

Hair Care Booklet 2026

Your essential guide to understanding, caring,
and formulating for healthy hair.



Hair Care Matters

Because hair is more than just a feature – it's a statement. People care deeply about how their hair looks and feels, and healthy, well-nurtured hair is essential for confidence and personal style. Today's consumers expect more than cleansing; they demand performance. Products must deliver shine, strength, smoothness, volume, protection, and visible repair – all in one experience.

That's where we come in. With our expertise and agility, we empower brands to create innovative solutions that meet these expectations and set new standards in hair care.

Why We Care

Since 1955, we've been at home in both basic and specialty chemistry, channeling our expertise into functional personal care solutions. Many know us primarily from the skincare segment – yet our formulation competence quite literally extends right to the tips of the hair.

With this booklet, we aim to provide a reference guide that approaches hair care from the root up and explains everything you and your target audiences need to know about our ingredients.

Think Hair Care Along the Strand

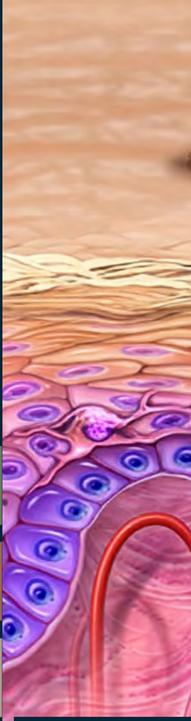
True care means addressing the hair's evolving structure – from the living root to the aging, negatively charged, and lipid-depleted tip.

Effective hair care begins with understanding its complexity – from the scalp to the tips, and across every type: fine or thick, straight, wavy, or curly, healthy, pigmented, or gray. Our BergaCare hair care range translates hair biology into targeted care that is measurable, sustainable, and beautiful. Instead of superficial "repair" claims, the focus is on functional restoration – physically substantiated, nature-inspired, and designed for lasting performance.

NEW BergaCare Re-Lite → page 14

NEW BergaCare C-Shine → page 20

NEW BergaCare Ceramide NG → page 25

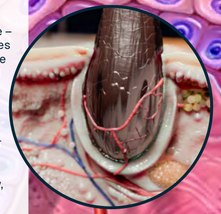


Root

Hair begins its journey deep beneath the skin in the follicle – a specialized sac embedded in the dermis. At its base lies the hair bulb, where matrix cells continuously synthesize keratin and melanin, the building blocks of strength and color. The dermal papilla provides vital nutrients and growth signals, while the inner and outer root sheaths guide fiber formation and initiate cuticle development.

As the fiber emerges, it develops into a fully formed hair shaft composed of three distinct layers. The outermost cuticle acts as a protective shield, the cortex forms the main body of the hair and delivers strength and elasticity, and the medulla occupies the core. Together, these structures create the complex architecture that defines hair's resilience, texture, and beauty.

→ **The hair root can benefit from BergaCare Re-Lite (page 14).**



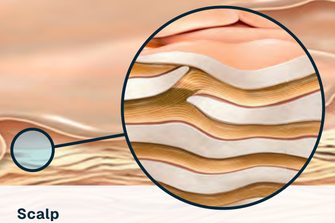
Scalp

The scalp is more than just the starting point for hair – it's a highly specialized environment. With 81,000 to 121,000 hair follicles, it protects against sunburn and mechanical stress while playing a key role in overall appearance and self-confidence.

Unlike other skin areas, the scalp features greater thickness, intense sebaceous activity, more sweat glands, unique microbiota, and exceptional follicular density. It is highly vascularized and innervated, ensuring rapid cell turnover.

Its outer layer, the stratum corneum, forms a brick-and-mortar structure of corneocytes within a lipid matrix of ceramides, cholesterol, and fatty acids. These lipids create lamellar bilayers essential for barrier integrity and moisture balance. Sebum coats both scalp and emerging hair, providing flexibility and a hydrophobic shield.

→ **Learn how to enhance scalp care with BergaCare Ceramide NG (page 25).**



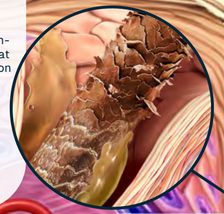
Cuticle

The cuticle is the outer protective layer of the hair and consists of five to ten overlapping layers of flat, keratinized cells, similar to the tiles of a roof. Each cuticle cell is approximately 1/2 µm thick and about 60 µm long. The outermost cuticle layer, the epicuticle, is highly cross-linked and coated with a natural monolayer of 18-methyleicosanoic acid (18-MEA). This lipid film ensures low friction, hydrophobicity, and the typical smooth surface responsible for shine and light reflection.

Mechanical or chemical stress – such as UV radiation, heat, bleaching, or perming – leads to the loss of this lipid layer which in turn increases negative surface charge that is more prone to static electricity and frizz, and decreased combability. The cuticle becomes lifted, cracked, and fragmented, and the hair appears dull and rough.

Beneath and between the cuticle cells lies the Cell Membrane Complex (CMC), a thin lipid-protein interphase that acts as the hair's intercellular "cement," ensuring adhesion between cells and controlling the diffusion of water, ions, and cosmetic ingredients through the fibre.

→ **See how to enhance smoothness & shine of the cuticle with BergaCare C-Shine (page 20), how to smoothen the cuticle with BergaCare Re-Lite (page 14), and how to replenish the hair CMC with BergaCare Ceramide NG (page 25).**





Cortex

Chemically, hair is composed mainly of keratin (65–95 %), a protein rich in cysteine, serine, and glutamic acid. Depending on humidity, it can absorb 30–45 % of its own weight in water. Beneath the cuticle lies the cortex, which accounts for up to 90 % of the hair's total mass and determines its mechanical strength, elasticity, and color. It consists of elongated spindle-shaped cortex cells filled with macrofibrils composed of intermediate filaments embedded in a surrounding matrix. According to Feughelman's two-phase model, the crystalline phase contains water-impenetrable filaments, while the amorphous phase holds water-absorptive matrix proteins.

The interaction between both phases governs flexibility, resilience, and moisture retention. Pigments (eumelanin and pheomelanin) define hair color. Oxidative processes increase the cysteic acid content, a marker of protein oxidation and structural damage. At the center lies the medulla (not shown), a loosely packed, partially hollow core that may be continuous, discontinuous, or absent depending on hair type. It plays only a minor role in mechanical and cosmetic properties but can influence light scattering and perceived color depth.

