

ISSUE MARCH 2015

# COSMETOPOLITAN



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**RAHN**

Your partner for excellence

# Dear customer,



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2015 is a very special year for RAHN, as we are celebrating our 75<sup>th</sup> anniversary. 15 July 1940 was the beginning of the story that has seen a one-man company become a successful international group today.

An anniversary of this kind always represents successful cooperation with our customers and business partners, and we would like to express our thanks to you for this.

As well as our anniversary, we have also devoted ourselves to the here and now, and we hope that we have made an exciting choice of topics for you in this edition of Cosmetopolitan.

Enjoy your reading!  
Sandra Gut  
from your RAHN team

# WHO IS NEW?

A warm welcome to our new team colleague:



**STEFAN HETTWER**

Function

R & D Manager Cosmetic Actives

Division

Cosmetics

Joined

1.1.2015

We wish Stefan Hettwer a good start and look forward to working together with him.



# 75 years of RAHN – Let's celebrate ...

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Precisely 75 years ago, in 1940 and in the middle of the chaos unleashed by the Second World War, Hans Rahn founded RAHN AG in Zurich as a one-man business. The tradition-steeped Swiss corporate group is still based in Zurich today.

RAHN AG and its six subsidiaries now have a total workforce of 114, and achieve annual sales of some 120 million Swiss francs. As a technology-oriented company, the Group provides customers in around 50 countries all over the world with natural and synthetic raw materials and services, for industries including paints, coatings, cosmetics and foodstuffs. Our dedicated R & D departments facilitate ongoing product development and application support for a diverse range of customers. As a result, the company is driven by innovation and cutting-edge technology.

Even now, RAHN AG continues to be a family business, shaped by members of the Zurich-based Rahn family. Hans Rahn, Hans Konrad Rahn and Ana Patricia Rahn Erden represent three generations of this family, which first started making its mark on Zurich's history several centuries ago.

The RAHN Group also serves as a positive example for other SMEs. Though firmly rooted in Switzerland, the company's outlook was international from the start, and it now enjoys a strong position in many countries. Its strengths lie in a commitment to providing good service to both suppliers and customers, and the ability of its highly competent and experienced staff to respond effectively to changing market requirements.

The anniversary celebrations planned for 2015 cover a range of internal and public events. Inspired by the traditions of the Hans Konrad Rahn Foundation, the company and several staff members will be taking part in a community campaign in the Zurich area. Of course, the anniversary year will also be a chance to look ahead – further investments in geographical expansion and innovation capacity are set to lay the foundations for the next 75 years of success.

**Hans Konrad Rahn Foundation:**  
[http://www.rahngroup.com/de/uber-uns/  
soziale-verantwortung/hans-konrad-rahn-stiftung/](http://www.rahngroup.com/de/uber-uns/soziale-verantwortung/hans-konrad-rahn-stiftung/)

**Rahn Cultural Fund:**  
<http://www.rahnkulturfonds.ch/>



# Congratulations ...

“Aromatic Flavours & Fragrances are pleased to officially partner RAHN in the ongoing and growing relationship between our two companies. We at AFF congratulate everyone at RAHN on reaching this magnificent milestone of 75 years and we look forward to creating exciting, innovative and ground-breaking fragrances and products for our shared markets in the future!”

*John-Paul Williams, Farzana Rujudawa,  
Aromatic Flavours & Fragrances*

## “Congratulations to RAHN with its 75<sup>th</sup> anniversary!

Also in 2015 we celebrate the 20<sup>th</sup> anniversary of a fruitful cooperation between Sisterna and RAHN, being an excellent business partner in the Personal Care industry since 1995.

We are very grateful for the professional, sincere and open relationship between both companies. Thank you RAHN and our best wishes for a bright and successful future from the entire Sisterna team!”

