

ISSUE MAY 2014

COSMETOPOLITAN



COS-INSIDE

News from RAHN

LAB-NEWS

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fine-tuning

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THE WORLD**

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in Asia

GOOD TO KNOW

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RAHN

Your partner for excellence

Dear customer,



As part of the revision and redesign of our corporate identity, it is with great pleasure that we present you our new magazine "Cosmetopolitan".

As we strive constantly to improve our service, this tri annual magazine will report interesting topics and facts while introducing new projects and products.

The magazine will be divided into different sections and headings:

- "COS Inside" will offer you an overview of news from RAHN
- The "Lab News" section reports on practical and technical topics
- "Around the world" offers an international selection of topics
- And last but not least "Good to know" with informative/current issues

Enjoy your reading!

Sandra Gut

WHO IS NEW?

A warm welcome to our new team colleagues:



SARAH GLADSTONE
Function
Technical Sales Manager UK
Division
Cosmetics
Joining
22.07.2013



FRANK HAGEMANN
Function
Head of Sales & Marketing
Division
Scent & Taste
Joining
01.12.2013



RAFFAELA HUG
Function
Customer Service/Sales Support
Division
Cosmetics
Joining
16.08.2013



ANDREW CHILDS
Function
Technical Sales Manager UK
Division
Cosmetics
Joining
01.02.2014



SIMONA APOLLONIO
Function
Customer Service
Division
Cosmetics
Joining
11.11.2013

We wish our new colleagues a good start and looking forward to a trustful and productive collaboration.



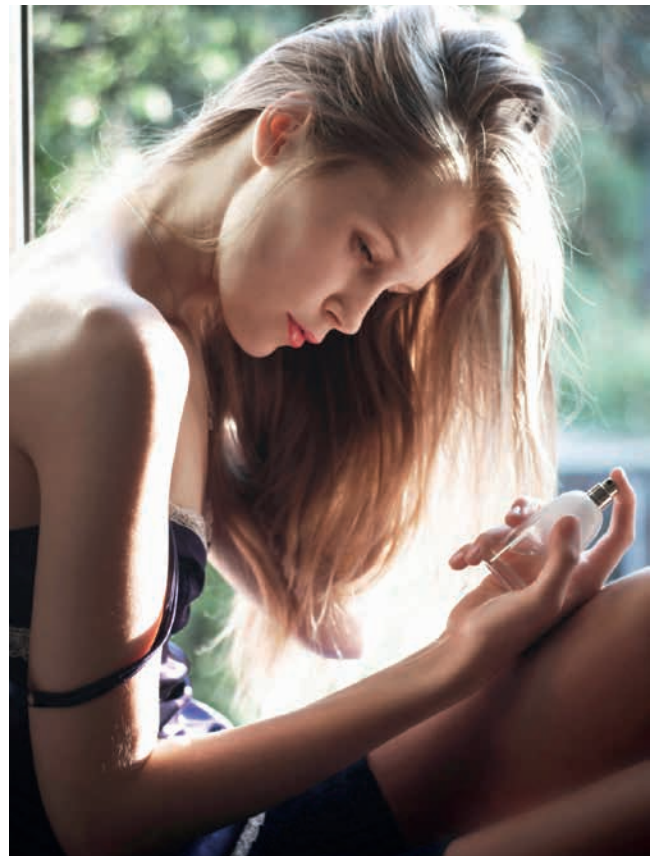
The art of scent and taste ...

... this is what the new, third supporting pillar of RAHN will be dealing with.

Scent & Taste comprises a portfolio of customer-specific perfume and flavour compositions, and selected raw materials for the food industry.

Our supplier Aromatic Flavours & Fragrances (AFF) is a family company with branches worldwide and production sites in Egypt and England. The company has grown continuously since it was founded in 1969, and today it is a highly customer-friendly, successful and independent supplier of perfumes and flavours.

A perfume represents individuality and offers recognition value. AFF excels in finding a fast and individual solution for customer concepts and briefings by means of close collaboration and an extensive range of logistics and other services.