→ **See how to increase the cortex's resilience with BergaCare Re-Lite (page 14).**

Formulate acidic!

Scalp care

pH 4–5 active enzymes that support the barrier, reduce TEWL and activate antimicrobial defense.

Shampoos

For removing dirt and debris near the roots. **pH < 5.5** to minimize damaging effects on hair.

Conditioners, Treatments, and Leave-in Products

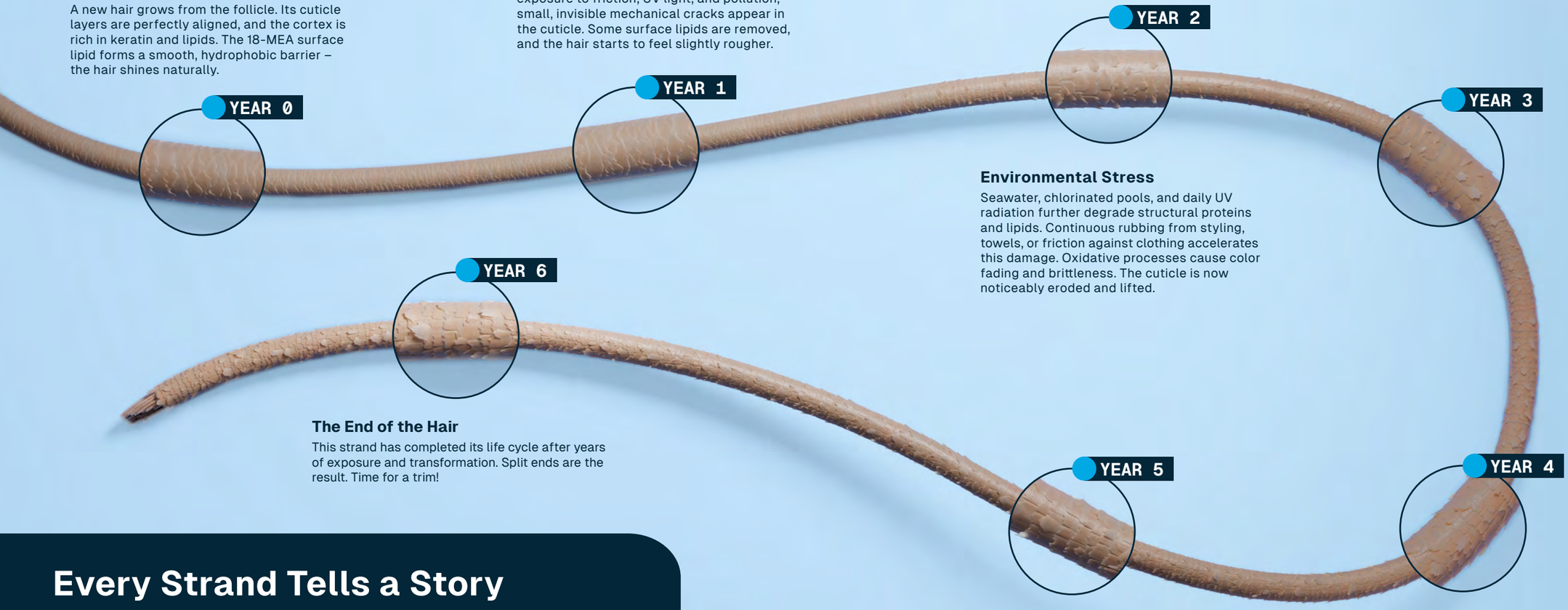
To provide care and softness to the lengths of the hair. **pH 3.5–5.0** matches the natural pH of the hair and is ideal to smooth and seal the cuticle.

The Beginning

A new hair grows from the follicle. Its cuticle layers are perfectly aligned, and the cortex is rich in keratin and lipids. The 18-MEA surface lipid forms a smooth, hydrophobic barrier – the hair shines naturally.

Everyday Life

After many washes, daily combing, and everyday exposure to friction, UV light, and pollution, small, invisible mechanical cracks appear in the cuticle. Some surface lipids are removed, and the hair starts to feel slightly rougher.



Environmental Stress

Seawater, chlorinated pools, and daily UV radiation further degrade structural proteins and lipids. Continuous rubbing from styling, towels, or friction against clothing accelerates this damage. Oxidative processes cause color fading and brittleness. The cuticle is now noticeably eroded and lifted.

Chemical Treatments

They transform hair – but at a cost. Bleaching disrupts the hair's natural defense by partially removing the 18-MEA lipid layer. This loss exposes the surface to negative charges, amplifying static electricity, frizz, and moisture sensitivity. Moreover, the fiber becomes more porous and increasingly susceptible to further chemical and mechanical stress. Perming takes the transformation deeper. By breaking and rearranging disulfide bonds within the cortex, it creates lasting curls and volume. Yet this structural shift reduces elasticity and resilience, leaving hair more fragile.

The End of the Hair

This strand has completed its life cycle after years of exposure and transformation. Split ends are the result. Time for a trim!

Styling and Heat

Regular blow-drying and straightening, especially when the hair is still wet, lead to explosion-like evaporation of water molecules from within the cortex. This leads to craters, bubbles, and blistering. Repeated heat stress leads to internal voids and reduced tensile strength. The cuticle is thinner and shows broken edges.

Signs of Aging

At this point, this single hair has already been washed around 750 times and has experienced mechanical stress from combing about 5,000 times. Cracks and damages extend deeply into the cortex. The cortex is exposed and fragmented – the fiber lacks shine, smoothness, and strength, and may be completely deprived of its cuticle.

