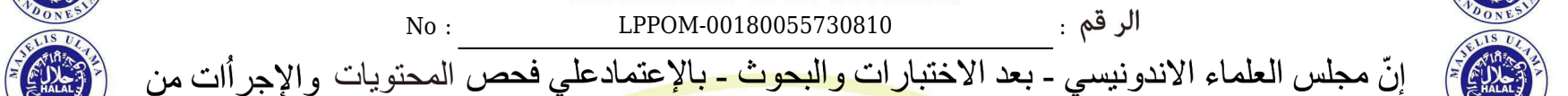
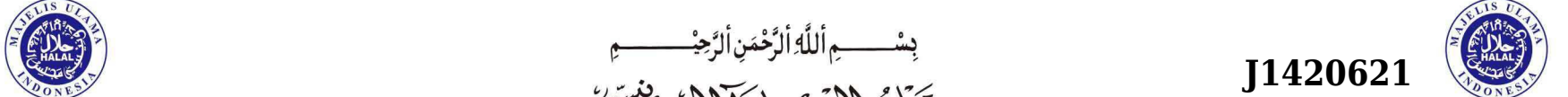


5014808	CaroCare® Nat. β -Carotene 30% S	Parve	Not for Passover
5014842	CaroCare® Nat. β -Carotene 10% CWS/S	Parve	Not for Passover
5014844	CaroCare® Nat. β -Carotene 20% CWS/S-TG	Parve	Not for Passover
5015767	β -Carotene 10% CWS/S	Parve	Not for Passover
5015799	OPTISHARP™ Natural (Zeaxanthin) 5% CWS/S-TG	Parve	Not for Passover
5015953	FloraGLO® Lutein 10% SG-VG	Parve	Not for Passover
5015981	redivivo® 10% CWS/S-TG	Parve	Not for Passover
5016259	Folic acid Ph	Parve	Not for Passover
5114000	Fabules™ DE	Parve	Not for Passover

This certificate is valid until 31.12.2022

Rabbi Dr. I.M. Levinger
Rabbi

Rabbi I. Goelman
Rabbi



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

مَجْلِسُ الْعُلَمَاءِ الْإِسْلَامِيِّ

MAJELIS ULAMA INDONESIA
THE INDONESIAN COUNCIL OF ULAMA

KETETAPAN HALAL

اثبات الحلال
HALAL DECREE

J1420621

No : LPPOM-00180055730810 : الرقم

إن مجلس العلماء الاندونيسي - بعد الاختبارات والبحوث - بالإعتماد علي فحص المحتويات والإجرات من

Majelis Ulama Indonesia (MUI), setelah melakukan pengujian dan pembahasan, berdasarkan pemeriksaan yang telah dilakukan oleh : (The Indonesian Council of Ulama, after examining, and discussing the audit result conducted by):

LEMBAGA PENGKAJIAN PANGAN, OBAT-OBATAN DAN KOSMETIKA MAJELIS ULAMA INDONESIA
(LPPOM MUI)

قرر بان المنتجات الغذائية أو الأدوية أو مستحضرات التجميل المبين اسمها أدناه حلال حسب متطلبات الشريعة الإسلامية
Menetapkan bahwa produk yang disebutkan namanya di bawah ini adalah HALAL menurut Syari'at Islam. (Declare that product stated below as HALAL according to the Islamic Law.)

Nama Perusahaan : DSM NUTRITIONAL PRODUCTS LTD : اسم الشركة
Name of Company

Kelompok Produk : VITAMIN, MINERAL AND OTHER NUTRIENT (VITAMIN, MINERAL DAN ZAT GIZI) : اسم الشركة
Product Group : LAINNYA

Daftar Produk halal dan fasilitas dapat dilihat pada Lampiran Ketetapan Halal. The list of products and facilities can be seen in the attachment of The Halal Decree.

