



# Functional Lipids for Cosmetics



## Experience and expertise

Berg + Schmidt is part of the independent, owner-operated Stern-Wywiol Gruppe. Likeable, Technological, Successful, Respectful and Curious – these principles make our group of companies successful.

The heart of the group of companies is the Stern-Technology Center in Ahrensburg, near Hamburg. In an area of 3,000 m<sup>2</sup> we have concentrated the application laboratories of our 11 specialist firms under one roof, permitting interdisciplinary cooperation and the efficient use of synergies. Here, together with our customers, we develop individual solutions and implement ideas that widen horizons.

In our daily business, from securing the raw materials through product development and manufacture to transportation, we attach great importance to quality, sustainability and communication with our employees, customers and suppliers in a spirit of partnership. Our products are manufactured by the latest technical methods, and their quality is constantly monitored under our own QA system and by impartial outside laboratories.

We give our customers expert advice on developing or optimising recipes and formulations. And our committed sales team will assist you in person on the spot, at your plant – or in our own facility, if you wish.



# Functional lipids for cosmetics – worldwide

Berg + Schmidt has been active in the oleochemicals sector for over 60 years, and the company has secured itself an outstanding position on international markets. Originally specialists in functional lipids for cosmetic applications, we now develop and supply a wide range of other functional ingredients.

Our current portfolio comprises an attractive spectrum of fatty alcohols, fatty acids, fatty acid esters, castor oil derivatives, shea butter and modern surfactants. Besides a vegetable fibre compound for emulsifying and thickening, it also boasts sensory alternatives to silicones and natural peeling beads. In addition, we supply lecithin and its fractions as well as advanced active delivery systems. Moreover, we strive continuously to enlarge our product range.

Berg + Schmidt offers everything from one source.

## Our cosmetic portfolio focuses on three product lines:

- **Basic oleochemicals** ..... p. 4
  - Fatty acids*
  - Fatty alcohols*
  - Castor oil derivatives*
- **Fatty acid esters** ..... p. 6
  - Glyceryl and glycol esters*
  - Isopropyl and ethylhexyl esters*
  - Cetyl and cetearyl esters*
  - Nonanoates and benzoates*
- **Cosmetic specialities** ..... p. 8
  - Functional ingredients*
  - Mild surfactants*
  - Advanced delivery systems*





# Basic oleochemicals for cosmetic applications

We are your partner for all basic oleo chemical-related procurement matters in a globalised, dynamic market environment.

Through custom de-commoditisation (e.g. blending, repacking and specialised logistics solutions) we add value to your supply chains.

Quality Management is key. We ensure clarity and solutions in the jungle of RSP0, GMP+, REACh, etc.



## Fatty alcohols

INCI	Appearance	Properties/grades	Melting range	Emollient/skin conditioning	Emulsifying/emulsion stabilising	Foam boosting	Binding	Hair conditioning	Opacifying	Viscosity controlling	Refatting	Masking
<b>Behenyl Alcohol</b>	White pastilles	C18: 5-10 % C20: 10-20 % C22: 70-80 %	62-67 °C	•	•		•	•		•		
<b>Behenyl Alcohol</b>	White pastilles	C18: 41-45 % C20: 9-13 % C22: 42-46 %	55-60 °C	•	•		•	•		•		
<b>Stearyl Alcohol</b>	White pastilles	C18 > 98 %	56-59 °C	•	•	•			•	•	•	•
<b>Cetearyl Alcohol</b>	White pastilles	C16: 25-35 % C18: 65-70 %	50-54 °C	•	•	•			•	•		
<b>Cetearyl Alcohol</b>	White pastilles	C16: 45-55 % C18: 45-55 %	48-52 °C	•	•	•			•	•		
<b>Cetearyl Alcohol</b>	White pastilles	C16: 55-56 % C18: 35-35 %	47-51 °C	•	•	•			•	•		
<b>Cetyl Alcohol</b>	White pastilles	C16 > 98 %	47-50 °C	•	•	•			•	•		•
<b>Arachidyl Alcohol</b>	White, solid	C20: 55-67 % C22: 23-38 %	60-66 °C	•	•			•		•		•

## Fatty acids

INCI	Appearance	Properties /grades	Melting range	Emollient/skin conditioning	Emulsifying/emulsion stabilising	Viscosity controlling	Masking
<b>Lauric Acid</b>	White pastilles/flakes	C12 > 99 %	42-44 °C	•			
<b>Myristic Acid</b>	White pastilles/flakes	C14 > 99 %	52-54 °C	•			
<b>Palmitic Acid</b>	White pastilles/flakes	C16 > 98 %	61-63 °C	•	•	•	
<b>Palmitic (and) Stearic Acid</b>	White pastilles/flakes	C18 > 65 % C18 > 50 % C18 > 40 %	55-63 °C	•	•	•	
<b>Stearic Acid</b>	White pastilles/flakes	C18 > 98 % C18 > 95 %	55-58 °C				•
<b>Oleic Acid</b>	Liquid	C18:1 > 72 %	Viscosity: ~39 mPa s	•	•		