Every Strand Tells a Story

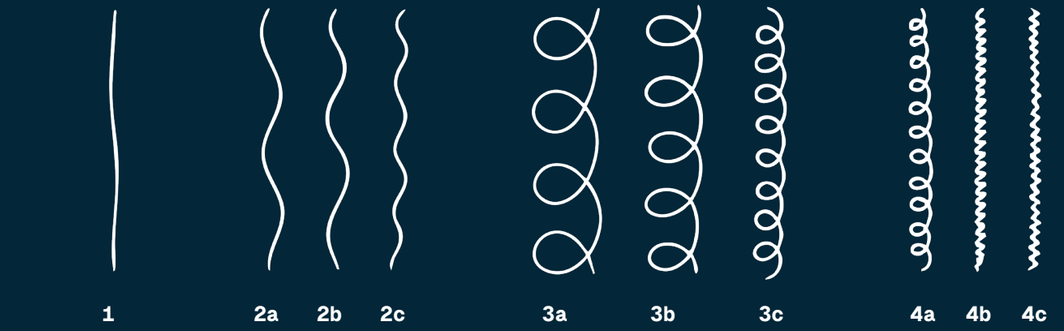
Every single hair fiber endures a lifetime of challenges. Hair grows about 1–1.5 cm per month, and the tips of long hair have endured years of exposure to sunlight, heat, brushing, coloring, and countless washes. With around 150 shampoos and 1,000 combings annually, plus friction, UV, and pollution, the fiber faces constant mechanical, chemical, and environmental stress.

Over time, protective lipids erode, tiny cracks form in the cuticle, and hair becomes rougher and more vulnerable. Even one of nature's strongest biomaterials shows the marks of its journey – proof that caring for hair means protecting its beauty from root to tip.



Why Hair Care Is Becoming More Individualized

Hair health and appearance are shaped by unique structural differences – such as shape, thickness, and porosity – and influenced by external factors like humidity, UV exposure, and pollution, as well as internal aging processes. Caucasian hair ranges from straight to curly, benefiting from lightweight care and frizz control. Asian hair is sleek and smooth, requiring solutions that maintain shine. Textured hair offers beautiful curves and volume, thriving on deep nourishment. These variations make it clear: one-size-fits-all solutions no longer work. Personalized care celebrates individuality and delivers real performance.





Intrinsic Hair Aging – a Natural Journey

Your hair tells the story of your life. From the soft, fine strands of childhood to the vibrant, pigmented fibers of adulthood, every stage reflects change. Over time, hair naturally becomes thinner, growth slows, and color fades – gray strands appear as melanin production declines. This process is unique to each individual, influenced by genetics and age.

Embracing these changes means choosing care that restores strength, shine, and vitality. Because beauty doesn't stop with time – it evolves.

Fun Fact: The "50-50-50 rule" applies: 50 % of the population has 50 % gray hair at the age of 50 (Keogh and Walsh, 1965).



Asian hair:
+ Straight to wavy hair
+ Cross-sectional area: round shape
+ Growth rate: 1.3 cm/month



Caucasian hair:
+ Straight to curly hair
+ Cross-sectional area: oval shape
+ Growth rate: 1.2 cm/month



Textured hair:
+ Curly to coiled hair
+ Cross-sectional area: elliptical shape
+ Growth rate: 0.9 cm/month

Trends

Skinification

The concept of Skinification is transforming hair care by applying well-established skin care principles to both the hair fiber and the scalp. Consumers increasingly expect hair products to deliver the same level of targeted efficacy, protection, and sensory refinement they know from premium facial care.

+ Formulations now incorporate familiar skin care actives such as ceramides, collagen, hyaluronic acid, and vitamins, bringing advanced hydration, barrier support and resilience to the hair.
+ Hair care is becoming holistic: Caring for the hair now inherently includes caring for the scalp as a living ecosystem that influences hair quality, comfort, and long-term health.
+ This shift enables more diverse product formats and textures, including lightweight hair serums, concentrated leave-on treatments and sophisticated scalp exfoliators, offering new ways to personalize routines and enhance performance.





Glass Hair

The trend of “glass hair” focuses on achieving a perfectly smooth, mirror-like finish that reflects light with exceptional clarity. This ultra-sleek look is created through a combination of care products such as shine shampoos, conditioners, rinse-off treatments, hair oils, serums, and dedicated shine sprays.

To elevate the effect, many routines integrate heat-protection products followed by straightening tools. The synergy of targeted care and controlled heat produces a polished surface, reduced frizz, and a high-gloss appearance that feels luxurious and modern.

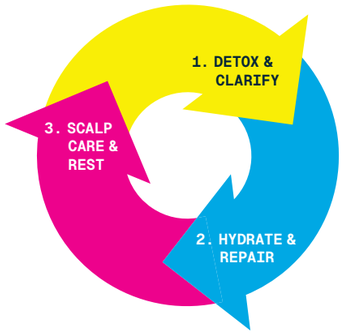
Hair Cycling

Hair Cycling, part of the Skinification trend, applies the concept of alternating treatments to hair and scalp. Instead of repeating the same routine, care is organized into a weekly schedule that adapts to changing needs. This approach prevents overuse of harsh ingredients, supports scalp balance, and improves texture, shine, and strength over time. It can be tailored to any hair type and easily adapted to personal lifestyle.

A typical cycle includes:

+ **Detox & Clarify** – remove buildup and create a clean base;
+ **Hydrate & Repair** – restore moisture* and reinforce weakened areas;
+ **Scalp Care & Rest** – rebalance and allow recovery. By rotating treatments, Hair Cycling delivers the right care at the right time – resulting in smoother, stronger, and healthier-looking hair.

* What does moisturization in the context of hair really mean?
See information on „moisture“ →





Myths vs. Science

Repair

Procedures like heat styling, bleaching, coloring, perming, or straightening irreversibly alter the hair fiber. They break disulfide bonds in keratin, remove parts of the protective 18-MEA lipid layer, and erode or lift the cuticle.

When a hair care product claims to “repair” damage, it often sounds as if broken chemical bonds inside the hair are truly restored and the fiber could return to its original, freshly grown state. In reality, this is not the case.

Except for a few highly specialized technologies that can temporarily rebuild certain bonds and that are not intended for everyday care, most “repair” claims refer to restoring physical or sensory properties, such as smoothness, strength, or shine. These formulations can fill gaps, seal the surface, or form flexible films that make the hair feel and look repaired, which is good! Yet, once the internal structure of the fiber is chemically damaged, the process is essentially irreversible. In short: Hair cannot truly be repaired, but it can be restored to look and feel healthy again.