Dikeluarkan di Jakarta pada : OCTOBER 6th, 2021 : اصدرت هذه الشهادة بجاكرتا في
Issued in Jakarta on

Berlaku sampai dengan : OCTOBER 5th, 2025 : وصالحة إلى
Valid until

مادامت تركيبات المواد المشر إليها وعملية إنتاجها ونظام ضمان الحلال (HAS 23000) مطابقة علي الشكل الذي قرره قسم الإفتاء بالمجلس

selama bahan-bahan, proses produksi, dan Sistem Jamin an Halal (HAS 23000) yang diterapkan sesuai dengan keputusan Komisi Fatwa MUI.

as long as the ingredients, production process, and the implementation of Halal Assurance System (HAS 23000) are in accordance to the decree of Fatwa Commission of the Indonesian Council of Ulama.

رئيس قسم الإفتاء بالمجلس
KETUA KOMISI FATWA MUI
HEAD OF THE FATWA COMMISSION OF MUI

Prof. Dr. H. HASANUDDIN AF, MA

الرئيس العام للمجلس
KETUA UMUM MUI
CHAIRMAN OF MUI

KH. MIFTACHUL AKHYAR

مدير لجنة البحوث في الأطعمة و الأ دويه
ومستحضرات التجميل بالمجلس
LEMBAGA PEMERIKSA HALAL
KAN
HALAL ASSESSMENT AGENCY
DIREKTUR EKSEKUTIF LPPOM MUI,
EXECUTIVE DIRECTOR OF LPPOM MUI

Ir. Hj. MUTI ARINTAWATI, M.Si

SCAN UNTUK MELIHAT DAFTAR PRODUK HALAL
SCAN FOR VIEW LIST OF CERTIFIED PRODUCT





LEMBAGA PENKAJIAN PANGAN, OBAT-OBATAN DAN KOSMETIKA
 THE ASSESSMENT INSTITUTE FOR FOODS, DRUGS AND COSMETICS
 MAJELIS ULAMA INDONESIA
 INDONESIA COUNCIL OF ULAMA
 LAMPIRAN KETETAPAN HALAL
 THE ATTACHMENT OF HALAL CERTIFICATE
 NO : LPPOM-00180055730810



Nama Perusahaan
Name of Company : DSM NUTRITIONAL PRODUCTS LTD

Alamat Perusahaan
Company Address : DELVES ROAD HEANOR GATE, HEANOR DERBYSHIRE DE75 7SG

Nama Fasilitas
Facility Name : DSM NUTRITIONAL PRODUCTS UK LTD DALRY SITE











Alamat Fasilitas
Facility Address : DALRY AYRSHIRE KA24 5JJ SCOTLAND

Kelompok Produk
Product Group : VITAMIN, MINERAL AND OTHER NUTRIENT (VITAMIN, MINERAL DAN ZAT GIZI LAINNYA)

Berlaku sampai dengan
Valid until : OCTOBER 5th, 2025

Dikeluarkan di Jakarta
 pada
Issued in Jakarta on : OCTOBER 6th, 2021

Daftar Produk
List of Product

No	Nama Product <i>Product Name</i>	Tipe Produk <i>Product Type</i>	Kode QR <i>QR Code</i>
1	D Panthenol 5016258	Vitamin	
2	Ascorbic Acid 0408050	Vitamin	
3	Sodium Ascorbate 5016256	Vitamin	
4	Ascorbic Acid Fine Granular 0408093	Vitamin	
5	Ascorbic Acid Ultra Fine Powder 0408107	Vitamin	
6	Sodium Ascorbate Crystalline 0408174	Vitamin	
7	Calcium D-Pantothenate 0412678	Vitamin	
8	D-Panthenol 0413852	Vitamin	
9	D-Panthenol 75 L 0416118	Vitamin	
10	Ascorbic Acid Fine Powder 0422460	Vitamin	



LEMBAGA PENKAJIAN PANGAN, OBAT-OBATAN DAN KOSMETIKA
 THE ASSESSMENT INSTITUTE FOR FOODS, DRUGS AND COSMETICS
 MAJELIS ULAMA INDONESIA
 INDONESIA COUNCIL OF ULAMA
 LAMPIRAN KETETAPAN HALAL
 THE ATTACHMENT OF HALAL CERTIFICATE
 NO : LPPOM-00180055730810



Nama Perusahaan
Name of Company : DSM NUTRITIONAL PRODUCTS LTD

Alamat Perusahaan
Company Address : DELVES ROAD HEANOR GATE, HEANOR DERBYSHIRE DE75 7SG

