dr.straetmans®

Technical Information

dermofeel® PA-3

The Product: dermofeel® PA-3

This natural chelating agent effectively inactivates metal ions by forming a complex between the chelator and the metal. Metal ions can enter a cosmetic formulation through the production equipment, as impurities from ingredients (e.g. extracts, pigments) and through process water. In cosmetic products, these ions can promote oxidation reactions, may cause discoloration, or impair the foaming properties of surfactants.

CHARACTERISTICS

- *INCI: Sodium Phytate; Aqua; Alcohol*
- Appearance: Colorless to brownish liquid (at 20°C)
- 100% naturally derived, already COSMOS approved and compliant with other standards for natural cosmetic, please contact us for further information

- Readily biodegradable material

- Combination with antioxidants (tocopherol, ascorbyl palmitate) is recommended
- Protects valuable ingredients from oxidation (e.g. unsaturated oils, fragrance components)
- In rinse-off products:
    - Maintains foaming properties in presence of hard water
    - Prevents precipitation of insoluble salts of fatty acids in soaps

- Efficacy optimum at higher pH (~ 6)

- pH of the raw material: 3

DOSAGE

Product Concept	Dosage
O/W-emulsions	0.05 - 0.2 %
Rinse-off products	0.1 - 0.2 %

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How to work with dermofeel® PA-3

MANUFACTURING PROCEDURE (LABORATORY SCALE)

dermofeel® PA-3 can be added to the water phase at any step in the formulation process.

Note the low pH of 3 of **dermofeel® PA-3**:
For working with acid-sensitive raw materials, it is recommended to dissolve **dermofeel® PA-3** in water first, then to add the remaining substances.

Easy to use and completely water soluble!

FORMULATION ADVICE

Boost performance	Combine with antioxidants (e.g. **dermofeel® Toco 70 non GMO**, **dermofeel® AP MB**)
Please consider	Divalent ions are complexed and inactivated (therefore not recommended for W/O-emulsions)
	Pink discoloration with iron ions (e.g. in presence of Avobenzone)

APPLICATION IDEAS

Perfectly suitable for all kinds of emulsions, rinse-off products, and aqueous based systems.

For more formulation ideas visit us at:
https://www.dr-straetmans.de/en/products/

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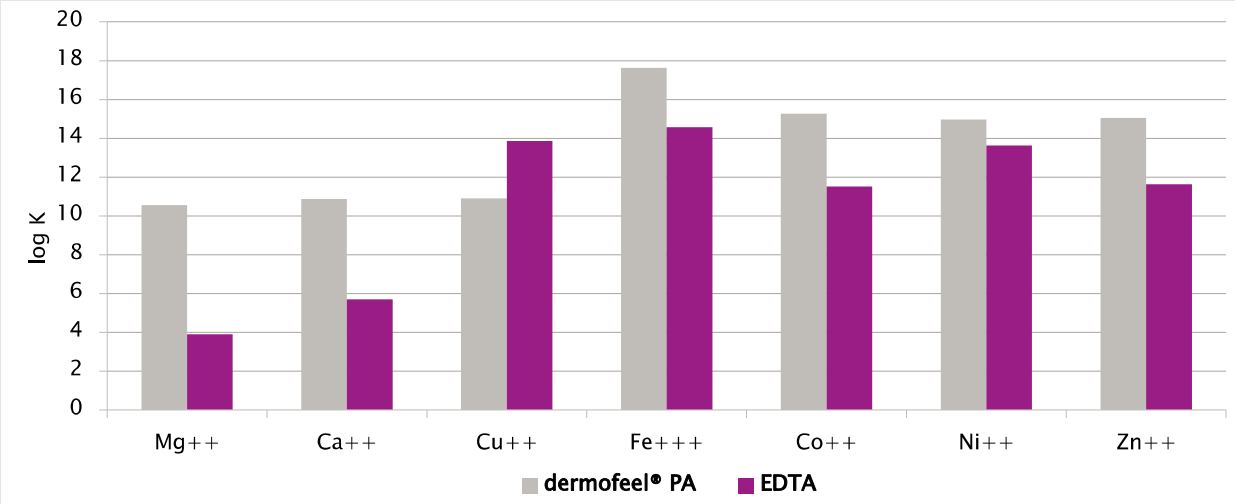
Proof of Performance

CHELATING ABILITY OF DERMOFEEL® PA

Comparison of stability constants for complexes at pH 6 between **dermofeel® PA** (INCI: Phytic Acid, Aqua) and EDTA.
dermofeel® PA-3 is the stabilized solution of **dermofeel® PA** and therefore representative for its activity.



The chelating efficacy of **dermofeel® PA/PA-3** is mostly comparable to the chelating activity of the commonly used EDTA. However, EDTA is not suitable for natural cosmetics.

Trade Information

International Approval*	EU, USA, Canada, Australia, China, Japan
Packaging	10 kg
Shelf life (stored in original container)	36 months [1] [2]

* Information is based on our best knowledge and reviewed for the most requested regions only. We recommend to check current regulatory requirements in individual target countries. For more information refer to our regulatory status statement.