Moisture

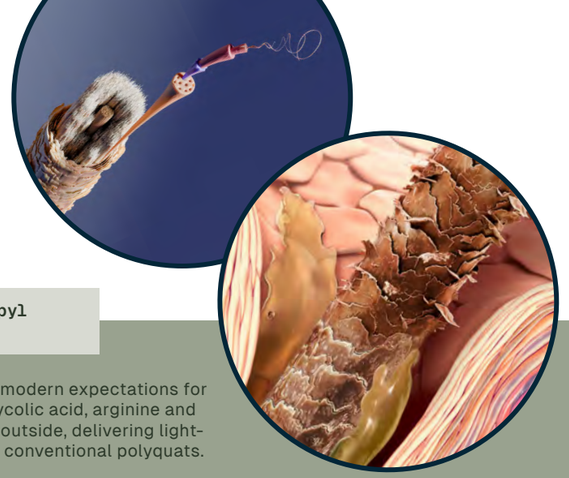
It’s a common belief that hair needs to be “moisturized” by increasing its internal water content. Wrong!

While this principle holds true for the skin, too much water inside the hair fiber actually weakens its structure. When hair absorbs excessive moisture, the fiber swells, the cuticle lifts, and mechanical strength decreases – making it more prone to frizz, damage, and breakage.

What we perceive as a “moisturized hair feel” is, in fact, achieved not by water, but by lipids. By coating the hair surface with natural oils, conditioning agents, or film-forming ingredients, these lipids restore smoothness, flexibility, and shine – without overhydrating the fiber.

BergaCare Re-Lite

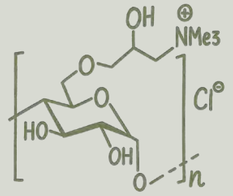
Protection and Conditioning From Inside and Outside the Hair



INCI: Aqua, Glycolic Acid, Arginine, Starch Hydroxypropyl Trimonium Chloride, Sodium Chloride

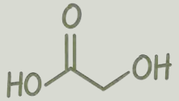
BergaCare Re-Lite is an advanced conditioning complex that meets modern expectations for high-performing yet lightweight hair care. Its synergistic blend of glycolic acid, arginine and a cationic biopolymer strengthens and protects hair both inside and outside, delivering lightweight conditioning without the buildup associated with silicones or conventional polyquats.

BergaCare Re-Lite perceivably and measurably improves combability, smoothness, foam quality and overall sensory performance. During application, it enhances foam richness and rinseability, making hair feel softer and easier to manage, while after use it leaves a naturally smooth, clean feel without heaviness, making it suitable for all hair types including thin hair. A modern, science-driven alternative for healthier, stronger and more beautiful hair.



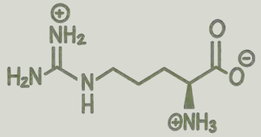
Starch Hydroxypropyl Trimonium Chloride

+ Forms a thin film on hair, especially if damaged and negatively charged
+ Makes it smoother & easier to comb
+ Improves the sensory touch of the hair
+ Lightweight conditioning without buildup effect like silicones



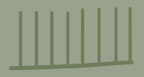
Glycolic Acid

+ Known to penetrate the hair due to its small size
+ Forms hydrogen bonds with keratin inside of the hair
+ Makes hair more resistant to heat
+ Low pH (3.8–4.3) of the formulation necessary



Arginine (at pH <12)

+ Can adhere to hair via ionic bonds
+ Forms complex with glycolic acid → can help it adhere to hair
+ Known benefits for scalp



The F-layer is on the surface of the cuticle and consists of 18-MEA (18-methyleicxosanoic acid).

(Alkaline) bleaching, coloring, perming



Damaged hair lacks F-layer → negatively charged. Here, cationic (positively charged) ingredients can easily adhere.

Clarity Cleanse Shampoo

Light Care Shampoo with BergaCare Re-Lite

A transparent shampoo that gently cleanses while protecting the hair. BergaCare Re-Lite reduces frizz, improves combability and supports a finer, softer foam. Ideal for fine hair and the first step in a Hair Cycling routine.

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	3.00
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	3.00
A1	BergaSoft CG 50	Coco Glucoside	Berg+Schmidt	2.50
	Rosemary Oil	Rosmarinus Officinalis Leaf Oil	Various	0.05
	BergaSoft LG 50	Lauryl Glucoside	Berg+Schmidt	10.0
A2	Demin. Water	Aqua	-	40.0
	Sodium Coco Sulfate	Sodium Coco Sulfate	Various	11.0
B	Citric Acid (25 % aq.)	Aqua, Citric Acid	-	q.s.
C	BergaCare Re-Lite	Aqua, Glycolic Acid, Arginine, Starch Hydroxypropyl Trimonium Chloride, Sodium Chloride	Berg+Schmidt	3.00
D	Sodium Chloride	Sodium Chloride	-	q.s

Manufacturing Procedure:

1. Weigh phase A into a beaker.
2. Heat the water from phase A2 to approx. 80 °C. Slowly add sodium coco sulfate under stirring and allow it to dissolve completely until the mixture becomes transparent.
3. Premix phase A1 thoroughly (including solubilizer for the fragrance; note that the essential oil is not directly interchangeable 1:1).
4. Add phase A2 to phase A1 and mix until uniform.
5. Add phase A to the A1/A2 blend while stirring.
6. Adjust pH to approx. 4–5.
7. Add phase C to the main batch under stirring.
8. Adjust the desired viscosity by slowly adding salt solution while stirring.

pH = 3.80
Viscosity (24 h, Brookfield, 20 rpm) = 1460 mPas
Appearance: Transparent to slighty hazy
Internal Ref.: RL- 01.16-0825
Stability: Stable for 3 months at 20 °C, 40 °C

Pearl Kirei Shampoo

Pearlescent Shampoo for Sleek and Shiny Hair

This formulation delivers sleek, shiny hair through a balanced blend of surfactants, supported by BergaCare CG 50 to add mildness. BergaCare Pearl 2 creates a microplastic-free shimmering effect in the formula, while BergaCare Re-Lite provides synergistic conditioning and BergaCare C-Shine 6000 boosts brilliance for a refined, polished finish.

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	2.00
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	3.00
A1	Sodium Laureth Sulfate (70 %)	Sodium Lauryl Ether Sulfate, Aqua	Interchimie	15.0
	BergaSoft CG 50	Coco Glucoside	Berg+Schmidt	5.00
	Cocoamidopropyl Betaine (30 %)	Aqua, Cocoamidopropyl Betaine	Interchimie	25.0
	BergaCare Pearl 2	Glycol Distearate	Berg+Schmidt	3.50
B	BergaCare Re-Lite	Aqua, Glycolic Acid, Arginine, Starch Hydroxypropyl Trimonium Chloride, Sodium Chloride	Berg+Schmidt	1.00
	BergaCare C-Shine Sun 6000	Oleic/Linoleic/Linolenic Polyglycerides	Berg+Schmidt	0.50
C	Rosemary Oil	Rosmarinus Officinalis Leaf Oil	Various	0.10
D	Citric Acid (25 % aq.)	Aqua, Citric Acid	-	q.s.
	Sodium Chloride	Sodium Chloride	-	q.s.