Nama Fasilitas
Facility Name : DSM NUTRITIONAL PRODUCTS UK LTD DALRY SITE

Alamat Fasilitas
Facility Address : DALRY AYRSHIRE KA24 5JJ SCOTLAND

Kelompok Produk
Product Group : VITAMIN, MINERAL AND OTHER NUTRIENT (VITAMIN, MINERAL DAN ZAT GIZI LAINNYA)

Berlaku sampai dengan
Valid until : OCTOBER 5th, 2025

Dikeluarkan di Jakarta
 pada
Issued in Jakarta on : OCTOBER 6th, 2021

Daftar Produk
List of Product

No	Nama Product <i>Product Name</i>	Tipe Produk <i>Product Type</i>	Kode QR <i>QR Code</i>
11	Coated Ascorbic Acid Type EC 0425117	Vitamin	
12	Coated Ascorbic Acid Type SC 0432210 (no longer manufactured)	Vitamin	
13	Coated Ascorbic Acid Type FC 0440809	Vitamin	
14	Ethyl Panthenol 0483575	Vitamin	
15	Sodium Ascorbate 250 5006201	Vitamin	
16	Ascorbic Acid Ultra Fine Powder 5009766	Vitamin	
17	DL Panthenol 50L 0480746	Vitamin	
18	Ascorbic Acid 5007763	Vitamin	
19	Ascorbic Acid 5016033	Vitamin	
20	Ascorbic Acid 5016034 Fine Powder	Vitamin	



LEMBAGA PENKAJIAN PANGAN, OBAT-OBATAN DAN KOSMETIKA
 THE ASSESSMENT INSTITUTE FOR FOODS, DRUGS AND COSMETICS
 MAJELIS ULAMA INDONESIA
 INDONESIA COUNCIL OF ULAMA
 LAMPIRAN KETETAPAN HALAL
 THE ATTACHMENT OF HALAL CERTIFICATE
 NO : LPPOM-00180055730810



Nama Perusahaan
Name of Company : DSM NUTRITIONAL PRODUCTS LTD

Alamat Perusahaan
Company Address : DELVES ROAD HEANOR GATE, HEANOR DERBYSHIRE DE75 7SG

Nama Fasilitas
Facility Name : DSM NUTRITIONAL PRODUCTS UK LTD DALRY SITE

Alamat Fasilitas
Facility Address : DALRY AYRSHIRE KA24 5JJ SCOTLAND

Kelompok Produk
Product Group : VITAMIN, MINERAL AND OTHER NUTRIENT (VITAMIN, MINERAL DAN ZAT GIZI LAINNYA)

Berlaku sampai dengan
Valid until : OCTOBER 5th, 2025

Dikeluarkan di Jakarta
 pada
Issued in Jakarta on : OCTOBER 6th, 2021

Daftar Produk
List of Product

No	Nama Product <i>Product Name</i>	Tipe Produk <i>Product Type</i>	Kode QR <i>QR Code</i>
21	Ascorbic Acid 5007755 Fine Powder	Vitamin	
22	Ascorbic Acid Coated EC 5016226	Vitamin	
23	Sodium Ascorbate 5016035 Crystalline	Vitamin	
24	Sodium Ascorbate 5007550 Crystalline	Vitamin	
25	Sodium Ascorbate 5003768 Crystalline	Vitamin	
26	Sodium Ascorbate 0408158 Fine Granular	Vitamin	
27	Ascorbic Acid 5016255	Vitamin	

Product Information Pallet Treatment

Hereby, DSM Nutritional Products confirms that all manufactured goods are delivered on heat treated pallets.

The regulations and specifications that we apply are as follows:

- IPPC-ISPM 15
- Cleanliness:
 - Free of impurities, particles, insects, mold, bark or lubricant residues
- Heavy metals:
 - Cumulative trace content of lead, mercury and chromium (VI) less than 100 ppm
- Residual moisture:
 - Less than 18% in compliance with the IPPC standard

In addition, the pallets show the following identification marks:

- Supplier sign
- IPPC-Standard (HT) registration number

We trust these assurances address your concerns. Should you have further questions please contact our local agent.