*Christel Wouters, Business Manager Personal Care, Sisterna*

## “Dear RAHN fellows

At the occasion of the 75 year anniversary of RAHN, I wish to convey my warmest greetings to the “ehrbare Dame” who has reached an enviable maturity stage. Beyond simple business performance, health and wealth are the rewards of corporations with strong ethical and social values, and obviously it is part of RAHN'S DNA.

On behalf of Sytheon, I wish “die Firma RAHN” at least another 75 years of growth and success across the countries, and will be proud to be part of the journey, as privileged partner.”

*François Marchio,  
Managing director & associate  
Sytheon Ltd.*

## “The very best nature can offer – and the best of enduring partnerships!

Our close collaboration with RAHN AG for many years has helped us to develop and manufacture premium-quality plant extracts. The high standards RAHN AG insists on constantly present us with fresh challenges.

The plant extracts we produce meet every demand placed on the latest active ingredients in cosmetics, yet still offer the purity only a natural base can provide. Its rigorously strict adherence to uncompromising quality means RAHN AG sets the standards we aspire to in defining high-end expectations from plant extracts.

We congratulate the owners and management of RAHN, along with every member of staff, on the company's 75<sup>th</sup> anniversary. We also thank you most sincerely for all the years we have enjoyed so far in this exceptionally productive and fruitful partnership. We wish you continuing success and good fortune for the future.”

*Andreas Bleiker, CEO Alpinamed AG*

### “Dear RAHN AG

On behalf of myself and the entire team at Terry Laboratories, we would like to congratulate everyone at RAHN AG for celebrating their 75<sup>th</sup> anniversary. This accomplishment was the result of hard work, dedication, quality products and trust in their partners.

I have been Executive Vice President for the past 19 years and we have grown to be the largest and most successful aloe vera supplier in the world. We have our partner of over 30 years, RAHN AG, to thank for being a huge part of our success. A relationship based on professionalism, transparency, quality products and friendship.

We thank RAHN AG for their partnership with Terry Laboratories and together we celebrate this incredible milestone of 75 years in business! We wish you many, many more and always hope to remain your partner.”

*James A. Gambino, Executive Vice President, Terry Laboratories, LLC*

“Our partnership with RAHN is based on mutual appreciation, trust and commitment. We never cease to be inspired by our encounters with the staff at RAHN, and we always enjoy the sense of mutual respect and conviviality that prevails. It is our absolute pleasure to congratulate RAHN and everyone involved in the company from the bottom of our hearts for their great achievements over the many years, as well as for their consistently inspirational attitude towards others that never fails to bring the best out of their partners! Sincerest congratulations on this special anniversary.”

*Reto Brügger, Managing Director,  
Pelletech Ltd.*

“Expertise, professionalism, people: the best ingredients for a great partnership. Best of luck for the next 75 years!”

*Anne Sinha, Jaana Ahtikari, Kerstin Schulte,  
Yogesh Solanki, Nick Wilson &  
Andre Schäfer – CP Kelco*

### “A wholehearted congratulations to RAHN for their 75<sup>th</sup> birthday!

Ajinomoto and RAHN's story started about 20 years ago, so we are approaching our joint silver anniversary! Over the years we have seen our partnership grow, expanding our relationship to more areas and developing new opportunities together.

We congratulate all RAHN colleagues for their diamond anniversary and sincerely thank everyone for the fruitful collaboration. We feel fortunate to be part of this successful team and are already looking forward to celebrating RAHN's centennial anniversary together!”