## Castor oil derivatives

Product name	INCI	Appearance	Properties/grades
Sternoil FSG	<b>Castor Oil</b>	Yellowish viscous liquid	First special grade
Sternoil CPEP	<b>Castor Oil</b>	Yellowish viscous liquid	Cold-pressed
Sternoil CO n	<b>PEG-n-Castor Oil</b>	White to yellowish liquid	n indicates number of repeated units
Sternoil HCO	<b>Hydrogenated Castor Oil</b>	Off-white powder or flakes	
Sternoil MFPP	<b>Hydrogenated Castor Oil</b>	Off-white fine powder	Micro-fine particle size ≤ 20 µm
Sternoil HCO 40	<b>PEG-40 Hydrogenated Castor Oil</b>	Off-white viscous paste	
Sternoil HCO n	<b>PEG-n Hydrogenated Castor Oil</b>	White to yellow liquid or paste	n indicates number of repeated units
Sternoil 12-HSA	<b>12-Hydroxystearic Acid</b>	Off-white flakes, powder	
Sternoil 12-HSA bleached	<b>12-Hydroxystearic Acid</b>	White flakes, powder	Colour (Gardner) ≤ 3
Sternoil TRO	<b>Sulfated Castor Oil</b>	Viscous red liquid	
Sternoil RA	<b>Ricinoleic Acid</b>	Liquid	Grades from max. 6 Gardner down to max 2 Gardner available

## Glycerin

Product name	INCI	Appearance
Glycerin 99.5 % min. EP/USP	<b>Glycerin</b>	Colourless viscous liquid

All palm-based materials are available as RSPO MB upon request.  
RSPO SG can be offered for specific types.



# Esters for cosmetic applications

Sustainable ingredients, derived from vegetable oils, which offer manifold possibilities for the optimisation of cosmetic formulations.

The emollient and emulsifying properties of our multifunctional esters range provide performance to formulators and safety to consumers.

We give our customers knowledgeable advice on developing and optimising recipes and custom formulations.

## Glyceryl esters

Product name	INCI	Form	Properties	Emollient/ skin conditioning	Emulsifying/ emulsion stabilising	Perfuming	Solvent	Viscosity controlling	Opacifying	Foam boosting/ surfactant
<b>BergaBest MCT Oil 60/40</b>	Caprylic/Capric Triglyceride	Liquid	Spreadability: medium Polarity: strong C8: 50-65 % C10: 30-45 %	•		•	•	•		
<b>BergaBest MCT Oil 70/30</b>	Caprylic/Capric Triglyceride	Liquid	Spreadability: medium Polarity: strong C8: 65-75 % C10: 25-35 %	•		•	•	•		
<b>BergaCare GS 40</b>	Glyceryl Stearate	Solid	Melting range: 57-63 °C HLB: ca. 4	•	•					
<b>BergaCare GS SE</b>	Glyceryl Stearate Self emulsifying	Solid	Melting range: 57-59 °C HLB: ca. 6	•	•					
<b>BergaCare THX</b>	Triethylhexanoin	Liquid	Spreadability: high Polarity: medium	•				•		
<b>BergaCare 165</b>	PEG-100 Stearate/Glyceryl Stearate	Solid	Melting point: ca. 52 °C HLB: ca. 11		•					

## Glycol esters

Product name	INCI	Form	Properties	Emollient/ skin conditioning	Emulsifying/ emulsion stabilising	Perfuming	Solvent	Viscosity controlling	Opacifying	Foam boosting/ surfactant
<b>BergaCare EM-HE 7</b>	PEG-7 Glyceryl Cocoate	Liquid	Viscosity: ca. 250 mPa s HLB: ca. 11		•					•
<b>BergaBest PGDE</b>	Propylene Glycol Dicaprylate/ Dicaprinate	Liquid	Spreadability: medium Polarity: strong C8: 50-65% C10: 30-45%	•				•		
<b>BergaCare Pearl</b>	Glycol Stearate	Solid	Melting range: 52-63 °C HLB: ca. 3	•	•				•	
<b>BergaCare Pearl 2</b>	Glycol Distearate	Solid	Melting range: 60-65 °C HLB: ca. 1	•	•			•	•	

## Isopropyl esters

Product name	INCI	Form	Properties	Emollient/skin conditioning	Emulsifying/emulsion stabilising	Perfuming	Solvent	Viscosity controlling	Opacifying	Foam boosting/surfactant
BergaCare EM-14	Isopropyl Myristate	Liquid	Spreadability: high Polarity: medium	•		•	•			
BergaCare EM-16	Isopropyl Palmitate	Liquid	Spreadability: high Polarity: medium	•			•	•		

## Ethylhexyl esters

Product name	INCI	Form	Properties	Emollient/skin conditioning	Emulsifying/emulsion stabilising	Perfuming	Solvent	Viscosity controlling	Opacifying	Foam boosting/surfactant
BergaCare EM-0L	Ethylhexyl Laurate	Liquid	Spreadability: medium to high Polarity: medium	•						
BergaCare EM-0C	Ethylhexyl Cocoate	Liquid	Spreadability: medium to high Polarity: medium	•						
BergaCare EM-0P	Ethylhexyl Palmitate	Liquid	Spreadability: medium to high Polarity: medium	•		•				
BergaCare EM-0S	Ethylhexyl Stearate	Liquid	Spreadability: medium to high Polarity: medium	•						

## Cetyl and cetearyl esters

Product name	INCI	Form	Properties	Emollient/skin conditioning	Emulsifying/emulsion stabilising	Perfuming	Solvent	Viscosity controlling	Opacifying	Foam boosting/surfactant
BergaCare EM-CO	Cetyl Octanoate	Liquid	Spreadability: medium Polarity: medium	•						
BergaCare EM-CP	Cetyl Palmitate	Solid	Polarity: medium	•				•		
BergaCare EM-CSO	Cetearyl Octanoate	Liquid	Spreadability: high Polarity: medium	•						