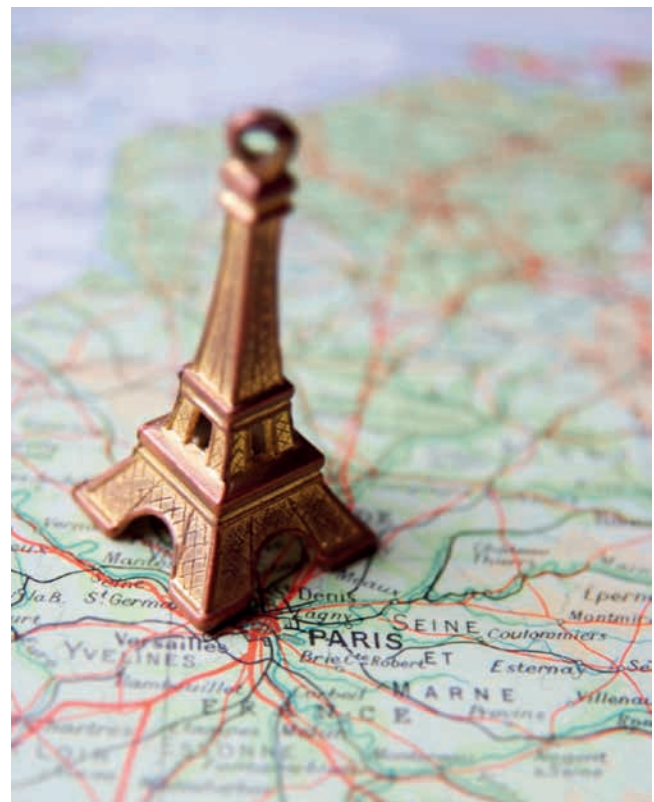
We are pleased about the founding of RAHN France

Our recently founded subsidiary, RAHN France in Paris, will help us to satisfy the local needs of our customers even more effectively. Thanks to extremely successful sales activities and the continuous expansion of our product range, our neighbouring country has grown into a strategically important market.

In recent years the RAHN Group has been able to substantially strengthen its position in the international environment. On the one hand many of our suppliers, whom we represent as a distributor, are located on different continents, while on the other hand we supply raw materials and active ingredients in more than 40 different countries.

We will thus be best prepared for a further expansion of the French market.

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Sensory fine-tuning

The sensory aspect of a cosmetic product is fairly complex. It consists of a combination of various subjective, tactile sensations and perceptions that create the overall impression of a product.

Simply changing a single parameter, such as creating higher viscosity, can rapidly change the overall impression and can result in further impressions being altered.

The sequences of a sensory product evaluation can be broken down into the following four phases:

Phase 1

Visual aspect (e.g. sheen, colour)

Phase 2

Removal/pick-up (e.g. peaking, sliding effect)

Phase 3

Application/rub-out (e.g. dispersion, oiliness, freshness effect)

Phase 4

After feel (e.g. absorption, stickiness, softness)

It is often difficult to process one individual aspect of these sensory parameters. Below we offer a few tips and tricks for sensory fine-tuning, taking an O/W emulsion as an example.

PHASE 1: VISUAL ASPECT

a) Product needs to be less matte and have more of a sheen:

- Stop using/reduce the use of fillers such as Nylon, Lauroyl Lysine, Tapioca/Corn Starch
- Stop using recrystallising agents such as fatty alcohols and butter
- Create viscosity/structure by means of polymers (e.g. Acrylates)
- Select an appropriate emulsifier, e.g. Lecithin

b) Product needs to have less of a sheen and be more matte:

- Create viscosity/structure by means of fatty alcohols instead of using Polymers as the basis
- Fillers such as Nylon, Lauroyl Lysine, Starch



PHASE 2: REMOVAL/PICK-UP

The aspect of the removal of a product is usually controlled via its viscosity.

a) Product needs to be higher viscosity:

- Use/increase the amount of fatty alcohols
- Increase the amount of polymers (e.g. Acrylates)
- Incorporate plant butters

b) Product needs to be lower viscosity:

- Reduce fatty alcohols
- Reduce wax components
- Reduce polymers

PHASE 3: APPLICATION/RUB-OUT

a) Sensory elements need to be less waxy and more oily (better dispersion):

- Use lower-chain fatty alcohols ($C_{16/18}$)
- Create viscosity/structure by means of polymers instead of fatty alcohols
- Select wax components that have a melting point similar to that of skin temperature
- Use light emulsifiers





PHASE 4: AFTER FEEL

a) The residue on the skin needs to be less waxy and more oily:

- Increase the liquid lipid phase
- Optimise the ratio of liquid to solid lipid phase
- Use alternative structuring agents such as polymers or Cutina PES (Pentaerythrityl Distearate), as these are clearly less waxy than fatty alcohols
- Make greater use of moderately fast or fast-spreading lipids

b) The residue on the skin needs to be less dull and smoother/silkier:

- There needs to be a balanced ratio of low, moderately and highly spreading oil components. Emulsifiers, UV filters, etc. have to be taken into account here as well.
- Silicones
- Use fast-spreading lipids such as Caprylic/Capric Triglyceride or Isoamyl Laurate
- Fillers such as Nylon, Lauroyl Lysine and Tapioca starch
- Carrageenan for a higher slippery effect and a reduction of tackiness

c) The residue on the skin needs to be more powdery:

It is easier to achieve a powdery skin feel when the following conditions are met:

- low viscosity
- viscosity created by means of polymers
- low lipid phase (<10%)
- use of ethanol increases the effect

The following raw materials can be used for a powder effect:

- Fillers such as Nylon, Lauroyl Lysine, Tapioca/Corn Starch
- Polyethylenes
- Aerosil

Cosmetics laws in Asia

In Asia the skin is considered to be especially beautiful when it has an even appearance in terms of the skin colour, and it is not broken up by pigment spots, freckles, visible blood vessels, redness etc. A yellowish-brown facial skin tone also does not form part of the beauty ideals in Asia. To counteract this, as well as make-up, preparations containing lightening substances are becoming increasingly available.

The particular challenge faced when developing these so-called whitening products is the different cosmetics legisla-

tion in the various Asian countries. Up to now there is no globally valid cosmetics law; every country has different definitions, regulations and defining points. This problem especially confronts European companies wishing to market cosmetic products in the Asian region.

The largest cosmetics markets for whitening products include Japan, Korea and China. In each of these countries there are three main categories for establishing a product on the cosmetic/pharmaceutical market.





BRIEF PORTRAIT OF JAPAN

- **Body of rules and regulations:**

Pharmaceutical Affairs Law (PAL)

- **Defined product categories:**

1. Cosmetics
2. Quasi Drugs (QD)
3. Drugs

Definition of Quasi Drugs (in accordance with PAL)

Quasi Drugs are defined as products used for a fixed purpose which have a minor effect on the body. QD products have a greater effect on the body than cosmetics.

Examples

- Whitening products
- Deodorants
- Hair growth products

Requirements when selecting raw materials

- For QD products a list of 3,000 raw materials has to be borne in mind. The maximum permitted concentrations for use must be complied with.
- Listings of new raw materials require an application from the manufacturer of the raw material. A variety of tests and data have to be submitted when registering the raw material and high costs are involved.
- All non-listed raw materials or materials outside the permitted concentration for use can only be used in a cosmetic product.

Product claim

The claim "Whitening" must only be used when the product contains an active substance that is listed as a QD and the corresponding concentration for use is complied with. The use of other non-listed raw materials and active substances is permitted for the cosmetic products category, but only indicative expressions such as "Brightening" or "White Solution" can be used.



BRIEF PORTRAIT OF SOUTH KOREA

- **Body of rules and regulations:** Cosmetic Law
- **Defined product categories:**
 1. Cosmetics
 2. Functional Cosmetics (FC)
 3. Drugs

Definition of Functional Cosmetics

Functional Cosmetics also come under the definition of cosmetics and contain additional product categories specified by the Ministry of Health and Social Welfare (MOHW).