*The Ajinomoto team*

# 7 Effects Eye Cream – skin care for radiantly beautiful eyes

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The eye area is often the first to reveal that we are past 30. Facial expressions and the sins of our youth, such as partying through the night, quickly become apparent on the skin here,

which is already thin, in the form of wrinkles and crow's feet. RAHN has devoted itself to this problem and is pleased to present the **7 Effects Eye Cream:**



| St | Substance               | INCI name USA  | % [w/w] | Manufacturer                                   |
|----|-------------------------|--|---------|--|
| 1  | Water demin.            | Water  | 48.66   | several  |
|    | Verstatil PC            | Phenoxyethanol, Caprylyl Glycol  | 0.80    | Dr. Straetmans, DE                             |
|    | Glycerin 85 %           | Glycerin, Water  | 2.00    | several  |
| 2  | Keltrol CG-SFT          | Xanthan Gum  | 0.20    | CP Kelco, US                                   |
|    | Tego Carbomer 340 FD    | Carbomer   | 0.30    | Evonik Industries AG, DE                       |
| 3  | Tegosoft CT             | Caprylic/Capric Triglyceride   | 10.00   | Evonik Industries AG, DE                       |
|    | Tegosoft DEC            | Diethylhexyl Carbonate   | 5.00    | Evonik Industries AG, DE                       |
|    | White Poetry            | Fragrance  | 0.04    | Aromatic Flavours & Fragrances Europe Ltd., GB |
| 4  | Bimiol BSC 035          | Water, Caprylic/Capric Triglyceride, Hydrogen Lecithin, Pentylene Glycol, Glycerin, Butyrospermum Parkii (Shea) Butter, C12-16 Alcohols, Palmitic Acid, Squalane, Ceramide 3 | 25.00   | BSC Skincare Development GmbH, DE              |
| 5  | REFORCYL®               | Glycerin, Water, Glutamine, Decyl Glucoside, Phenethyl Alcohol, Citric Acid, Cistus Incanus Flower/Leaf/Stem Extract, Gynostemma Pentaphyllum Leaf/Stem Extract              | 3.00    | RAHN AG, CH                                    |
| 6  | L-Arginine solution 10% | Water, Arginine  | 5.00    | Ajinomoto, JP                                  |

The light O/W emulsion with excellent dispersion properties is very simple to produce by means of cold production. It contains Bimiol BSC 035, a lamellar system based on the skin's own structure, which provides immediate and lasting support for the skin's natural protection barrier.

REFORCYL® was especially developed for the needs of mature skin and is perfectly suited to use in eye care products. The active agent is based on two strong plants, the rock rose (*Cistus incanus*) from the Mediterranean region, and southern ginseng

(*Gynostemma pentaphyllum*) from the Far East. These protect the sensitive eye area from oxidative attacks and give it new powers of resistance. In-vivo studies demonstrate a 7-fold effect: moisture, firmness, wrinkle depth, elasticity, smoothness, barrier strength and skin regeneration are measurably, visibly and perceptibly improved.

“It's a real eye opener!”

# Combating oxidative processes in cosmetics

The cosmetic industry uses a large number of substances that can easily be oxidised by the oxygen in the air. This can cause colour changes (darkening) or highly unpleasant smelling oxidation and spin-off products (rancidity). These oxidation processes especially affect hydrophilic and lipophilic categories of raw materials, such as active agents, plant extracts, perfumes and plant oils. The lipophilic substances include, for example, unsaturated fatty acids, which are susceptible to oxidation in the case of double bonds. Amongst the hydrophilic substances polyphenols are the substances most affected; these darken in colour as a result of oxidation and provoke a discolouring of the product.

In any event, for oxidation to take place the presence or availability of oxygen is required. In addition, the environment can make a decisive contribution to whether an oxidation reaction actually takes place or not. So there are factors which simply start off the oxidation, and in addition there are influences which can further accelerate oxidation. Thus in order to be able to effectively inhibit or entirely prevent oxidation, it is necessary to be aware of these triggering or accelerating processes.