## Nonanoates and benzoates

Product name	INCI	Form	Properties	Emollient/skin conditioning	Emulsifying/emulsion stabilising	Perfuming	Solvent	Viscosity controlling	Opacifying	Foam boosting/surfactant
BergaCare 89	Ethylhexyl Isononanoate	Liquid	Spreadability: high Polarity: medium	•						
BergaCare EM-SN	Cetearyl Nonanoate	Liquid	Spreadability: medium Polarity: medium	•						
BergaCare IN2	Isononyl Isononanoate	Liquid	Spreadability: high Polarity: medium	•						
BergaCare EM-AB	C12-C15 Alkyl Benzoate	Liquid	Spreadability: low Polarity: medium	•						

All palm-based materials are available as RSPO MB upon request.

# Modern surfactants

## BergaSoft

Today's consumers are looking for eco-friendly cosmetics compatible with their sense of responsibility for themselves and the planet. Sulphate-free remains a growing trend, and there is a demand among cosmetics manufacturers for green ingredients with a high level of efficacy that are gentle to the skin and hair.

In addition to those market requirements, modern surfactants must offer good washing and high foaming performance, and they should allow easy processing in quality formulations.

We offer the ideal answer with our BergaSoft range of surfactants.

### Applications



Facial cleansing



Shower



Hair care



Baby care

### Benefits of all BergaSoft surfactants

- Based on renewable raw materials
- EO- and sulphate-free
- Readily biodegradable
- Preservative-free
- Excellent foaming characteristics
- Extremely mild
- Easy to thicken

## BergaSoft APG

Product name	INCI	Appearance	Active matter
BergaSoft LG 50*	Lauryl Glucoside	Viscous yellowish liquid	≥ 50 %
BergaSoft DG 50*	Decyl Glucoside		
BergaSoft CG 50*	Coco Glucoside		
BergaSoft CCG 60	Caprylyl/ Capryl Glucoside	Viscous yellowish liquid	≥ 60 %
BergaSoft CCG 65		Viscous yellowish liquid	62 – 65 %
BergaSoft CCG 70		Viscous brown liquid	≥ 70 %

### Benefits

- Cold-processable
- Suitable for clear formulations
- Also available in RSP0 Mass Balance

### Recommended use concentration

As main surfactant: 8 – 20 %

As co-surfactant: 1 – 5 %

\* COSMOS approved





# BergaSoft SCI 80

Product name	INCI	Appearance	Active matter
BergaSoft SCI 80	Sodium Cocoyl Isethionate	Off-white to pale yellow needles, powder, or granules	≥ 80 %
BergaSoft SCI 85			≥ 85 %



## Benefits

- Compatible with other anionic surfactants
- High functionality even in hard water
- Protects colour
- Luxurious foam

## Recommended use concentration

As main surfactant: 10 - 60 %  
As co-surfactant: 1 - 20 %

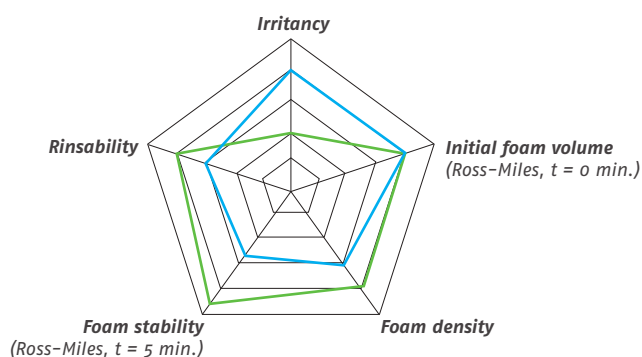
# BergaSoft SCG 22

Product name	INCI	Appearance	Active matter
BergaSoft SCG 22	Sodium Cocoyl Glycinate	Transparent, pale yellow liquid	≥ 22 %



## Sensory profile of BergaSoft SCG 22

- BergaSoft SCG 22
- Sodium laureth sulphate



## Benefits

- Cold-processable
- Suitable for clear formulations
- Preservative-free

## Recommended use concentration

As main surfactant: 20 - 40 %  
As co-surfactant: 1 - 10 %  
For ideal foaming performance the pH should be > 6.



# Shea butter – a natural ingredient

## BergaCare SB

### BergaCare Shea Butter – controlled production for premium quality

The shea tree grows naturally in the sub-sahelian vegetation belt in Africa. Shea nuts are called women's gold, as their collection is almost the only reliable source of income in some areas.

Berg + Schmidt takes particular care in the selection of raw materials for the manufacture of the BergaCare Shea Butter range. We are present on site in Africa, in order to ensure an optimal supply in quality and quantity.

The refining of our Shea Butter is carried out in Europe. With our modern storage facility and technically advanced refinery we are able to offer reliable and flexible delivery at competitive prices throughout the world.