Manufacturing Procedure:

1. Weigh phase A into beaker.
2. Combine phase A1 ingredients except the pearl additive and heat to approx. 75 °C. Add the pearl component and mix until fully dissolved; the batch should turn transparent.
3. Add phase A slowly to phase A1 under gentle, continuous stirring. Continue mixing while cooling.
4. Below 45 °C, the product becomes white and opaque. Crystal structures will form and develop into a stable pearl effect within 24 hours.
5. Add phase C to phase A/A1 while stirring.
6. Add rosemary oil while stirring.
7. Adjust pH to 4.3.
8. Add salt if needed to adjust viscosity.

pH = 4.3
Viscosity (24 h, Brookfield, 20 rpm) = 11,500 mPas
Appearance: Shiny white
Internal Ref.: RL- 02.5-1025
Stability: Stable for 3 months at 20 °C, 40 °C



From Food to Beauty: Pasta, Beer & Hair Care Innovation

In food technology, precision is key. We use advanced analytical tools to ensure measurable results. Two examples are the Texture Analyzer and the Dynamic Foam Analyzer.

The Texture Analyzer measures the bite resistance of pasta or the elasticity of plant-based cheese. We apply the same principle to hair care: testing tensile strength of hair fibers and combing force of strands. This ensures our ingredients deliver not just care, but quantifiable performance.

With the Dynamic Foam Analyzer, we bring advanced foam analysis to hair care. Foam plays a vital role in many products – a fact we know from decades of food technology experience. For mousse, whipped cream, beer, or plant-based milks, stability and texture are key. Using the same principles, we measure how much foam a shampoo creates, how stable it remains, and how bubble structure evolves over time. For consumers, rich and lasting foam means quality – and we make sure it's backed by science.

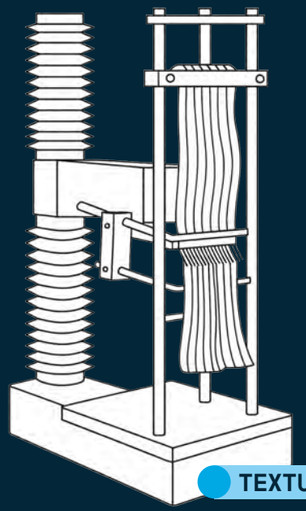


Synergies That Drive Innovation

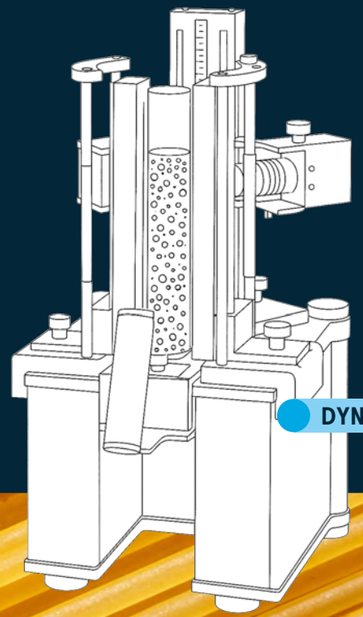
Cross-Industry Expertise for Hair Care

At Berg+Schmidt Solutions, beauty begins with science. As part of the Stern-Wywiol Gruppe – a global network of specialist companies founded in 1980 in Hamburg – we draw on decades of expertise across industries to create hair care ingredients that truly perform.

Today, the Stern-Wywiol Gruppe employs nearly 2,000 experts worldwide, all united by one mission: turning research into real results. A key driver is the Stern-Technology Center in Ahrensburg: 4,200 m² with 18 specialist labs, where experts in lipid technology, enzymes, emulsification, and cosmetics collaborate using state-of-the-art equipment.



TEXTURE ANALYZER



DYNAMIC FOAM ANALYZER

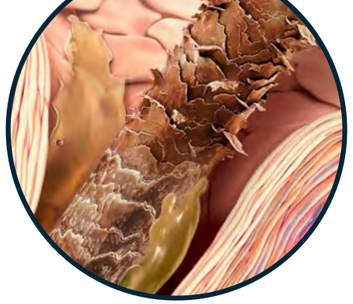
Why It Matters: Proven Innovation You Can Trust

Customers expect more than ingredients – they expect proof of efficacy. That's why every claim we make is backed by scientific evidence and complies with strict EU regulations on truthfulness and fairness. Our laboratories use advanced instruments to measure gloss, smoothness, combability, foam stability, and more.

When we say "improves combability" or "supports foam stability", these statements are validated and documented. Every test, every data point ensures our hair care solutions combine scientific rigor with sensory excellence – turning research into real results with integrity as well as innovation.

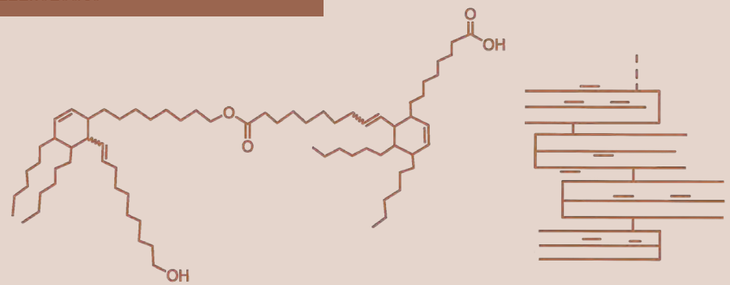
BergaCare C-Shine

It‘s All About Gloss



INCI: Oleic/Linoleic/Linolenic Polyglycerides or Dimer Dilinoleyl Dimer Dilinoleate

Hair gloss is a goal every consumer wants to achieve. We offer a range of film-forming ingredients with high refractive index that enhance hair gloss. Have a look – there is certainly one that meets your formulation need.