[1] Due to its chelating properties, do not store dermofeel® PA-3 in steel containers.
[2] The color of the raw material might change during storage without consequences for the product quality.

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dermofeel® PA-3

Product Data Record (PDR)

1. General Information

1.1 Supplier

Evonik Operations GmbH
Division Nutrition & Care
Business Line Care Solutions
Rellinghauser Straße 1-11
45128 Essen | Germany
personal-care@evonik.com
https://www.evonik.com/personal-care

1.2 Product Description

dermofeel® PA-3 is in full compliance with current Cosmetic Regulation (EC) No 1223/2009.

1.2.1 Raw Material Category/Function

Chelating Agent

1.2.2 INCI Declaration

Sodium Phytate; Aqua; Alcohol

1.2.3 Composition

Components (INCI EU/US)	Source	Percentage [%]
Sodium Phytate	Vegetable	48 – 52
Aqua/Water		48 – 52

This composition information serves for information of our customers only. It is neither relevant for the composition listing according to Cosmetic Regulation (EC) No 1223/2009, nor does it reflect the chemical composition according to the different chemical regulations in the world which is disclosed in the table "information on ingredients/hazardous components" in the relevant parts of the respective (Material) Safety Data Sheets.

1.2.4 Additives (e.g. Antioxidants, Preservatives)

INCI	CAS No. / REACH Reg. No.	EINECS / EC No.	Content	Function
Alcohol	64-17-5/exempt < 1t/year	200-578-6	0.9 – 1.1 %	Head space preservation

Unless mentioned in our PDR under section 2.2 (By-Products/ Impurities) or 2.3 (CMR Substances), no components which are listed in Annex II of the current Cosmetic Regulation (EC) No 1223/2009 are added to and are not to be expected in the above mentioned product, due to the raw materials and the production process.

2. Production Process

2.1 General Information on the Production Process

dermofeel® PA-3 is obtained by extraction with diluted mineral acid subsequently neutralized.

Description and Origin of plant based materials:
Rice (Oryza sativa), sugar cane (Saccharum)

Irradiation: dermofeel® PA-3 was not irradiated with γ-rays.

dermofeel® PA-3 is produced in the absence of any animal derived material of any type. Based on the information on the manufacturing process and production site no contamination with BSE/ TSE risk materials is to be expected.

CITES: dermofeel® PA-3 is not based on raw materials from species listed in CITES appendices.

GMO Status:
The item contains moieties from rice (including oils and other refined ingredients). During the production no GMOs and derivatives from GMOs are used. All reasonable measures have been taken to avoid cross-contamination with GMOs or derivatives from GMOs.

2.2 By-Product/Impurities

Below listed compound are technically unavoidable by-products or traces of unremovable impurities (e.g. residual solvents). They are not added intentionally.
Information on potentially occuring by - products, impurities and selected substances of general interest known to be CMR are summarized in section "2.3 CMR Substances".

Known by-products and product specific impurities*

Description	Expected values
none	

Additional standard parameters**

Description	Expected values
Sum of heavy metals (as Pb)	NMT 20 ppm
Arsenoxide As2O3	NMT 2 ppm
Residual organic solvents	not applicable
VOC	NMT 3 % according to SR (Swiss Right) 814.018
Pesticides	meets the valid regulatory requirements for limits on agricultural pesticides
Latex	not to be expected in the product due to the raw materials used and the production process

* monitored by dedicated product analysis or statistical testing
** monitored by statistical testing and/or spot checks

2.3 CMR Substances

According to Cosmetic Regulation (EC) No 1223/2009 the use of substances classified as CMR (**C**arcinogenic, **M**utagenic or **R**eprotoxic) substances of category 1A or 1B or 2, under Part 3 of Annex VI to CLP Regulation (EC) No 1272/2008 in cosmetic products shall be prohibited.

Some of the CMR substances mentioned below and listed in Annex VI to CLP Regulation (EC) No 1272/2008 may be used as starting materials or solvents for the production of our cosmetic raw materials and may require reporting under California Proposition 65 or the California Safe Cosmetics Act, SB 484.

The presence of these substances has to be seen as non-intended and it is technically unavoidable in good manufacturing practice. Traces of CMR substances can derive from impurities of the starting materials or the manufacturing process.

CMR Substance	CAS No.	Starting material	Max. concentration/ Remark
Ethylene oxide (EO)	75-21-8	no	
Propylene oxide (PO)	75-56-9	no	
Octamethylcyclotetrasiloxane (D4)	556-67-2	no	
2-Ethylhexanoic acid	149-57-5	no	
n-Hexane	110-54-3	no	
Methyl chloride	74-87-3	no	
Dimethyl sulfate	77-78-1	no	
Dioxane (1,4-Dioxane)	123-91-1	no	
Formaldehyde	50-00-0	no	For more information on formaldehyde please refer to our factsheet available via our intoBeauty website. https://intobeauty.evonik.com/

2.4 "Allergens" according to the Regulation (EC) No 1223/2009

The presence of substances, the mentioning of which is required under the column 'Other' in Annex III, shall be indicated in the list of ingredients in addition to the terms perfume or aroma.
None of those substances have been intentionally added to our cosmetic ingredients or are formed during the manufacturing process according to our knowledge of the chemistry. An analytical proof for the absence of traces of those substances is not performed in our cosmetic ingredients.