Triggers and stimulants for oxidative processes in cosmetics can for instance include the following:

- Oxygen in the formulation (e.g. dissolved in the water) or also in the container
- Catalysts in the product (e.g. traces of metal in the water, extracts or from the production vat)
- Light in the case of non-lightproof packaging, heat and moisture
- Raw materials that are susceptible to oxidation (e.g. unsaturated fatty acids or polyphenols)
- Unfavourable pH value

Thus the following generally have an inhibiting effect on oxidative processes:

- Non-light permeable and oxygen-protected packaging (airless dispensers)
- Fumigation with nitrogen or argon (displacement of oxygen)
- Suitable **antioxidants** (Vitamin E, Vitamin C, BHT)
- **Complex-forming agents** (EDTA, phytic acid)
- **Reducing agents** (sodium sulphite)
- Low temperatures
- Favourable pH value (generally acid)
- Prevention of a drift in pH value (buffering of the pH value)



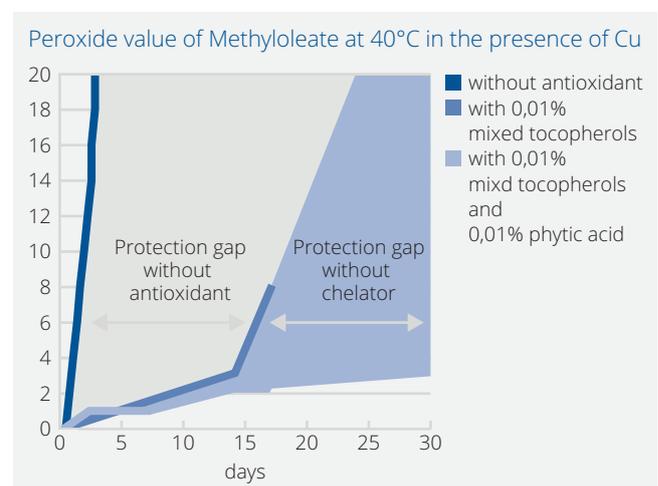
## A BRIEF OVERVIEW: ANTIOXIDANTS

**Examples:** Tocopherols, mixed tocopherols, hexylresorcinol, carnosic acid, BHT, BHA, ascorbyl palmitate

**Effect:** They primarily prevent unsaturated fatty acids oxidising and becoming rancid. This counteracts both changes in smell and discrepancies of colour. It can also maintain the spectrum of effects of active agents, since they do not become prematurely oxidised. But perfume oils can also become better stabilised in this way.

**Mode of action:** An antioxidant reacts more quickly with oxygen, thus indirectly protecting the active agent against oxidative attack. The antioxidant itself becomes oxidised, and is thus consumed. At the same time the oxidised antioxidant itself can become discoloured. Lipophilic antioxidants protect lipids (e.g. plant oils), while hydrophilic antioxidants can protect water-soluble active agents (e.g. polyphenols).

The illustration below clarifies the mode of action of an antioxidant, using a plant-based mixture of tocopherols (Dermofeel MT 70) as an example. Combining these with a complex-forming agent (phytic acid) can also heighten the effect.



(Source: Dr. Straetmans GmbH, Hamburg, Germany)

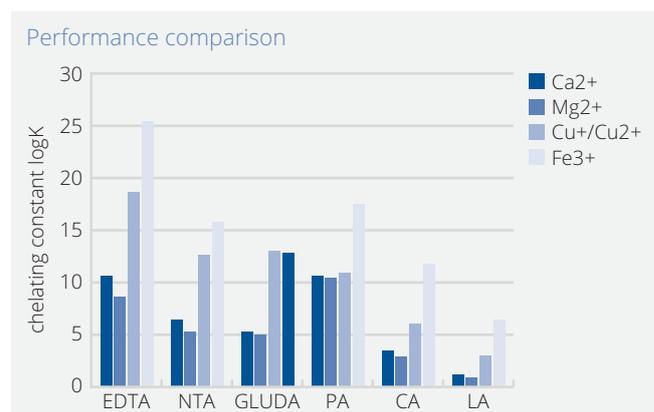
## A BRIEF OVERVIEW: COMPLEX-FORMING AGENTS

**Examples:** EDTA, phytic acid, citric acid, sodium citrate

**Effect:** They prevent oxidation of substances catalysed by traces of metals.

**Mode of action:** Traces of metal can have disruptive effects on a formulation, e.g. in the form of changes of colour or smell. Complex-forming agents are substances which can very quickly form a compound with these ions. In this form of compound, the ions are extracted from the reaction medium and can thus no longer be available as catalysts for oxidation with oxygen.