Product Name	INCI	Viscosity	Refractive index	Description
BergaCare C-Shine Sun 700	Oleic/ Linoleic/ Linolenic Polyglycerides	~700 mPas (40 °C)	1.4775	The natural sunflower-based film former for everyday shine and smoothness – balancing care, lightness and manageability. Available in three different grades for thin to thick hair.
BergaCare C-Shine Sun 6000		~6.000 mPas (40 °C)	1.4782	
BergaCare C-Shine Sun 13000		~13.000 mPas (40 °C)	1.4777	
BergaCare C-Shine 4D low	Dimer Dilinoleyl Dimer Dilinoleate	~11.000 mPas (25 °C)	1.4842	A naturally derived, high-performance ester that wraps the hair in shine, softness, and smooth control – from glassy finish to frizz-free definition. Available in two grades for lower or higher substantivity.
BergaCare C-Shine 4D high		200.000 mPa~s (25 °C)	1.4853	



Artificial hair has an even, mirror-like surface, so light follows a simple law: the angle of incidence equals the angle of reflection.

This means the light is reflected uniformly in one direction, rather than being scattered and refracted by overlapping cuticle cells as in natural hair. The hair may look even shinier, but the result is a flat, plastic-like gloss instead of the multidimensional luster of real hair.

Gloss Is Not Magic, It’s Ordered Physics!

If you compare naturally glossy hair with synthetic or plastic fibers, your brain will instantly recognize which one is real. But why is that?

The secret lies in the unique surface structure of human hair. Each cuticle cell overlaps the next at a slight angle (about 2–5°). When light hits the surface, part of it is reflected directly, while another portion enters the hair fiber and is reflected off the inner (back) surface of the cuticle.

This interaction of front and back surface reflections creates a characteristic light-and-dark pattern along the strand, resulting in a subtle play of alternating highlights and shadows.

In summary, this optical phenomenon is what gives natural hair its lively, multidimensional shine.

Did you know?

Light travels at different speeds in air, liquids, and solids – that’s why a straw in a glass of water appears bent due to refraction. This effect is caused by the different refractive indices of these materials. Shiny materials have particularly high refractive indices. For comparison:

+ Air: **1.0**
+ Hair: **1.55** – similar to **emeralds or quartz**
+ Diamonds: **2.42**

Treating hair with ingredients that have a high refractive index can enhance its ability to reflect light – and thus boost its natural gloss.

Curly Embrace Definition Conditioner

Conditioner for Wavy and Curly Hair

A richer formula designed to enhance definition and care for wavy and curly hair. It combines the modern conditioning complex BergaCare Re-Lite for a naturally smooth, healthy feel with BergaCare C-Shine 4D low for luxurious shine, complemented by nourishing argan oil and shea butter for supple, well-hydrated curls.

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	5.00
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	5.00
	BergaCare Re-Lite	Aqua, Glycolic Acid, Arginine, Starch Hydroxypropyl Trimonium Chloride, Sodium Chloride	Berg+Schmidt	3.00
	GreenGard™ PA3	Sodium Phytate, Aqua, Alcohol	GreenLine	0.10
B	Vegarol 1816	Cetearyl Alcohol	Berg+Schmidt	4.50
	Argan Oil	Argania Spinosa Kernel Oil	Henry Lamotte	2.00
	BergaCare SB	Butyrospermum Parkii (Shea) Butter	Berg+Schmidt	2.00
	VariSOFT EQ 65MB	Distearoylethyl Dimonium Chloride, Cetearyl Alcohol	Evonik	5.00
	BergaCare C-Shine 4D low	Dimer Dilinoleyl Dimer Dilinoleate	Berg+Schmidt	1.00
C	NaOH (25 % aq.)	Aqua, Sodium Hydroxide	-	Adjust pH

Manufacturing Procedure:

1. Weigh in all raw materials from phase A and and start stirring.
2. Weigh in phase B and heat both phases up to 70 °C.
3. When both phases have reached the required temperature and everything has dissolved, combine phases A and B and homogenize for one minute.
4. Switch to slow stirring at 100 rpm with a paddle stirrer and continue to stir during cooling down until the texture becomes fluffy. Do not stir for too long, otherwise the texture will become too thick.
5. Adjust the pH to 3.8–4.3.

pH = 3.90
Viscosity (24 h, Brookfield, 20 rpm) = 29,000 mPas
Appearance: White
Internal Ref.: SHN-01.21(22)-0825
Stability: Stable for 3 months at 20 °C, 40 °C

Liquid Silk Reflection Mask

Sprayable Hair Mask for a Silky Finish

This formulation is a lightweight, sprayable hair treatment that delivers a silky, smooth finish without heaviness or stickiness. Its delicate oil phase nourishes the hair with BergaCare FG S12, while BergaCare C-Shine Sun 13000 provides instant, radiant shine for a polished, healthy look.

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	5.00
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	5.00
B	Vegarol 1816	Cetearyl Alcohol	Berg+Schmidt	1.00
	Keltrol® CG-SFT	Xanthan Gum	CP Kelco	0.65
	BergaCare FG S12	Dodecane, Hydrogenated Olive Oil Unsaponifiables, Coco-Caprylate/Caprate	Berg+Schmidt	4.00
	BergaCare C-Shine Sun 13000	Oleic/Linoleic/Linolenic Polyglycerides	Berg+Schmidt	3.00
	GreenWax™ GSC POF	Glyceryl Stearate Citrate	GreenLine	2.50
C	Citric Acid (25 % aq.)	Aqua, Citric Acid	-	Adjust pH
D	Carry on	Parfum	Various	0.40

Manufacturing Procedure:

1. Weigh in all raw materials from phase A and start stirring.
2. Weigh in phase B and heat both phases up to 70 °C.
3. When both phases have reached the required temperature and everything has dissolved, combine phases A and B and homogenize for one minute.
4. Cool down to below 40 °C under stirring, adjust pH and add phase D.

pH = 5.1
Viscosity (24 h, Brookfield, 20 rpm) = 12,000 mPas
Appearance: White to off-white
Internal Ref.: SHN-02.1-1025
Stability: Stable for 3 months at 20 °C, 40 °C



Basic Conditioner

A Must-have in the Hair Care Routine

A minimalistic conditioner formula with a white, fluffy, and shiny texture. BergaCare C-Shine Sun 700 is formulated at 2 % to provide lightweight everyday shine. The formulation consists of over 99 % ingredients of natural origin.