Examples of product categories

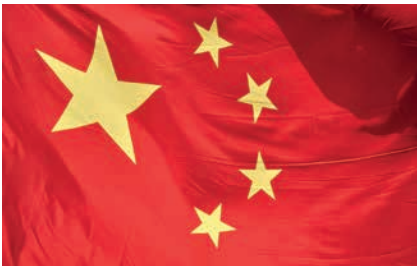
- Whitening products
- Anti-aging products
- SPF products
- Slimming

Requirements when selecting raw materials

- The MOHW has published a handbook containing a list of the officially authorised ingredients that are accepted for cosmetic use.
- Raw materials under the EU Cosmetics Directive are also approved by the MOHW for cosmetic use.
- Raw materials that are not listed and are thus new for Korea must be approved by the *Korean Food and Drug Administration (KFDA)*.
- There is a list of active ingredients for Functional Cosmetics products which lists the ingredients for the categories Whitening, Anti-aging and Sun Protection, and regulates the concentrations for use.

Product claim

A claim such as “whitening” is permitted if the guide values for the concentrations for use from the aforementioned active ingredients list are complied with. If these values are not complied with, there must be no use of a claim and the product falls under the category of cosmetics.



KURZPORTRAIT CHINA

- **Body of rules and regulations:** Regulations for the Hygiene Supervision of Cosmetics
- **Defined product categories:**
 1. Cosmetics
 2. Special Cosmetics (SC)
 3. Drugs

Definition of Special Cosmetics

Special Cosmetics are used for a fixed purpose and have a minor effect on the body.

Examples of product categories

- Whitening products
- Anti-aging products
- SPF products

Requirements when selecting raw materials

- The raw materials in the “Inventory of Existing Cosmetic Ingredients in China (IECIC) 2003” and consolidated draft version of IECIC 2014 are accepted.
- New raw materials have to be evaluated and approved by the Ministry of Public Health (MOH).
- The *Hygienic Standard of Cosmetics* lists raw materials that are forbidden or the use of which is restricted.
- Positive and negative list resembles the EU Directive.
- There is no separate list for Special Cosmetics to regulate the selection of raw materials and their concentrations for use.

Product claim

There are no specifications for active whitening ingredients in China. A company is free to select the substance and must submit evidence of efficacy to use the claim “Whitening” on a product. These efficacy statements are then confirmed by a further study carried out at a university. The benefit of this is that the university’s logo can be used for statements of efficacy, which adds value to the entire product.



BRIEF PORTRAIT OF ASEAN

- **Body of rules and regulations:** ASEAN Cosmetic Directive

Brunei, Indonesia, Cambodia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam formed the *Association of Southeast Asian Nations (ASEAN)*.

This association embodies the goal of increasing the cooperation within the member states in the areas of quality and safety, for example by the mutual recognition of product approvals and registrations.

The ASEAN Cosmetic Directive regulates a series of important aspects:

- Definition of cosmetics
- Listing of possible ingredients
- Regulations on the labelling of cosmetics
- Guidelines on claims
- Requirements for registering cosmetic products
- Import and export requirements for cosmetics
- Guidelines on good manufacturing practice for cosmetics

There is a high degree of harmonisation between the *ASEAN Cosmetic Directive* and the *EU Cosmetics Directive* (Directive 2003/15/EC of the European Council of 27 February 2003).

Product claims such as “Whitening” or “Slimming” are only possible in the context of an efficacy study.

All about Cosmospheres

The name “Cosmospheres” is made up of the terms cosmos and spheres. The term “cosmos” comes from Greek and means “decoration”. “Spheres” comes from spherical and means “round, ball-shaped”.

What exactly is the technology behind these small colourful spheres?

Cosmospheres are manufactured using a pelleting technique. The term pellets is found in a wide variety of areas such as medicine, chemistry, food and animal feeds, the energy industry and fertilisers, but both the requirements and characteristics differ according to the industrial sector.