2.5 Food Allergens listed on Annex II of Regulation (EU) No 1169/2011

None of these substances have been intentionally added to our cosmetic raw materials.

2.6 Nanomaterial

The product is not a nanomaterial according to the definition given by Cosmetic Regulation (EC) No 1223/2009, the Commission Recommendation 2011/696/EU and the French Decree No. 2012-232. For details, a separate statement is available on request.

2.7 Substances of Very High Concern (SVHC)

The candidate list of substances of very high concern is regularly updated and published by ECHA. If applicable, the information on the substance/s from the candidate list, contained in our product in reportable amounts, is included in section 3 of the product related Safety Data Sheet (SDS).

2.8 Country of Origin

dermofeel® PA-3 is manufactured in: Japan

3. Animal Testing

We hereby confirm that we have never conducted any animal tests with our product dermofeel® PA-3 nor that we have ordered such tests at third parties or third parties have conducted such tests with our knowledge and acceptance to fulfil the requirements of Cosmetic Regulation (EC) No 1223/2009.

Therefore dermofeel® PA-3 is in full compliance with Cosmetic Regulation (EC) No 1223/2009.

4. Microbiological Status

Total Viable Count: max. 100 cfu/g
Pathogens*: absent/g
* Pathogens are: Enterobacteria, Pseudomonas, Enterococci, Candida albicans, Staphylococci

5. Shelf Life / Storage Conditions

1080 days after production (unopened original packaging)
The color of the raw material might change during storage without consequences for the product quality.

6. Regulatory Status

6.1 HS-Code: 291990

EU-CN-Code: 29199000

6.2 Regulatory Status (Chemical Regulations)

Europe

Components Chemical Name/INCI	REACH Status*	CAS No.	EINECS / EC No.
Myo-Inositol, hexakis(dihydrogen phosphate), sodium salt/Sodium Phytate	Reg. No. 01-2120795381-48	14306-25-3	238-242-6
Ethanol/Alcohol	Exempt; < 1t/Y	64-17-5	200-578-6

*) Any REACH registration no. referred to in this document covers the substance manufactured and/or imported into the European Community by Evonik Operations GmbH (or by our affiliates or by our EU suppliers). In case that a customer purchases material produced outside the EU which was not imported into the EU before supply and subsequently imports that material into the EU, this is not covered by any of our existing REACH registrations.

Non EU - Countries/ Regions:

Component	Country	Inventory	yes / no	Remark
Sodium Phytate	Australia	AIIC	yes	
	China	IECSC	yes	
	Canada	DSL	no	
	Canada	NDSL	no	
	Taiwan	TCSI	yes	
Alcohol	Australia	AIIC	yes	
	China	IECSC	yes	
	Canada	DSL	yes	
	Canada	NDSL	n.a.	
	Taiwan	TCSI	yes	

In the following countries the relevant authorities currently do not request pre-market approval for cosmetic raw materials:

Brazil, Japan, South Korea, USA

6.2.1 Regulatory Status (Non EU - Cosmetic Regulations)

Other countries:

Component	Country	Inventory	yes / no	Remark
Sodium Phytate	China	CFDA	yes	IECIC No. 08594
	Japan	JSQI	no	
	Japan	JCIA	yes	JCIA No. 559718
Alcohol	China	CFDA	yes	IECIC No. 07676
	Japan	JSQI	no	JSQI specification exists (JSQI No. 001075), but compliance is not controlled
	Japan	JCIA	yes	JCIA No. 550003

7. Toxicology and Ecotoxicology

Refer to our document: "Summary of Toxicological and Ecotoxicological Data"

8. Packaging

1 kg bottle
480 kg (48 x 10 kg box)

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Product Specification

Material **DERMOFEEL PA-3**
Spec. Code **K00 STANDARD**

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Inspection Characteristic	Method	Limit	Unit	Z
Appearance	GM_0170_00			C
Sodium phytate content	GM_1515_03	47.0-53.0	%	X
Sodium	GM_1999_01	8.35-9.05	%	X
Chloride content	GM_1515_11	<=0.04	%	C
Sulphate	GM_1515_12	<=0.071	%	C
Heavy Metals as Pb	JSFA	<=20	ppm	C
Arsenoxide As2O3	JSFA	<=2	ppm	C
Total Phosphorus content	GM_1515_03	11.10-12.50	%	X

Appearance	at 20°C colorless to brownish liquid

Report on inspection certificate: X = specific/actual value, C = unspecific value/conformity, T = not reported

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The Standard Test Methods can be obtained from specialized publishers. Evonik's test methods are available on request.