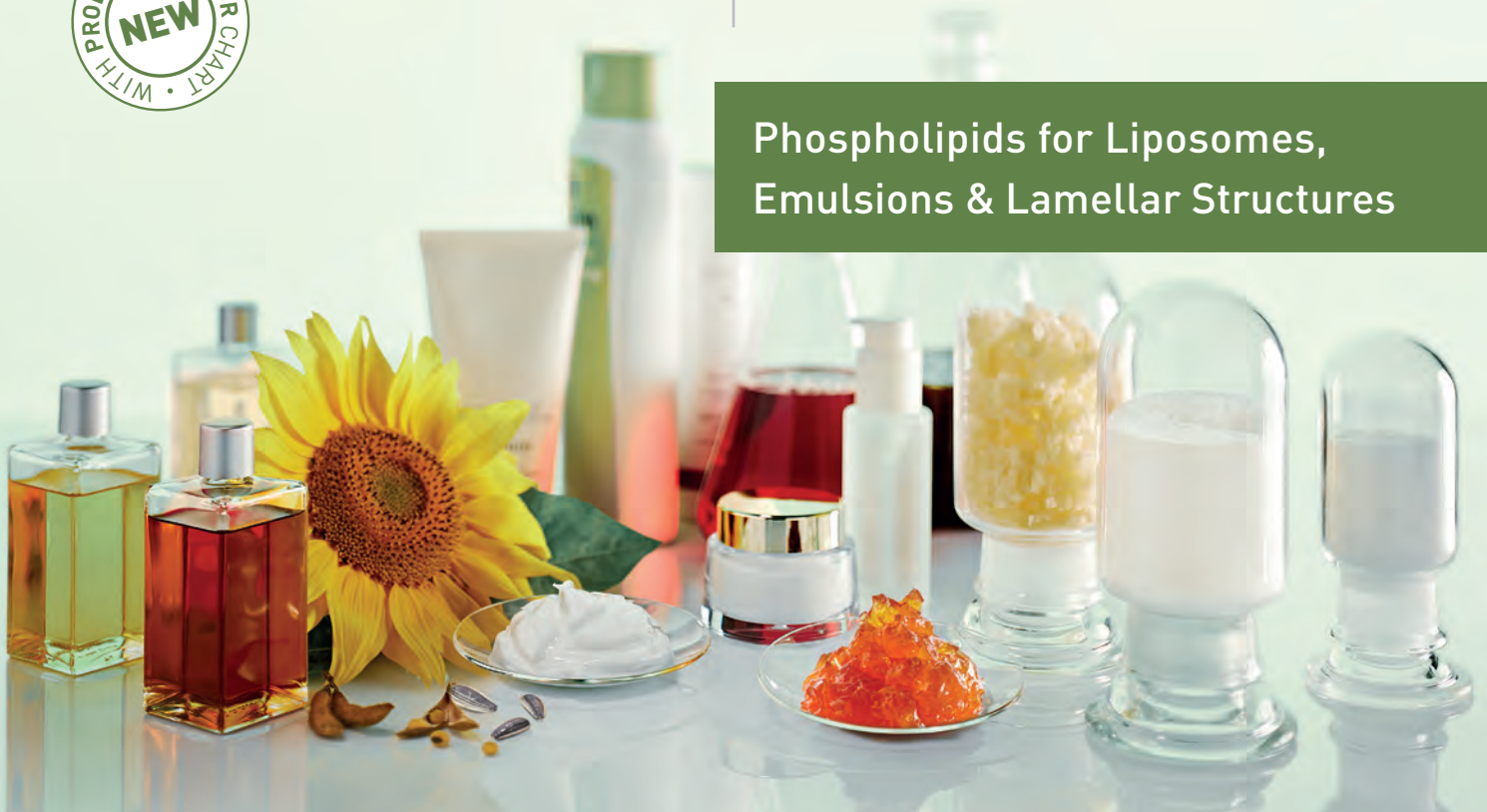


PRODUCT CATALOG



Phospholipids for Liposomes,
Emulsions & Lamellar Structures



We make beauty natural.



03

About Lipoid Kosmetik

Expertise

Lipoid Kosmetik is a leading manufacturer of natural ingredients for the cosmetic and personal care industry. High-quality botanical actives and extracts (Lipoid Kosmetik AG, Switzerland) as well as high quality natural lecithins and phospholipids (Lipoid GmbH, Germany) are part of our sophisticated portfolio.