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Product Information Packaging Materials

Confirmation

We hereby confirm that all of the primary packaging materials used for the products marketed by DSM Nutritional Products Ltd comply with the current legislation on materials and articles intended to come into contact with food, namely:

- European Parliament and Council Directive 94/62/EC of 20 December 1994¹
- European Parliament and Council Regulation (EC) 1935/2004¹,
- Commission Regulation (EC) 2023/2006¹ and
- Commission Regulation (EU) 10/2011¹ for the EU,

and the Federal Food, Drug and Cosmetic Act of the United States of America (among others articles; 21 CFR 174 – 178 and 186).

The primary packaging material chosen assures compliance with the products' specifications during the specified maximum shelf life when stored under the conditions recommended.

The secondary and further packaging is suitable for mechanical protection, store, transportation, customer and handling requirements.

We trust these assurances address your concerns. Should you have any further questions, please contact our local agent.

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Product Information

Traceability of Packaging Materials

Compliance with Regulation (EC) 1935/2004 on materials and articles intended to come into contact with food

This legislation extends the traceability for ingredients used in the food chain (EU Food Framework Regulation (EC) 178/2002, article 18) to all materials and articles coming into contact with them at all stages of the production and transport in the chain. This requirement included packaging materials.

In the context of the above mentioned legislation and specifically of article 17 on the traceability of the packaging traceability means *“the identification of the business from which and to which materials or articles are supplied”*. The traceability must be facilitated by an appropriate system of documentation or information.

DSM Nutritional Products Ltd has a system and procedures in place to allow full traceability of materials and articles coming in contact with the food or food ingredient and therefore is in compliance with the EU Regulation (EC) 1935/2004, specifically with article 17 on the traceability of packaging.

We trust these assurances address your concerns. Should you have any further questions, please contact our local agent.

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Microbiological purity

Confirmation

DSM Nutritional Products is committed to providing safe products of the highest microbiological purity. Our processes of environmental monitoring, raw material microbial testing and/or testing of our finished products support this commitment. Unless otherwise specified, ingredients used for the manufacture of our products and the products themselves intended for use in human nutrition and health, excluding premixes¹, comply with the standard set below² if tested according to the Methods of Analysis 2.6.12 and 2.6.13 of Ph. Eur. or 61 and 62 of USP.

Microbiological purity:	Corresponds
Total viable counts:	
Total aerobic microbial count	max. 10 ³ CFU/g or CFU/ml
Total combined yeast/moulds count	max. 10 ² CFU/g or CFU/ml
Enterobacteria	< 10 CFU/g or CFU/ml
Escherichia coli	negative in 10 g or 10 ml
Salmonella spp.	negative in 25 g or 25 ml
Staphylococcus aureus	negative in 10 g or 10 ml
Pseudomonas aeruginosa	negative in 10 g or 10 ml

We trust these assurances address your concerns. Should you have further questions please contact our local agent

¹ Microbiological analysis of premixes is available upon request. Please contact your local representative.

² unless explicitly mentioned on the Product Data Sheet

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or visit the DSM Portal at <https://nutritionportal.dsm.com/> for the latest version of this document or the latest information.

Product Information

Sustainability Throughout the Food Chain

Introduction

DSM is a global supplier of life science products and performance materials. DSM defines sustainability as follows:

‘Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.’

Sustainability is currently one of the DSM’s fundamental business drivers in all our markets. In addition, it is the fundament of our 3 core principles for DSM behavior with regards to valuable partnership, respect for people and good corporate citizenship. Sustainability is driving our Triple-P concept, around:

- People+: Improving people’s life through DSM activities and innovation;
- ECO+: Improving environmental impact of DSM activities and products;
- Profit+: creating profitable businesses, whilst meeting DSM People + and ECO+ objectives to provide solutions on global society needs.