The following diagram shows an overview of the performance of various complex-forming agents:



EDTA  
(Ethylenediamine tetraacetic acid)  

- petrochemical
- poor biodegradability

NTA (Nitrilotriacetic acid)  

- petrochemical
- moderate biodegradability

GLUDA  
(Glutamic acid N,N diacetic acid)  

- partly petrochemical
- biodegradability

PA (Phytic acid)  

- natural
- biodegradability

CA (Citric acid)  

- natural
- biodegradability

LA (Lactic acid)  

- natural
- biodegradability

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## A BRIEF OVERVIEW: REDUCING AGENTS

**Examples:** Sodium sulphate, sodium metabisulphite

**Effect:** Reduction in the available oxygen, thus preventing the darkening of active agents and plant extracts that are rich in polyphenols.

**Mode of action:** Sodium sulphite is oxidised with the oxygen present in the water to form sodium sulphate. This means that the free (reactive) oxygen has been bonded in the water and is no longer available for oxidative reactions. Subsequent possible oxidation processes are thus hindered, and even substances which would oxidise quickly under normal conditions remain stable in this aqueous solution. This is demonstrated by the following laboratory experiment:

2% active plant agent was dissolved in water with a pH value of 5.5. 0.1% sodium sulphite was added to the sample on the left, while the sample on the right was left as a comparison without the addition of sodium sulphite. The pictures show the discoloration apparent after storage for four weeks at room temperature under the influence of light:



$t_4$  with 0.1%  
sodium sulphite

$t_4$  without  
sodium sulphite

The level of discoloration at time  $t_0$  with and without sodium sulphite corresponds to the sample on the left (with 0.1% sodium sulphite).

**Summary:** Combination systems are generally the most effective in protecting against oxidation. In an emulsion containing active ingredients that are clearly susceptible to oxidation, for example, it entirely makes sense to use both antioxidants and complex-forming agents. The dosage of antioxidants, complex-forming agents and reducing agents normally used is around 0.05–0.2% of each.

# Have you heard of the “Fruit of life”?



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*Terminalia Chebula*, also known as arura in Tibet, is a well-known and very traditional plant in ayurvedic medicine. The tree grows in deciduous forests on the dry slopes in various regions of Asia, and is characterised by its brownish stoned fruit. This is ascribed with life-giving, nutritious and body-strengthening effects, and is used to normalise the body's balance.

Ayurveda distinguishes three fundamental functional principles (doshas): vata, pitta and kapha. These operate throughout nature, and we also find them in our body and mind. It is essential for these doshas to be in balance if all our organs are to function normally and healthily.

When all these doshas are in harmonious equilibrium, we are healthy, feel good and our bodies radiate natural beauty.

The cosmetic industry has not slept through the trend towards ayurvedic complementary medicine either. Ayurvedic cosmetics need to be coordinated with a person's individual skin type.

There are already numerous products on the market designed to help the specific problems of different skin types.