Phase	Product	INCI	Supplier	% (w/w)
A	Demin. Water	Aqua	-	Up to 100
	Glycerin	Glycerin	Various	5.00
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	5.00
	Vegarol 1816	Cetearyl Alcohol	Berg+Schmidt	4.50
	VariSOFT EQ 65MB	Distearoylethyl Dimonium Chloride, Cetearyl Alcohol	Evonik	5.00
	BergaCare C-Shine Sun 700	Oleic/Linoleic/Linolenic Polyglycerides	Berg+Schmidt	2.00
B	NaOH (25 % aq.)	Aqua, Sodium Hydroxide	-	Adjust pH

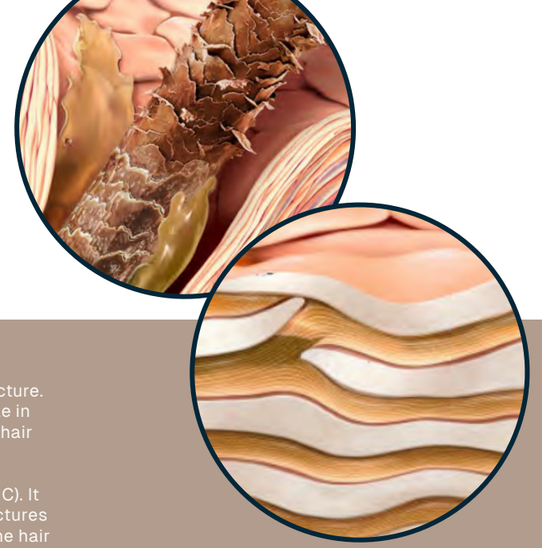
Manufacturing Procedure:

1. Weigh in all raw materials and start to heat up to 70 °C under stirring.
2. Ensure that everything is dissolved and the blend appears homogeneous.
3. When required temperature is reached, ensure that everything is dissolved and homogenize for one minute.
4. Switch to slow stirring at 100 rpm with a paddle stirrer and continue to stir during cooling down until the texture becomes fluffy. Do not stir for too long, otherwise the texture will become too thick.
5. Adjust the pH.

pH = 4.7
Viscosity (24 h, Brookfield, 20 rpm) = 32,200 mPas
Appearance: White
Internal Ref.: SHN-01.18(-20)-0825
Stability: Stable for 3 months at 20 °C, 40 °C

BergaCare Ceramide NG

Introducing the Hair Cell Membrane Complex (CMC)



INCI: Ceramide NG

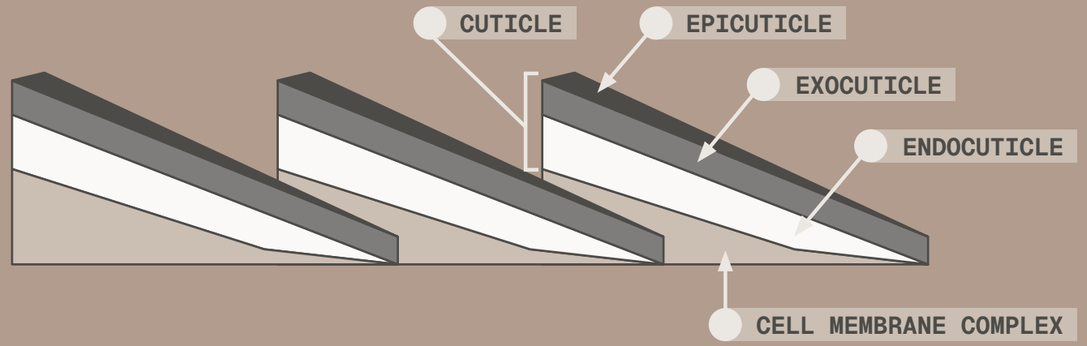
Healthy hair and scalp need the right lipids to protect their natural architecture. Just like our skin, hair contains a delicate lipid matrix that plays a key role in keeping the fiber strong, cohesive, and flexible. Depending on ethnicity, hair lipid content varies from 2 to 6 %.

This intercellular lipid network is called the Cell Membrane Complex (CMC). It surrounds and binds the cuticle and cortex cells, much like the lipid structures that seal the cells of the skin's stratum corneum. One essential part of the hair lipids is ceramides.

Scientific studies have shown that phytosphingosine-based ceramides are naturally present in the hair's CMC. Ceramide NG (N-(2-hydroxyethyl)-phytosphingosine) is a hair-mimetic ceramide, structurally close to these native molecules.

When used in hair care, Ceramide NG replenishes and strengthens the hair's CMC, restoring lipid cohesion for smoother, more resilient hair. Its biomimetic structure also reinforces the scalp barrier, helping to protect and soothe sensitive skin prone to dryness or irritation.





Scalp & Barrier Harmony Serum

A Serum for the Scalp and Young Emerging Hair Fibers

The formulation is a serum designed for the scalp and young emerging hair fibers, enriched with BergaCare Ceramide NG – a hair-mimetic ceramide that supports the cuticle's cell membrane complex while reinforcing the scalp's barrier function. Fast-absorbing emollients such as BergaCare EM-LC, BergaCare EM-14 and jojoba oil provide smooth, effortless spreadability and gentle nourishment. Ideal for step 3 of the Hair Cycling routine.

Phase	Product	INCI	Supplier	% (w/w)
	Demin. Water	Aqua	-	Up to 100
A	Glycerin	Glycerin	Berg+Schmidt	5.00
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	5.00
	Keltrol® CG-SFT	Xanthan Gum	CP Kelco	0.30
	BergaMuls ET1	Beta-Glucan, Pectin	Berg+Schmidt	2.00
	GreenWax™ GSC POF	Glyceryl Stearate Citrate	GreenLine	2.00
	BergaCare Ceramide NG	Ceramide NG	Berg+Schmidt	0.10
B	BergaCare EM-LC	Coco-Caprylate/Caprate	Berg+Schmidt	4.00
	BergaCare EM-CP	Cetyl Palmitate	Berg+Schmidt	1.00
	Cosphaderm® T-70 NON GMO ECO	Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	Cosphatec	0.10
	BergaCare EM-14	Isopropyl Myristate	Berg+Schmidt	3.00
	Jojoba Oil	Simmondsia Chinensis Seed Oil	Henry Lamotte	3.00
C	Citric Acid (25 % aq.)	Aqua, Citric Acid	-	Adjust pH

Manufacturing Procedure:

1. Weigh in all raw materials from phase A and start stirring.
2. Weigh in phase B and heat both phases up to 75 °C.
3. When both phases have reached the required temperature and everything has dissolved, combine phases A and B and homogenize for one minute.
4. Cool down to below 40 °C under stirring, adjust pH.

pH = 5.2
Viscosity (24 h, Brookfield, 20 rpm) = 8820 mPas
Appearance: Off-white to beige
Internal Ref.: CNG 3.10-09.25

Deep Restore Ceramide Mask

Intensive Restoration for Resilient Hair and Scalp

This mask delivers premium, deeply nourishing care that targets both the cuticle and the scalp, building resilience against external stressors while restoring softness, strength, and overall smoothness. Ceramide NG and hydrogenated lecithin work together to protect the hair fiber and to improve barrier integrity.