Our belief in sustainability as our core value, key responsibility and important business driver is reflected in the recognition we receive in Environmental, Social, Governance (ESG) ratings and benchmarks:

- In June 2019, the investment research firm MSCI has upgraded DSM from an AA position to AAA. This improved ranking is due to a strong overall ESG performance across DSM’s businesses as well a lowered risk profile based on DSM’s business portfolio.
- In May 2018 DSM was assessed as an ESG leader within the chemicals industry by Sustainalytics, ranking number 1 out of 135 companies.
- In November 2018 DSM was again awarded a Gold CSR Rating by Ecovadis. Our score of 75 points puts us in the top 1% of companies assessed on the platform in our industry.
- In 2018 the Carbon Disclosure Project (CDP) assessed our climate strategy and water governance and strategy as A- for Climate Change and B- for Water Security.
- In July 2019, DSM was again confirmed as constituent of the FTSE4Good index. We have held a position on this list since 2004.

DSM is a constituent of the Vigeo Eiris Benelux 20, Europe 120, Eurozone 120 and World 120

Product Information

Sustainability Throughout the Food Chain

indices, based on the review performed in October 2017.

People+

The People+ concept in our production means that DSM strives for a safe working environment for its employees, with a very ambitious target of zero accidents on sites. This is to be achieved by 1) a fundamental culture change management leading to better understanding of our processes and their risks, 2) a better implementation of risk reducing measures at individual level, and 3) increased people training and awareness building in the work environment.

In addition, one of DSM's objectives is to improve people's life through innovation. To do so, DSM is developing metrics to evaluate progress in people's life and participate to global activities to reduce malnutrition (one of the key Millennium objectives).

ECO+

The objective of the ECO+ activities within DSM is to reduce the environmental footprint of the company's production systems. In addition, we aim to reduce the environmental footprint of our customers when using our products. We therefore compare our products and solutions with competitive solutions in the same market and place priorities on solutions and products, which provide our customers with the lowest environmental footprint.

To achieve these objectives, DSM has developed internal structure and process to:

- Improve its manufacturing processes through innovation by e.g.:
 - o Developing the use of renewable resources, when possible, to produce our products (e.g. through white biotechnology¹)
 - o Reducing the use of energy and water in our processes

¹ White Biotechnology is the use of living microorganisms to develop or make useful products. White Biotechnology tends to consume less in resources than traditional processes used to produce industrial goods (www.europabio.org)

Product Information

Sustainability Throughout the Food Chain

- Innovate in new products linked to:
 - o The reduction of emission from livestock production on farm²
 - o The reduction of energy consumption for producing food
 - o The reduction of food waste

- Source our raw materials from sustainable food chain:
 - o Produce omega-3 and Omega-6 fatty acids from natural sustainable sources³
 - o Utilizing optimally the natural sources produced in a sustainable way⁴

Sustainable supply of Omega-3 and Omega-6 fatty acids

Omega-3 and Omega-6 fatty acids are essential nutrients for people

Omega-3 and Omega-6 fatty acids are well spread in nature and they are mainly present in fatty fish, plants, and fungi.

DSM Nutritional Products is committed to provide sustainable source of Omega-3 and Omega-6 fatty acids from the different natural sources available on our planet.

When producing Omega-3 fatty acids (our MEG-3[®] product range) from aquatic sources (fish), DSM Nutritional Products is committed to the responsible and sustainable use of natural marine sources that promote marine biodiversity and will help to safeguard our marine environments and fish stocks for future generations. Therefore, DSM Nutritional Products sources fish-derived omega-3 fatty acids from qualified fisheries. DSM MEG-3 fish oil products has achieved Friend of the Sea certification. With a view to further promoting sustainable fishing practices, DSM Nutritional Products has built strong relationship with government agencies and major Peruvian producers⁵.

² For more details, see our document: Innovation for sustainable animal production

³ For more details, see our document: Sustainable Omega-3 and Omega-6 production

⁴ For more details, see our document: Sustainable Palm Oil

⁵ The Peruvian government is recognized worldwide for its control and regulation of the fishing Industry. Peruvian water is

Product Information

Sustainability Throughout the Food Chain

DSM Nutritional Products has innovated in biotechnology during the last decades and has acquired knowledge and production facilities to develop the production of Omega-3 and Omega-6 fatty acids from algae and fungi (our *life's™* product range). Algae and fungi production enables the use of renewable materials, used for growing the algae and the fungi in fermenters. In addition, DSM Nutritional Products has developed natural concentration processes to provide ready to use Omega-3 and Omega-6 fatty acids.