So why not let yourself be pampered with the **Balancing Body Treatment?**

| St | Substance                    | INCI name USA   | % [w/w] | Manufacturer                                   |
|----|------------------------------|---|---------|--|
| 1  | Water demin.                 | Water   | 70.65   | several  |
|    | Glycerin 85%                 | Glycerin, Water   | 3.00    | several  |
| 2  | Dermosoft 700 B              | Levulinic acid, Sodium Levulinate, Glycerin, Water        | 0.30    | Dr. Straetmans, DE                             |
|    | Dermosoft GMCY               | Glyceryl Caprylate  | 0.50    | Dr. Straetmans, DE                             |
|    | Dermofeel GSC                | Glyceryl Stearate Citrate                                 | 3.00    | Dr. Straetmans, DE                             |
|    | Keltrol Advanced Performance | Xanthan Gum   | 0.15    | CP Kelco, US                                   |
|    | Genuvisco CG-131             | Chondrus Crispus (Carrageenan)                            | 0.20    | CP Kelco, US                                   |
|    | Lipicire A SG Pastillen      | CI 0-18 Triglycerides                                     | 2.00    | Gattefossé Schweiz, CH                         |
|    | Tego Alkanol 6855            | Cetearyl Alcohol  | 3.00    | Evonik Industries AG, DE                       |
|    | Dermofeel Sensolv            | Isoamyl Laurate   | 2.00    | Dr. Straetmans, DE                             |
|    | Jjoba Oil, organic           | Simmondsia Chinensis Seed Oil                             | 6.00    | All Organic Trading GmbH, DE                   |
|    | A0002 Aloe Vera Oil Extract  | Glycine Soja (Soybean) Oil, Aloe Barbadensis Leaf Extract | 3.00    | Terry Laboratories, Inc., US                   |
| 3  | Dermofeel MT 70 non-GMO      | Tocopherol, Helianthus Annuus (Sunflower) Seed Oil        | 0.20    | Dr. Straetmans, DE                             |
|    | L-Arginine solution 10%      | Water, Arginine   | 1.50    | Ajinomoto, JP                                  |
| 4  | Synastol TC                  | Terminalia Chebula Fruit Extract                          | 1.00    | Sytheon Ltd, US                                |
| 5  | Ethanol 94% denat.           | Alcohol, Water  | 3.00    | several  |
|    | Drift Away                   | Fragrance   | 0.50    | Aromatic Flavours & Fragrances Europe Ltd., GB |



Curious to find out more?

Further information on *Terminalia Chebula* (Synastol TC) is available at <http://sytheonltd.com/product/synastol-tc/> or ask your RAHN team.

# Thickeners don't make you fat!

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In the cosmetic industry, thickeners are mostly associated with substances that thicken a cosmetic formulation or affect its consistency. The additional individual properties of the raw materials are often unknown or are seldom used.

The purpose of the tables below is to provide an overview of these properties and show that thickeners today certainly won't make you fat.



## Characteristics: Genuvisco

|                         |  |
|-------------------------|--|
| <b>INCI</b>             | <b>Chondrus Crispus (Carrageenan)</b>  |
| <b>Origin</b>           | Natural, extracted from red algae  |
| <b>Properties</b>       | <ul style="list-style-type: none"> <li>• Improves slipperiness</li> <li>• Reduces stickiness</li> <li>• Optimises skin feel (e.g. finish of a butter formulation)</li> <li>• Optimises dispersion</li> </ul> |
| <b>Recommended dose</b> | 0.05–0.25%   |

## Characteristics: Kelcogel

|                         |   |
|-------------------------|---|
| <b>INCI</b>             | <b>Gellan Gum</b>   |
| <b>Origin</b>           | Obtained via biotechnology by means of the bacterium <i>Sphingomonas elodea</i> , which occurs naturally, e.g. on water lily leaves   |
| <b>Properties</b>       | <ul style="list-style-type: none"> <li>• Improves dispersion</li> <li>• Optimises skin feel</li> <li>• Reduces stickiness</li> <li>• Special type CG-LA is able to keep fine particles in suspension (also in low viscosity products, such as in sprays)</li> <li>• Stabilising properties</li> </ul> |
| <b>Recommended dose</b> | <0.2%   |