As a pioneer in both fields, Lipoid Kosmetik has gained an outstanding reputation in the global cosmetic industry over a period of 45 years. This long-standing expertise, in combination with the exceptional quality of our portfolio, enables our customers to develop innovative, functional, and natural cosmetic products meeting the highest standards.

Research & Development

At its two R&D facilities, one in Germany and the other in Switzerland, Lipoid Kosmetik develops innovative products and customized solutions in close cooperation with our customers.

Quality

Our quality-management system meets the highest standards set by the regulatory authorities and the cosmetic industry. All manufacturing sites for our phospholipid portfolio are GMP and ISO 9001 certified.

Our Ludwigshafen facility has also passed inspection by the US FDA.

Regulatory

We assure the compliance of our products with national and international regulations and provide superior regulatory support to our customers.

Sustainability

Lipoid is committed to the principles of sustainability and environmental protection.

Because they are produced from renewable raw materials in processes characterized by minimal usage of auxiliary materials, our products display significantly enhanced sustainability. The by-products of the production processes are valuable raw materials in other markets and the auxiliary materials used are mostly recycled. Waste can therefore be entirely avoided or reduced to a minimum in most processes.

Facing page: More and more people understand the need for natural products made from renewable raw materials.



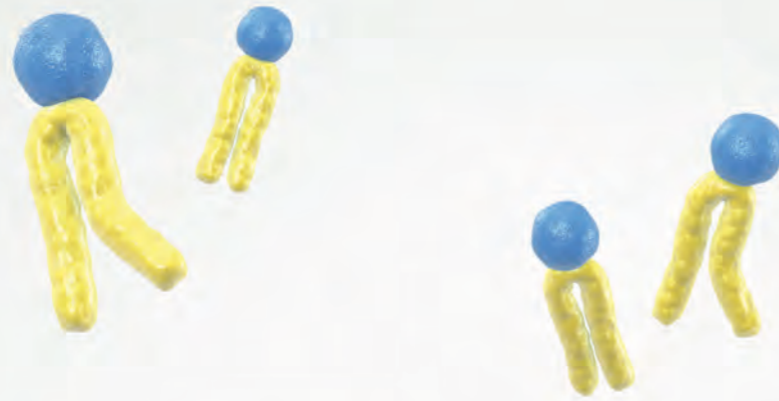
We offer a wide range of lecithins and phospholipids based on sunflower



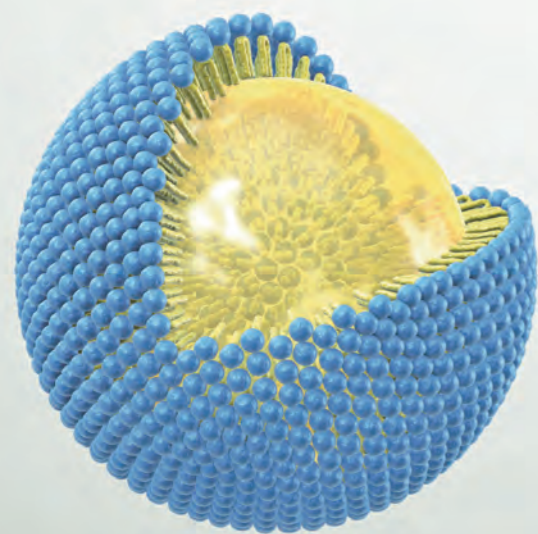
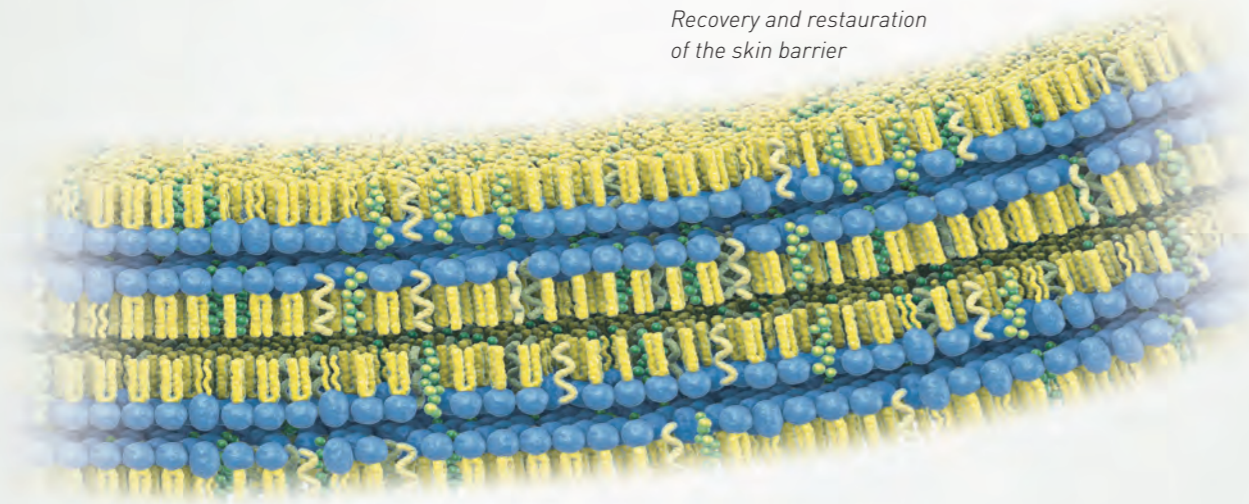
Soybean (also non-GMO) is one of our most processed raw materials