Sustainable use of palm oil and derivatives

DSM Nutritional Products provides product forms and preparations enabling the proper and efficient use of the active substances in customers' products. This creates, for example, an increased stability of the active substances during storage and processing or an improved bioavailability for the end consumer.

Based on its experience and expertise, DSM Nutritional Products develops the best in class forms for the specific local markets. The use of palm oil in certain formulations provides benefits for the proper handling and use of our products by our customers. Furthermore, the application of our products only adds very low amounts of palm oil in our consumer's products, such as food as consumed.

Nevertheless, in line with DSM's sustainable approach of food products, DSM Nutritional Products limits the use of palm oil to product forms, in which it provides significant benefits in the application. We secure the sourcing of palm oil from sustainable sources, considering the environmental and social impact of palm oil production, particularly:

- DSM Nutritional Products sources only palm oil from companies proving adherence to the RSPO⁶ mission, i.e.:
 - o To advance the production, procurement, finance and use of

continually monitored by the Marine Institute of Peru (IMARPE) to ensure sustainability.

⁶ RSPO = Roundtable on sustainable palm oil (www.rspo.org)

Product Information

Sustainability Throughout the Food Chain

- sustainable palm oil products;
 - To develop, implement, verify, assure, and periodically review credible global standards for the entire supply chain of sustainable palm oil;
 - To monitor and evaluate the economic, environmental, and social impacts of the uptake of sustainable palm oil in the market;
 - To engage and commit all stakeholders throughout the supply chain, including governments and consumers.
- DSM Nutritional Products manufacturing sites have been certified as compliant with the RSPO Supply Chain Certification Standard, implementing the «Segregation» and «Mass Balance» approaches. This certification covers all sites producing formulations containing palm oil and derivatives.

DSM Nutritional Products is committed to further secure the sustainable sourcing of palm oil. The above- mentioned certificate is valid until 3 June 2025.

Innovation in animal nutrition

Livestock production is one of the main contributors of emissions, which may have a detrimental effect on the environment within the food chain. Depending on the production systems and farm management, including feeding and nutrition management, the impact on the environment varies (different level and type of impacts).

DSM Nutritional Products is active in the field of animal nutrition since more than a century and has developed products that provide:

- Micronutrients for better livestock production and welfare and
- Feed ingredients supporting animal performance through proper feed digestion and/or better animal metabolism.

Scientists and policy makers has now recognized the benefit of performance improvement as one of the key elements to reduce the environmental footprint of

Product Information Sustainability Throughout the Food Chain

livestock product, within a given production system. Indeed, the improvement of animal performance leads to:

- Improved feed efficiency (i.e. less raw materials used for the same production of meat, milk, or eggs);
- Decreased numbers of animals needed for achieving the same farm production (e.g., by reducing the mortality or morbidity, linked to improved animal welfare; improved fertility and animal's longevity)
- Increased animal metabolism, through micronutrition (i.e., increase the performance of the natural metabolic use of the nutrients from the diet)

Over the last decade, DSM Nutritional Products has developed the use of solutions that cover the three above mentioned elements, with a view to improve the sustainability of livestock production, reducing the environmental footprint and providing economic benefits to the food chain. Ourenzymes (RONOZYME® HiPhos and ProAct), benzoic acid (VevoVital®) and probiotics (CYLACTIN®) are the most prominent examples of DSM Nutritional Products contribution to sustainable livestock production.

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Product Information Lot Code Explanation (General)

Lot numbers for the products of DSM Nutritional Products do not translate directly into a date of production. The date (month and year) is printed on each carton label and mentioned on the “Certificate for Customer” which accompanies each shipment of material.

Lot numbers are assigned at each manufacturing facility in accordance with current site Standard Operating Procedures. The first two digits designate the site of manufacture and the rest relate to batch number identification. These lot codes can be tracked internally to specific batch records for the sake of traceability.

Thank you for your continued business with DSM Nutritional Products.
We trust these assurances address your concerns. Should you have further questions please contact our local agent.