## Characteristics: Keltrol

|                         |  |
|-------------------------|--|
| <b>INCI</b>             | <b>Xanthan Gum</b>   |
| <b>Origin</b>           | Obtained using biotechnology via <i>Xanthomonas campestris</i> . These bacteria are found naturally, e.g. on cabbage.  |
| <b>Properties</b>       | <ul style="list-style-type: none"> <li>• Improves the heat stability of emulsions</li> <li>• Optimises the flow behaviour of lotions and surfactant systems</li> <li>• Improved emptying of containers (e.g. in lotion dispensers)</li> <li>• Special type CG-SFT reduces stringing</li> </ul> |
| <b>Recommended dose</b> | 0.05–0.5%  |

## Characteristics: Tego Carbomer

|                         |  |
|-------------------------|--|
| <b>INCI</b>             | <b>Carbomer</b>  |
| <b>Origin</b>           | Petrochemical, acrylic acid polymer  |
| <b>Properties</b>       | <ul style="list-style-type: none"> <li>• Refreshing effect as a fast-acting background network</li> <li>• Improves heat stability</li> </ul> |
| <b>Recommended dose</b> | 0.05–0.2%  |

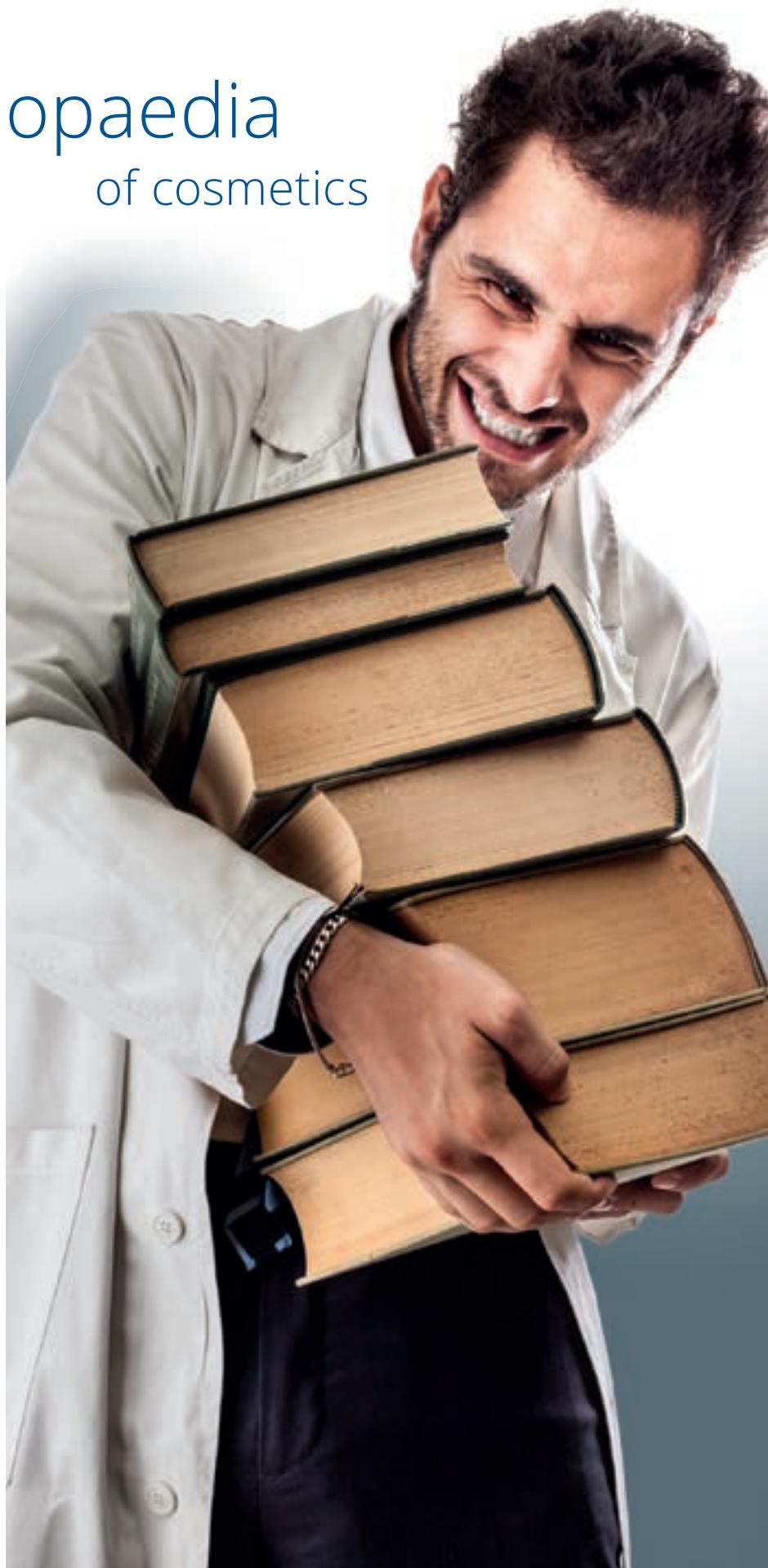
## Characteristics: GenuPectin

|                         |   |
|-------------------------|---|
| <b>INCI</b>             | <b>Pectin</b>   |
| <b>Origin</b>           | Natural, extracted from citrus fruits or sugar beet   |
| <b>Properties</b>       | <ul style="list-style-type: none"> <li>• Makes the skin soft and smooth</li> <li>• Works as a buffer in the skin-neutral pH range of 4.1–5.5</li> <li>• Excellent skin tolerability, including in the highly acid pH range</li> <li>• For sensitive, atopic or acne-prone skin</li> </ul> |
| <b>Recommended dose</b> | 0.1–2.0%  |

# The encyclopaedia of cosmetics

## B is for ...

- ... **B**ancroft's rule
- ... **B**arrier (of the skin)
- ... **B**asal cell layer
- ... **BB** Cream
- ... **B**enzyl alcohol
- ... **B**etaine
- ... **BHT**
- ... **B**eeswax
- ... **B**otox
- ... **B**roadband filters