From a processing perspective the manufacture of pharmaceutical and cosmetic pellets is quite similar. In both cases a special technique is used, a so-called agglomeration technique. Granulates in this case are an agglomeration or aggregation of fine powder particles. Different forms are possible for different uses depending on the manufacturing technique. Spherical granulate particles are also called pellets.

Pellet composition

For the basis composition of cosmetic pellets, Microcrystalline Cellulose is used as the main ingredient and Lactose or Mannitol as the bonding agent. Various raw materials and active substances can be added individually in the form of liquids or powders, such as oil components, essential oils, cooling or warming components, vitamins, colour pigments, plant extracts and perfumes.

- Microcrystalline cellulose (MCC) is mainly manufactured from softwood and after processing it takes the form of a fine white powder. MCC has good absorbing properties but not solvent properties, swells in water, has very good thickening properties and a high bonding capacity.
- Lactose is a sugar contained in milk and milk products. It is a white, crystalline, water-soluble raw material which displays good flow characteristics and a good binding capacity.
- Mannitol belongs to the sugar alcohols class of active substances. The raw material takes the form of a white crystalline powder with a sweet taste and good water solubility.



Pellet manufacture

Manufacture can take place using various processes. One form of the agglomeration technique already mentioned is moist granulation, which is a very suitable process for manufacturing homogeneous pellets. The company Pelletech* uses a fluid bed granulator for manufacturing Cosmospheres. A ventilator produces a stream of air which forms a fluidised bed together with the substance being granulated.

A powdered mixture containing the Cellulose, Lactose or Mannitol, active ingredient and a colour of choice is added to the mixing vessel. A constant, spiral flow of air through the chamber suspends the powder particles against gravity and allows them to grow independently with a constant addition of water. The more water that is added and absorbed by the particles, the larger the beads will grow. Once the beads have reached their desired size, the excess water, that is not bonded to the bead, is then dried off leaving a solid sphere.

The centrifugal force that occurs in the production vessel leads to the production of agglomerates which round out to form uniform pellets. The last step is to dry the pellets carefully. For this the air stream is heated. The end of drying is indicated by a rapid rise in the temperature of the substance being dried, due to the fact that there is no more evaporable water present.

This manufacturing process is fast because all the work steps (mixing, creation of the granulate by spraying the granulating liquid and drying) take place in one apparatus.



Fluid bed granulator

* <http://www.pelletech.com>

Tips for incorporating Cosmospheres

- When processing Cosmospheres, care should be taken that the respective formulation contains a water element of >30%. The water contained is responsible for the swelling of the Cosmospheres, which makes them soft and dispersible on the skin.
- High shear stress/homogenisation should be avoided after Cosmospheres have been added, which means that it is appropriate to incorporate them as the final step.
- If there are sedimentation problems, we recommend increasing the viscosity or incorporating specific polymers such as Xanthan Gum, Gellan Gum or Carbomers.

Cosmospheres can be used creatively and are ideal for giving your product an individual note.

Let yourself be inspired by the following guide formulations.