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.

Product Information

Glossary

Glossary

Abbreviations

- BSE/TSE:** Bovine Spongiform Encephalopathy/Transmissible Spongiform Encephalopathy
CITES: the Convention on International Trade in Endangered Species of Wild Fauna and Flora
COSING: the database of the European Commission on cosmetic substances and ingredients
CMR: Carcinogenic, Mutagenic, or Toxic for Reproduction
GHS: Globally Harmonized System (of classification and labelling)
GMO: Genetically Modified Organism
GMP: Good Manufacturing Practice
Nano: Nanomaterial
PAHs: Polycyclic Aromatic Hydrocarbons
PBT/vPvB: Persistent, Bioaccumulative and Toxic/very Persistent and very Bioaccumulative (according to Regulation (EC) No 1907/2006)
PCB: PolyChlorinated Biphenyl
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals (according to Regulation (EC) No 1907/2006)
SCCNFP: Scientific Committee on Cosmetic Products and Non-Food Products intended for Consumers
SCCS: Scientific Committee on Consumer Safety
SVHC: Substance of Very High Concern (according to Regulation (EC) No 1907/2006)
VOC: Volatile Organic Compound

Definition of terms

Ingredient: substance intentionally added to the DSM sales product and having a function in the sales product
Substance: means a chemical entity

Not expected and not determined: based on our current knowledge of the production process, raw material(s) and/or equipment used for the manufacture of the product, the substance(s) is/are not expected to be present and consequently no measurement was performed.

Product Information

Glossary

Not applicable: the item is not relevant and therefore does not apply to the product (e.g. a CITES certificate for a synthetic product is not relevant).

Definition of criteria

1. Source of ingredient(s)

The information on the source of ingredients is based on DSM's internal knowledge or information provided by suppliers. One or more sources may apply to an ingredient (listed by its INCI name). In this case the last sourcing step is indicated (e.g. "fermentation of a sugar from plant" - the source is "Biotechnology").

Synthetic: ingredients which contain hydrocarbons or which are derived from coal or crude oil (see also petroleum derived) and/or ingredients which are made by a chemical reaction of one or several educts to form a new chemical entity.

Biotechnology: ingredients made from or with microorganisms (e.g. fermentation, hydrolysis by enzymes isolated from bacteria).

Vegetable: ingredients derived from plants in the sense of "botanical ingredients" (for comparison: ingredients derived from sugar(s) from plants and used for fermentation are not "botanical ingredients"). Fungi derived ingredients are included here despite fungi represent an own taxonomic group.

Animal: ingredients produced by animals (e.g. milk lipids, silk) or derived from animal tissues (e.g. collagen).

Mineral: ingredient(s) from an inorganic source (substances without hydrocarbons)

Petroleum derived: ingredients derived from coal, unprocessed or refined crude oil. Significant petrochemicals are olefins (including ethylene and propylene) and aromatics (including benzene, toluene and xylene isomers) and their derivatives, e.g. phenoxyethanol, propylene glycol, methylparaben, benzoic acid.

Product Information

Glossary

2. Function of Ingredient(s)

The functions of the ingredients are indicated as reported in cosmetic ingredient databases, such as CosIng.

Ingredients listed in Annexes (II, III, IV, V, VI) of Cosmetic Regulation (EC) 1223/2009: the given concentration represents the concentration in the product (not the max. allowed concentration).

3. Substance(s) potentially contained

Food allergens

Cereals containing gluten and products thereof: refers to materials such as wheat, rye, barley, oats, spelt, kamut or their hybridized strains and/or products thereof (according to Regulation (EU) No 1169/2011).

Nuts and nut products (incl. peanuts): refers to almonds (*Amygdalus communis L.*), hazelnuts (*Corylus avellana*), walnuts (*Juglans regia*), cashews (*Anacardium occidentale*), pecan nuts (*Carya illinoensis* (Wangenh.) K. Koch), brazil nuts (*Bertholletia excelsa*), pistachio nuts (*Pistacia vera*), macadamia nuts or Queensland nuts (*Macadamia ternifolia*), peanut, beech nut, butter nut, chestnut, chinquapin, hickory nut, lichee nut, pine nut, pili nut, sheanut and products thereof (referring to EU and US Food Regulation).