### Benefits

- *Natural emollient*
- *High content of unsaponifiable matter*
- *Multitude of applications*
- *Controlled production for premium quality*
- *Different grades available*
- *Flexibility in packaging (25kg boxes, 25kg buckets, 180kg drums)*

Product name	INCI	Properties
BergaCare SB S	Butyrospermum Parkii (Shea) Butter	Standard
BergaCare SB		CECOCERT/COSMOS approved
BergaCare SB Organic		Bio/organic Certified by ECOCERT Deutschland GmbH (DE-ÖKO-024) According to regulation (EC) no. 834/2007 and regulation (EC) no. 889/2008

### Applications

- Facial care
- Body care
- Shower
- Lip care
- Hair care
- Facial cleansing
- Sun care
- Soaps



# High purity glycolic acid

## GlyAcid®

GlyAcid® is a well known molecule for exfoliation in skin care

For more than 40 years, glycolic acid has been predominately produced by either the carbonylation of formaldehyde or with glycolonitrile as a starting material. Both processes leave residual traces of formaldehyde in the finished commercial product.

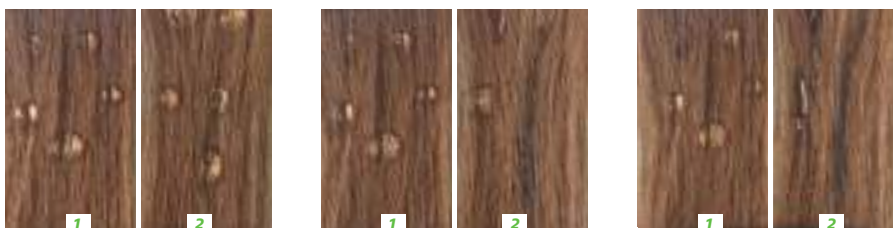
By contrast, CrossChem's GlyAcid® is produced using a proprietary acid saponification and purification process that does not use formaldehyde, while delivering a high-purity glycolic acid for today's personal care formulations.

### CROSSCHEM

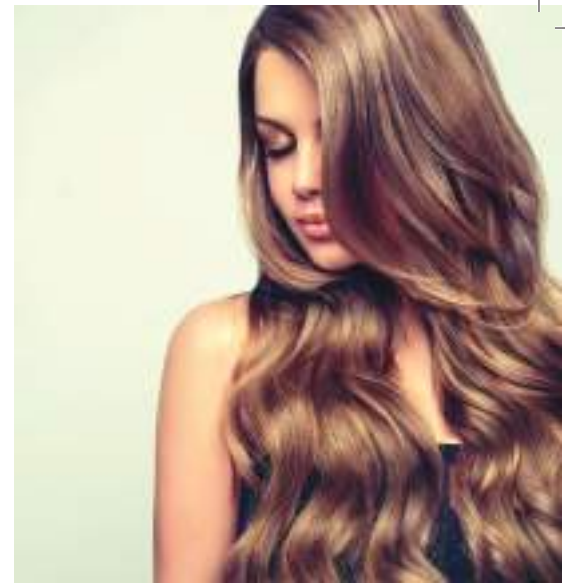
Product name	INCI	Appearance	Active matter
GlyAcid® 70 HP	Glycolic Acid	Clear liquid	≥ 70 % in water
GlyAcid® 99 HP		Powder	≥ 99 %

### GlyAcid®'s beneficial effect on hair

Did you know about GlyAcid®'s amazing haircare properties? Treating damaged hair with GlyAcid® leads to strengthening of the hair's keratin, as proven by its increased hydrophobicity. In the present example, bleached damaged hair tresses were treated with either citric acid or GlyAcid® solution (pH = 3.8). The tresses treated with GlyAcid® (once for 1 hour) absorbed water droplets much slower than the tresses treated with citric acid, indicating a smoother and more hydrophobic surface.



Time (min.) 0 ————— 10 ————— 30 —————>



### Benefits

- High-purity / formaldehyde-free
- Excellent exfoliating agent for skin care
- Outstanding hair care properties

### Recommended use concentration

Depending on formulation. For optimal effectiveness of GlyAcid®, we recommend working with a pH between 3.8 and 4.3.

### Applications



Facial care



Facial cleansing



Body care



Hair care

1: 7 % glycolic acid  
(10 % GlyAcid® 70 HP solution);  
pH 3.8

2: 7 % citric acid;  
pH 3.8



# Ecological alternative to microplastic

## BergaScrub 400

### Natural and economical peeling particles

Exfoliation is a natural process of the skin. Mechanical exfoliation in the form of peeling particles is one way to assist this process, for a healthy dermis.

BergaScrub is a natural, environment-friendly, and readily biodegradable alternative to polyethylene (PE) and polypropylene (PP) microplastic peeling beads. It is based on a GMO-free and renewable raw material. The cost-effectiveness of BergaScrub plus its numerous advantages makes it the ideal exfoliating product.

Product name	INCI	Appearance	Melting point	Particle size
BergaScrub 400	Hydrogenated Castor Oil	Free-flowing white particles	≥ 84 °C	300 – 500 µm

### Unique shape of BergaScrub 400

BergaScrub peeling particles exfoliate as well as or slightly better than the perfectly round PE beads and other beads based on hydrogenated oil (see pictures) commonly found on the market. At the same time, their unique structure shows no sharp edges like other natural alternatives such as sugar, kernel or shell pieces, giving painless exfoliation.



BergaScrub 400



Other alternative based on hydrogenated oils e.g. HCO

### Benefits

- Natural, renewable raw material, readily biodegradable
- Not irradiated
- High melting point
- Long-term abrasive performances
- Ideal density for easy suspension
- Gentle and effective exfoliation through special surface structure
- One-to-one replacement for microplastic peeling particles
- Can be easily added to the formulation in the last step of production

### Recommended use concentration

0.5 – 10 % depending on application and desired abrasive power.