Cooling Leg and Foot Cream

| St | Substance | INCI name USA | % [w/w] | Manufacturer |
|----|------------------------------|--|---------|--|
| 1 | Water demin. | Water | 57.75 | several |
| | Glycerin 85% | Glycerin, Water | 3.00 | several |
| | Dermosoft 1388 | Glycerin, Water, Sodium Levulinate, Sodium Anisate | 3.00 | Dr. Straetmans, DE |
| 2 | Keltrol CG-SFT | Xanthan Gum | 0.25 | CP Kelco, US |
| | Cosmedia SP | Sodium Polyacrylate | 0.80 | BASF, DE |
| 3 | Coconut Oil refined, organic | Cocos Nucifera (Coconut) Oil | 5.00 | All Organic Trading GmbH, DE |
| | Dermofeel BGC | Butylene Glycol Dicaprylate/Dicaprate | 5.00 | Dr. Straetmans, DE |
| | Cupuacu Butter Refined | Theobroma Grandiflorum Seed Butter | 5.00 | Laboratoires Expanscience, FR |
| | Lipocire A SG Pastillen | C10-18 Triglycerides | 2.00 | Gattefossé Schweiz, CH |
| | Amisoft HS-11P(F) | Sodium Stearoyl Glutamate | 0.40 | Ajinomoto, JP |
| | Tego Alkanol 6855 | Cetearyl Alcohol | 3.50 | Evonik Industries AG, DE |
| | Dermofeel MT 70 non-GMO | Tocopherol; Helianthus Annuus (Sunflower) Seed Oil | 0.20 | Dr. Straetmans, DE |
| 4 | Citric Acid solution 10% | Citric Acid, Water | 2.10 | several |
| | Cosmospheres GC3-S | Lactose, Microcrystalline Cellulose, Menthyl Lactate, Chromium Hydroxide Green | 2.50 | Pelletech, CH |
| 6 | Refreshing Energy | Fragrance | 0.50 | Aromatic Flavours & Fragrances Europe Ltd., GB |
| | Ethanol 94% denat. | Alcohol, Water | 4.00 | several |
| 7 | Horse Chestnut Tincture | Aesculus Hippocastanum (Horse Chestnut) Seed Extract, Alcohol, Water | 5.00 | Alpinamed, CH |

Vanilla Bliss Hot Scrub

| St | Substance | INCI name USA | % [w/w] | Manufacturer |
|----|-------------------------|---|---------|--|
| 1 | Water demin. | Water | 67.25 | several |
| | Glycerin 85% | Glycerin, Water | 3.00 | several |
| | Tego Care CG 90 | Cetearyl Glucoside | 1.50 | Evonik Industries AG, DE |
| | Dermosoft 700 B | Levulinic acid, Sodium Levulinate, Glycerin, Water | 0.40 | Dr. Straetmans, DE |
| 2 | Dermosoft GMCY | Glyceryl Caprylate | 0.50 | Dr. Straetmans, DE |
| | Tego Alkanol 6855 | Cetearyl Alcohol | 7.00 | Evonik Industries AG, DE |
| 3 | Tegosoft CT | Caprylic/Capric Triglyceride | 7.00 | Evonik Industries AG, DE |
| | Cupuacu Butter Refined | Theobroma Grandiflorum Seed Butter | 2.00 | Laboratoires Expanscience, FR |
| | Meadowfoam Seed Oil | Limnanthes Alba (Meadowfoam) Seed Oil | 4.00 | Elementis Specialties, Inc., US |
| | Dermofeel MT 70 non-GMO | Tocopherol, Helianthus Annuus (Sunflower) Seed Oil | 0.20 | Dr. Straetmans, DE |
| | Keltrol CG-SFT | Xanthan Gum | 0.15 | CP Kelco, US |
| 4 | L-Arginine solution 10% | Water, Arginine | 1.25 | Ajinomoto, JP |
| | Hot Flux | Vanillyl Butyl Ether | 2.00 | ROVI Cosmetics International GmbH, DE |
| 5 | Vanilla & Ice Cream | Fragrance | 0.75 | Aromatic Flavours & Fragrances Europe Ltd., GB |
| 6 | Cherry Powder | Prunus Cerasus (Bitter Cherry) Shell Powder | 1.50 | Laboratoires Expanscience, FR |
| 7 | Cosmospheres BLCG-S | Polyethylene Terephthalate, Lactose, Microcrystalline Cellulose, Acrylates Copolymer, Iron Oxides | 1.50 | Pelletech, CH |

Last but not least ...

You can find now online on our website the developed recipes of RAHN with a new integrated search function. The page allows you a specific search by category, type and claim and a free-text search is possible.

Formulations developed in the RAHN laboratory provide a firm base for further development with reference to the dosage of single ingredients and production of the product. The formulations are examined for their stability and usually contain selected active ingredients, which permit a purposeful marketing claim for the product. The portfolio of formulations expands constantly with new creations, from formulation technical view through to new marketing-oriented ideas.

Allow yourself to get inspired!





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