## Bancroft's rule

A rule created by Wilder Dwight Bancroft, an American physical chemist, which states that a mainly hydrophilic (= water-receptive) emulsifier stabilises an O/W emulsion and a mainly hydrophobic (= water repellent) emulsifier stabilises a W/O emulsion.

## Barrier (of the skin)

Separates the horny layer from the underlying skin tissue. This is constructed similarly to a brick wall, with the horny cells forming the "bricks" and the "cement" between the horny cells consisting mainly of fatty acids, ceramides and cholesterol.

## Basal cell layer

Also known as the stratum basale. This is the lowest layer of the epidermis and consists mainly of cylindrical basal cells. The stratum basale divides every 200–400 hours to supply new cells.

## BB Cream

Blemish balm. This is said to care for the skin, conceal impurities, protect against too much light and harmful substances, and smooth wrinkles.

## Benzyl alcohol

Also known as phenyl methanol, this is a colourless fluid with a smell similar to jasmine, which is soluble in oils and ethanol, and insoluble in water. This substance is used in the perfume industry and cosmetics as a preservative.

## Betaine

White powder resembling salt, which is easily soluble in water. It is often used in cosmetics as a moisturising or conditioning raw material.

## BHT

Butylhydroxytoluene. Is used as an antioxidant and primarily prevents unsaturated fatty acids oxidising and becoming rancid.

## Beeswax

A metabolic product made by bees, which is excreted by the bees from the so-called wax gland. Bees use this wax to build their honeycombs in a regular hexagonal cell shape. The main requirement for it is honey as food for the bees. It takes approximately 4 to 10 kilograms of honey to produce 1 kilogram of beeswax.

## Botox

Botulinum toxin. A strong neurotoxin that is used within the cosmetic industry in low concentrations for injections to reduce facial wrinkles.

## Broadband filters

Filters that absorb the entire range of ultraviolet radiation. They are used as UV filters in sun protection products, and filter out a portion of the UV-A and UV-B rays in sunlight.



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