### Applications



Facial care



Body care



Oral care

ECOCERT/COSMOS approved

# Natural alternatives to silicone

## BergaCare FG 5 / FG Olive



### Silky skin feeling and quick penetration

The texture of a product is extremely important for consumers because it influences their sense of wellbeing and attractiveness. More and more, the trend in the market is to natural silicone alternatives.

BergaCare FG 5 and BergaCare FG Olive are synergistic blends containing caring ester oils and unsaponifiable components from olives. This combination of ingredients contributes to a gentle skin feeling and penetrates quickly.

Product name	INCI	Properties
BergaCare FG 5	Ethylhexyl Palmitate (and) Ethylhexyl Stearate (and) Hydrogenated Olive Oil Unsaponifiables (and) Caprylic/Capric Triglyceride	Transparent, colourless, odourless liquid
BergaCare FG Olive*	Hydrogenated Ethylhexyl Olivatate (and) Hydrogenated Olive Oil Unsaponifiables	Transparent, colourless, odourless liquid, derived from olives

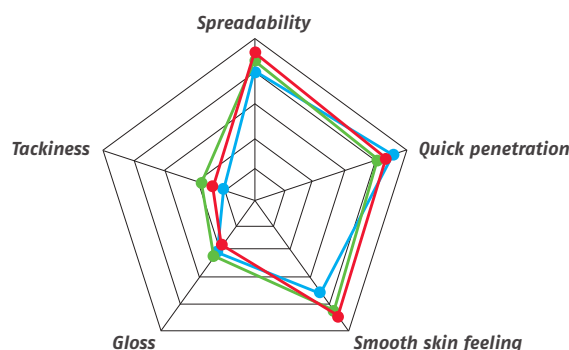
### Sensory profile of BergaCare FG 5 / FG Olive

BergaCare FG 5 / FG Olive are simple to use. They can be incorporated into the formulation even in a cold state and are compatible with practically all the usual cosmetic ingredients. This makes BergaCare FG 5 / FG Olive universally suitable for use in cosmetic products.

BergaCare FG 5 and BergaCare FG Olive have sensory attributes similar to those of cyclomethicone. They are ideal silicone-free emollients for luxury sensory with no compromise on texture.

### Sensory profile: BergaCare FG 5 / FG Olive versus cyclomethicone (panel test)

- BergaCare FG 5
- BergaCare FG Olive
- Cyclopentasiloxane



### Benefits

- Replacement for D4 and D5 silicones
- Biodegradable
- Smooth and silky skin feeling
- Penetrates quickly
- No additives or preservatives
- Supports skin regeneration and enhances its elasticity

### Recommended use concentration

1 – 20 % depending on the desired result in the formulation.

### Applications



Facial care



Body care



Sun care



Hair care



Makeup

\* COSMOS approved



# Purified phosphatidylcholine

## BergaSOM

### Phospholipids – natural all-rounders

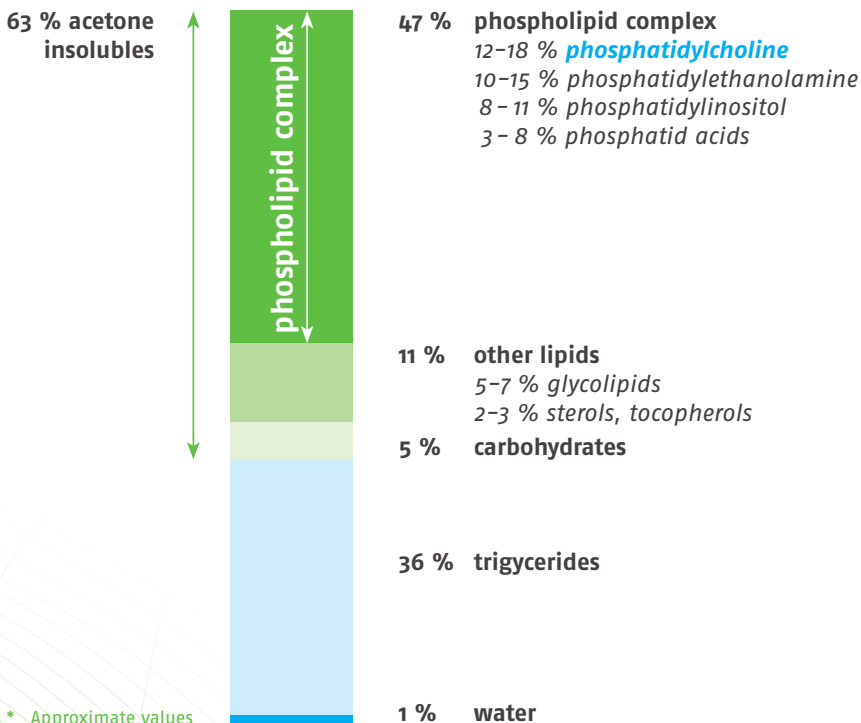
Phospholipids play an important role in almost all life forms, including humans, as they are essential for numerous metabolic processes. Lecithin, a complex mixture of different substance classes in varying composition (see illustration), is the main source of phospholipids.