Phase	Product	INCI	Supplier	% (w/w)
	Demin. Water	Aqua	-	Up to 100
A	Glycerin	Glycerin	Berg+Schmidt	5.00
	BergaSom Sun 75H	Hydrogenated Lecithin	Berg+Schmidt	1.50
	Cosphaderm® Pentiol Natural	Pentylene Glycol	Cosphatec	5.00
	Keltrol® CG-SFT	Xanthan Gum	CP Kelco	0.20
	BergaBest GS SE	Glyceryl Stearate SE	Berg+Schmidt	3.50
	BergaCare Ceramide NG	Ceramide NG	Berg+Schmidt	0.10
	BergaCare EM-LC	Coco-Caprylate/Caprate	Berg+Schmidt	4.00
B	Vegarol 1816	Cetearyl Alcohol	Berg+Schmidt	1.00
	Compritol 888 CG	Glyceryl Behenate	Gattefossé	1.00
	Cosphaderm® T-70 NON GMO ECO	Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	Cosphatec	0.10
	BergaCare EM-14	Isopropyl Myristate	Berg+Schmidt	3.00
	Palmac 750	Oleic Acid	Berg+Schmidt	1.50
C	Citric Acid (25 % aq.)	Aqua, Citric Acid	-	Adjust pH

Manufacturing Procedure:

1. Weigh in all raw materials from phase A and start stirring.
2. Weigh in phase B and heat both phases up to 75 °C.
3. When both phases have reached the required temperature and everything has dissolved, combine phases A and B and homogenize for one minute.
4. Cool down to below 40 °C under stirring, adjust pH.

pH = 5.0
Viscosity (24 h, Brookfield, 20 rpm) = 27,000 mPas
Appearance: Beige to deep beige
Internal Ref.: CNG 3.11-09.25
Stability: Stable for 3 months at 20 °C, 40 °C

Overview of All Ingredients Suitable for Hair Care

Product Name	INCI	Function(s)	Applications				
			Shampoo	Conditioner	Hair mask	Scalp treatment	Hair oil
BergaCare Re-Lite	Aqua, Glycolic Acid, Arginine, Starch Hydroxypropyl Trimonium Chloride, Sodium Chloride	Light conditioning, strengthening, protection, anti-frizz, heat resistance, foam-boosting					
BergaCare C-Shine Sun 700/6000/13000	Oleic/Linoleic/Linolenic Polyglycerides	Film-forming, gloss, smoothness		1-3 %	1-3 %	1-3 %	1-3 %
BergaCare C-Shine 4D low/high	Dimer Dilinoleyl Dimer Dilinoleate	Film-forming, gloss, smoothness		1-3 %	1-3 %	1-3 %	1-3 %
BergaCare Ceramide NG	Ceramide NG	Lipid enhancer, barrier reinforcement		0.1 %	0.1 %	0.1 %	
GlyAcid®70 HP	Glycolic Acid	Active ingredient, smoothing, conditioning agent	1-12 %	1-12 %	1-12 %	1-12 %	
BergaCare FG S12	Dodecane, Hydrogenated Olive Oil Unsaponifiables, Coco-Caprylate/Caprate	Light emollient	0.5-2 %	1-35 %	1-35 %	1-35 %	1-35 %
BergaCare FG Olive	Hydrogenated Ethylhexyl Olivate Hydrogenated Olive Oil Unsaponifiables	Light emollient	0.5-2 %	1-35 %	1-35 %	1-35 %	1-35 %
BergaSoft SCI 80	Sodium Cocoyl Isethionate	Mild surfactant	1-60 %				
BergaCare Pearl 2	Glycol Distearate	Opacifying agent, pearlizing agent	1-5 %				
BergaSoft + DG 50 + CG 50 + LG 50 + CCG 70/70L	 + Decyl Glucoside + Coco Glucoside + Lauryl Glucoside + Caprylyl/Capryl Glucoside	Mild surfactant	1-20 %				
BergaSom Sun 75H	Hydrogenated Lecithin	Texture enhancer, emulsifier		1.5-3.5 %	1.5-3.5 %	1.5-3.5 %	
GreenGard LB	Arginine Levulinate, Arginine Benzoate, Water	Antimicrobial	2-3 %	2-3 %	2-3 %	2-3 %	
GreenWax™ LUX MB	Glyceryl Laurate, Glyceryl Oleate, Polyglyceryl-6 Stearate, Sodium Stearoyl Lactylate	Emulsifier		3-4 %	3-4 %	3-4 %	
GreenGard™ PA3	Sodium Phytate, Aqua, Alcohol	Chelating agent	0.1-0.3 %	0.1-0.3 %	0.1-0.3 %	0.1-0.3 %	
BergaBest GS SE	Glyceryl Stearate SE	Emulsifier		3-4 %	3-4 %	3-4 %	
Vegarol 1816	Cetearyl Alcohol	Thickener, conditioning agent, moisture retention		1-5 %	1-5 %	1-5 %	
BergaCare SB/SB S	Butyrospermum Parkii (Shea) Butter	Softening agent		1-3 %	1-3 %	1-3 %	

Love is in the hair.

Disclaimer:

All information, technical advice, and all guideline formulations shown are intended for information purposes only and are based on our best knowledge. Berg+Schmidt customers should not use these suggestions as a substitute for testing the suitability of the products for the intended use. The user of the products is solely responsible for compliance with all laws and regulations relating to the use of the products, including intellectual property rights and third-party rights.

Berg+Schmidt
Care Ingredients

Our knowledge. Your formulations.

Follow us on

STERNWYWIOL Gruppe