Other various substances

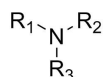
Formaldehyde and formaldehyde releasers: refers to formaldehyde and formaldehyde releasers as mentioned in the SCCNFP Opinion on the Determination of Certain Formaldehyde Releasers in Cosmetic Products, 17 December 2002: Quaternium-15, Urea derivatives (e.g. Imidazolidinyl Urea, Diazolidinyl Urea), DMDM Hydantoin, 2-Bromo-2nitropropane-1,3-diol, Sodium Hydroxymethyl Glycinate, Benzylhemiformal, 5-Bromo-5-nitro-1,3-dioxane, Methenamine.

Product Information Glossary

Phthalates: refers to esters of phthalic acid (e.g. Dimethyl phthalate (DMP), Diethyl phthalate (DEP), Dibutyl phthalate (DBP), Butyl Benzyl phthalate (BBP), Di(2-ethylhexyl)phthalate (DEHP), Dimethoxyethyl phthalate (DMEP), Diisopentylphthalate (DIPP), Di-n-pentyl phthalate (DNPP), Di-n-octyl phthalate (DNOP), n-pentyl-isopentylphthalate (PIPP). The main source of phthalates are plasticizers used in packaging.

Glycol ethers: refers to ethers of Ethylene Glycol or Diethylene Glycol

Free Amines: refers to primary (monoalkylamines, monoalkanolamines), secondary (dialkylamines, dialkanolamines) and tertiary (trialkylamines, trialkanolamines) amines (see SCCS Opinion on Nitrosamines and Secondary Amines in Cosmetic Products, 27 March 2012):



R1, R2, R3 = H or organic group like alkyl, alkanol, alkylamine, aryl, aryl-alkyl

Nitrosamines: refers to the potential presence of nitrosamines based on the production process and the used substances **Monomer residues:** refers to synthetic monomers

Dioxin and PCBs: refers to dioxins (PolyChlorinated Dibenzo-p-Dioxins [PCDDs] and Dibenzofurans [PCDFs]) and PCBs (PolyChlorinated Biphenyls) (according to Regulation (EC) No 1881/2006)

PAHs: refers to Polycyclic Aromatic Hydrocarbons, such as Benzo-(α)-pyrene, Benzo-(α)-anthracene, Benzo-(β)fluoranthene and chrysene (according to Regulation (EC) No 1881/2006)

Product Information Glossary

4. Regulatory Information

Last animal testing date: toxicological tests done on animals after March 2009 testing dates are indicated in the Animal Testing Statement according to (EC) No 1223/2009. For animal tests done before March 2009 the last testing date is given in the Technical Dossier.

Nano declaration information: refers to e.g. the French annual declaration of substances at nanoscale (Decree no. 2012-232 of 17 February 2012 in application of article R. 523-4 of the French environment code) or similar.

Additional Nano information: refers to e.g. particle size distribution information of nanomaterials.

5. Safety and environment

VOC substance(s) according to positive list of Swiss VOC Regulation contained: means the substance(s) is/are present according to the definition in Swiss VOC Regulation (Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds) and more precisely in the corresponding positive list (Annex I of the Regulation). Ingredients part of our product composition are only considered (neither impurities nor residual solvents).

6. Product suitability

Kosher/Halal status: The product can be either Kosher and/or Halal compliant - based on DSM self-assessment (DSM statement) - or certified by a certifying body (Kosher/Halal certificate).

Product Information Glossary

8. Quality information

GMP standard states the Good Manufacturing Practice which is **applied for this product**. The highest GMP standard applied to the product is given. The product is either certified by a certifying body or compliant based on DSM selfassessment (audit).

This document is valid without signature.

Disclaimer: The information contained herein is to the best of our knowledge accurate. However, we refuse any liability for the application and use of further processed material containing our product. Solely the producer of the final product has to assume full responsibility according to the relevant local regulations. The content of this document is subject to change without further notice unless otherwise agreed in writing. Please consult your local representative or one of DSM's websites at <https://nutritionportal.dsm.com> for the latest version of this document or the latest information.