Phosphatidylcholine (PC) is a valuable component of phospholipids derived from lecithin. As an important building block for biological membranes, it is involved in many biological processes and can achieve beneficial effects, especially on the skin. Depending on the type and grade of PC, this versatile ingredient can result in strengthening of the skin barrier, skin moisturisation, natural pore refinement, acne improvement, and stimulation of skin renewal. Furthermore, it enhances the skin penetration of active ingredients and improves skin feel and texture of your formulation.

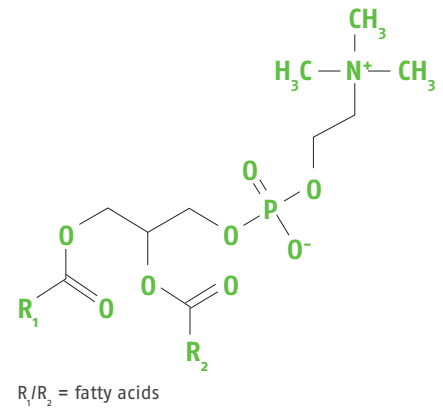
We are able to offer high-purity phosphatidylcholine fractions of different concentrations of lecithin. Our BergaSOM product range offers PC fractions derived not only from soy but also from sunflower. We offer both non-hydrogenated and hydrogenated PC fractions for a wide range of applications.

If you are not looking for fractionated lecithins, we also offer standardised and de-oiled lecithin: our BergaMuls Lecithin range (see p. 15).

### Composition of standard lecithins\*



### Typical chemical structure of phosphatidylcholine



### Recommended use concentration

0.5 – 3 % (BergaSOM or BergaSOM H)

### Applications



Facial care



Body care



Hair care



## BergaSoy Soy/Sun

INCI: Lecithin

Product name	Source	Appearance	Colour	Phosphatidylcholine (%)
BergaSoy Soy 50	Soy	Paste	Yellowish to brownish	≥ 50
BergaSoy Soy 75			Yellowish to brownish	≥ 73
BergaSoy Soy 90			yellowish	≥ 93
BergaSoy Sun 50	Sunflower*	Paste	Brownish	≥ 50
BergaSoy Sun 75			Brownish	≥ 70
BergaSoy Sun 90			Yellowish to brownish	≥ 90

### Benefits of BergaSoy Soy/Sun – phosphatidylcholine

- Enhances the skin penetration of active ingredients
- Donor of linoleic acid and choline – promotes the formation of ceramides and improves the complexion
- Improves skin feel and texture
- Sebum stabilising – noncomedogenic
- Hair conditioning
- Precursor for active delivery systems (Liposomes)

## BergaSoy Soy/Sun H

INCI: Hydrogenated Lecithin

Product name	Source	Appearance	Colour	Phosphatidylcholine (%)
BergaSoy Soy 75 H	Soy	Powder	White to yellowish	≥ 70
BergaSoy Soy 90 H				≥ 90
BergaSoy Sun 75 H	Sunflower*	Powder	White to yellowish	≥ 70
BergaSoy Sun 90 H				≥ 90

### Benefits of BergaSoy Soy/Sun H – hydrogenated phosphatidylcholine

- 2D lamellar structures precursor
- Restore skin barrier, stabilises TEWL
- Improves skin feel and texture
- Stable against oxidation
- Emulsion stabiliser, permits emulsifier-free claims

## BergaMuls Lecithin range

INCI: Lecithin

Product name	Source	Appearance	Colour	Phosphatidylcholine (%)
BergaMuls SL Soy IP	Standardised Soybean Lecithin	Viscous liquid	Brown	11 – 16
BergaMuls DL Soy	De-oiled Soybean Lecithin	Powder	Yellow	15 – 21
BergaMuls SL Sun	Standardised Sunflower Lecithin	Viscous liquid	Brown	12 – 18
BergaMuls DL Sun	De-oiled Sunflower Lecithin	Powder	Yellow	19 – 23

### Benefits of BergaMuls Lecithin range

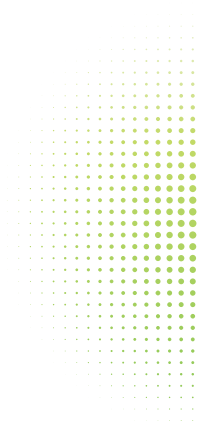
- Can be used as main and co-emulsifier

\* ECOCERT/COSMOS approved



# The modern emulsifier

## BergaMuls ET 1



### Vegetable fibre compound for emulsifying and thickening

Besides physical and chemical properties, modern emulsifiers must also meet other demands, like biodegradability, natural origin and environment-friendly manufacture, and should ideally not need to be declared as emulsifiers.

In view of all these requirements, Berg + Schmidt has developed a multifunctional vegetable solution. BergaMuls ET 1 is based on vegetable fibres that simultaneously emulsify, thicken and moisturise. It is easy to process, and is all-natural. It can be used in all formulations where you want to make an oil-in-water emulsion without the need of a co-emulsifier.

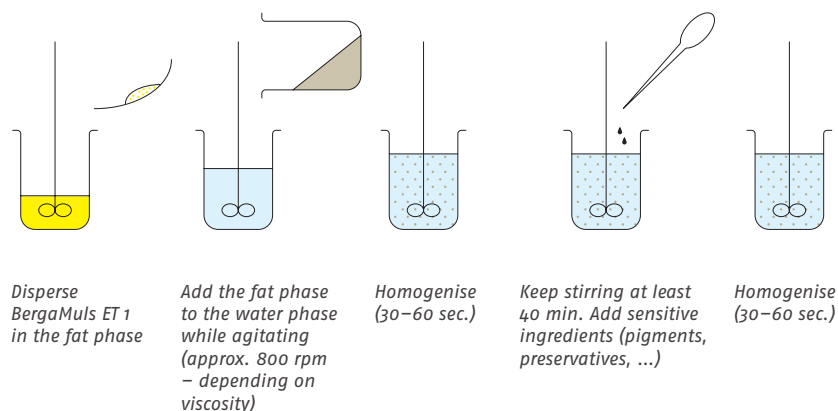
Product name	INCI	Components	Appearance
BergaMuls ET 1	Beta-Glucan (and) Pectin	Fruit and cereal fibres	Fine, ivory-coloured powder

### Benefits

- Emulsifying, thickening and moisturising in one product
- Can be used in cold, hot and hot/cold processes
- High resistance to shear forces
- Electrolyte-resistant
- Compatible with all oil polarities, broad pH range
- No destruction of the skin barrier unlike conventional emulsifiers
- Natural, renewable raw material

### Recommended usage procedure

To get the ideal droplet size and achieve a stable emulsion, Berg + Schmidt recommends the following procedure:



### Recommended use concentration

1.5 – 5 % (about 10% of oil phase)

### Applications

- Facial care
- Body care
- Hair care
- Sun care

ECOCERT/COSMOS approved



# Advanced delivery systems

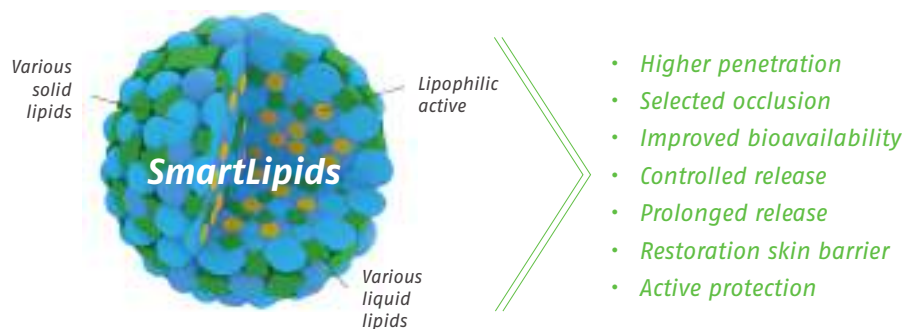
## BergaCare SmartLipids BergaBright SmartLipids



### Delivery system for liposoluble actives

SmartLipids are submicron particles consisting of a complex mix of solid and liquid fat compounds. They are carefully selected to give an imperfect crystal structure, so that lipophilic actives can be encapsulated and protected within them. Their melting point is higher than skin temperature, allowing a high level of protection of your sensitive actives and their targeted and sustained release. SmartLipids can support and restore the natural skin barrier, and enhance the penetration and bioavailability of your dermally active raw materials. Due to their small submicron size and lipophilic nature, they adhere well to the skin and ensure prolonged release of the encapsulated active.

BergaCare SmartLipids range include well-known anti-aging compounds with enhanced efficacy (retinol and coenzyme Q10) or various skin barrier building blocks (ceramides), while the BergaBright SmartLipids range consists of encapsulated natural whitening agents (glabridin and lemongrass oil). We are continuously enlarging our SmartLipids portfolio.



BergaCare SmartLipids / BergaBright SmartLipids adhere well to the skin due to their small submicron size, extending the release of the active, enhancing penetration through their occlusive effect, and helping restore the damaged skin barrier. The active is able to diffuse into the skin with the help of the concentration gradient as a driving force. After diffusing into the relevant skin layers, the active can deploy its full biological effect and is metabolised at the same time, thus maintaining the concentration gradient. In this manner, each submicron particle gradually 'empties' its active reservoir.

### Benefits

- High stabilisation of sensitive actives against degradation
- Controlled release of the active
- Restoration of the skin barrier by the carrier itself
- Controlled occlusion and reduction of TEWL
- Enhanced penetration and prolonged release of the protected active
- Simple addition to the finished dermal formulation

### Recommended use concentration

1 – 10 % depending on desired active concentration.

### Applications



Facial care



Body care



Tailormade dev.

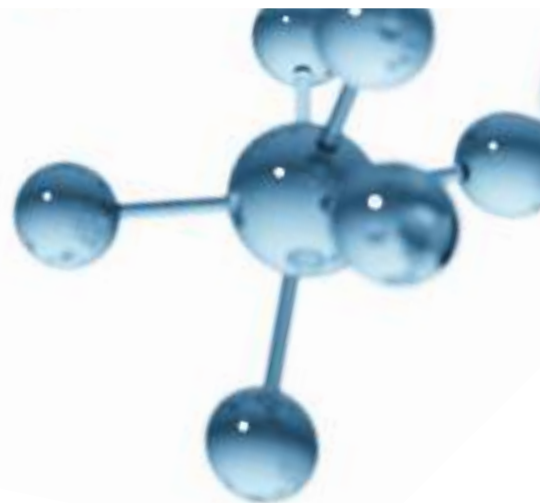
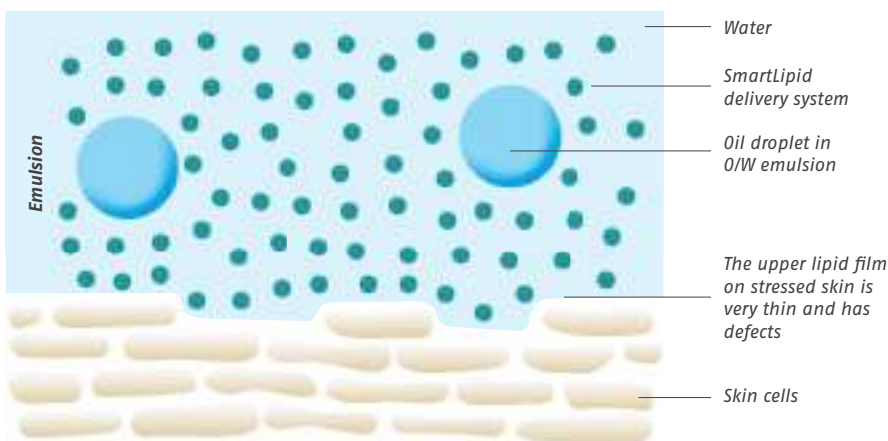
COSMOS approved

(Depending on the active)

# BergaBright SmartLipids

## Glabridin, Lemongrass Oil

The skin during application of an emulsion with BergaCare / BergaBrightSmartLipids



Functionality of BergaCare / BergaBright SmartLipids



### Whitening

**BergaBright SmartLipids Glabridin.** Glabridin is a powerful lightening agent obtained from the liquorice root. Its poor solubility, resulting in poor bioavailability, and its tremendous price make SmartLipids the ideal technology for meeting these challenges. Tape-strip experiments show better and deeper penetration of glabridin from SmartLipids than from a pure glabridin powder.

**BergaBright SmartLipids NatWhite (Lemongrass Oil).** Lemongrass oil is a natural essential oil with mild whitening properties. Incorporation into SmartLipids enhances this effect by increasing bioavailability and supporting the skin barrier.

### Recommended use concentration

1 - 10 % depending on desired active concentration.

Product name	Active ingredient	Appearance	Whitening
BergaBright SmartLipids Glabridin	Glabridin	Off-white to yellowish aqueous suspension	
BergaBright SmartLipids NatWhite	Lemongrass Oil		

### Applications



Facial care



Body care



Tailormade dev.

COSMOS approved

(Depending on the active)

# BergaCare SmartLipids

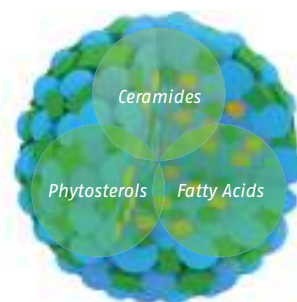
## Ceramide, Retinol, Q10



### Skin barrier restoring

**BergaCare SmartLipids Ceramide.** Ceramides are naturally occurring components of the skin's own barrier. Together with sterols and a multitude of different fatty acids, they are an indispensable part of the stratum corneum, protecting the skin against attacks from outside while keeping moisture inside. Our encapsulated SmartLipids version of these valuable natural components of the skin can therefore assist normalisation of a damaged skin barrier and strengthen the skin's ability to reduce TEWL by forming a "second skin". It may be especially helpful in cases of dry skin or skin with a weakened barrier.

### Components of BergaCare SmartLipids Ceramide



Product name	Active ingredient	Appearance	
BergaCare SmartLipids Ceramide	Ceramide NP, Ceramide AP, Sterols, Fatty Acids	White aqueous suspension	Skin barrier restoring

### Anti-aging

**BergaCare SmartLipids Q10.** Coenzyme Q10 is a well-known molecule naturally occurring in the skin, but its level decreases with age. By encapsulation with SmartLipids technology, Q10 is stabilised against degradation and exhibits improved bioavailability and penetration for effective anti-aging results.

**BergaCare SmartLipids Retinol.** Retinol is one of the most researched and effective anti-aging actives. However, it is chemically unstable and can furthermore cause strong irritation of the skin. When retinol is encapsulated in SmartLipids it is effectively protected against degradation; its penetration into the skin is enhanced while ensuring extended gradual release to reduce possible irritations.

### Recommended use concentration

1 - 10 % depending on desired active concentration.

Product name	Active ingredient	Appearance	
BergaCare SmartLipids Retinol	Retinol	Yellow aqueous suspension	Anti-aging
BergaCare SmartLipids Q10	Coenzyme Q10		

### Applications



Facial care



Body care



Tailormade dev.

COSMOS approved

(Depending on the active)

# Berg + Schmidt

## We create lipids

Berg + Schmidt is a member of the Stern-Wywiol Gruppe, an internationally successful enterprise of Food & Feed Ingredients. Berg + Schmidt is a long-established Hamburg company with more than 60 years' experience in the development, production and worldwide distribution of lipids.

We have a longstanding commitment to the key Southeast Asian markets. With our own subsidiaries in India, Malaysia and Singapore, and the continued expansion of our sales, production and distribution capacity in Asia, Europe and America, today we have the flexibility and capability to supply customers all over the world with exactly the solutions they need.

We are constantly expanding our portfolio. Please let us know how we can serve you!

[www.berg-schmidt.com](http://www.berg-schmidt.com)

*No liability is accepted for errors or changes.*

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