Phospholipids:

The molecules with a hydrophilic head and a lipophilic tail are essential parts of our cell membranes and are the main functional components of our formulations

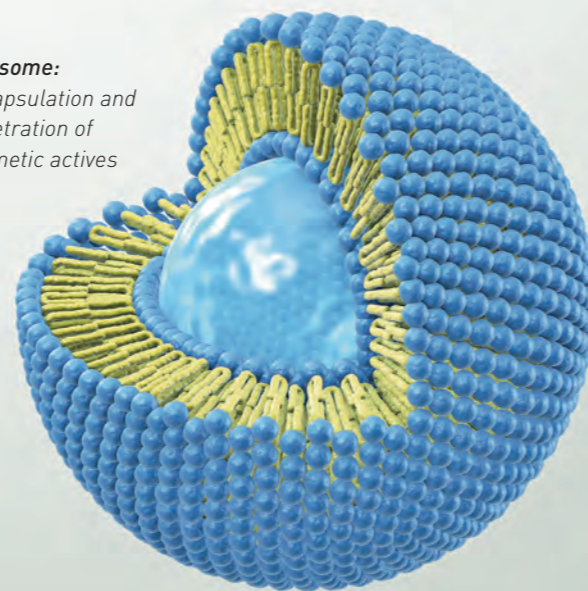


Lamellar structure in SLM:
Recovery and restoration of the skin barrier



Emulsion oil droplet:
Powerful emulsifier with unique skin feel

Liposome:
Encapsulation and penetration of cosmetic actives



05

Facing page: Schematic diagram of phospholipids, a lamellar structure, an emulsion droplet, and a liposome.



R & D at Ludwigshafen/Germany



Production facility at Ludwigshafen/Germany

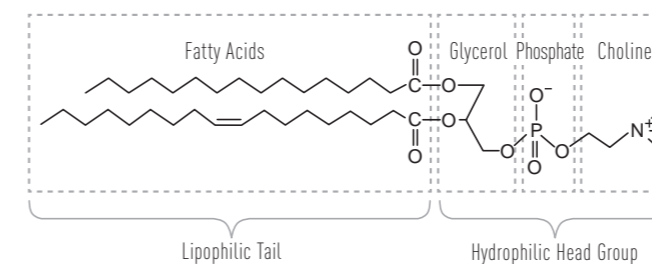


Fig. 1: Molecular structure of phosphatidylcholine, a typical phospholipid

Natural Phospholipids

Phospholipids in Cosmetics

Phospholipids are versatile raw materials that will add technical as well as physiological benefits to your formulations. Phospholipids can be used in a broad variety of product lines, such as leave-on, rinse-off, sun care, or color cosmetics products.

Tolerability

Phospholipids number among the body's own building blocks and are an essential part of our cell membranes. Therefore, they are highly biocompatible, completely biodegradable, and irritation-free, making them exceptionally suitable for sophisticated, high-end skin care products. Many of our phospholipids are based on non-GMO soy or on sunflower, making them suitable for COSMOS approved formulations. In general, because of their naturalness and excellent tolerability, phospholipids are widely used in products for sensitive or damaged skin, baby care, and dermato-cosmetics.

Applications

Based on their amphiphilic character and their ability to interact with human skin, phospholipids can serve as actives for skin protection and skin rejuvenation, delivery systems for cosmetic active ingredients, and as emulsifier systems with perfect skin feel. They can form colloidal systems like liposomes or micelles, or even form lamellar structures mimicking the skin's natural lipid layer.

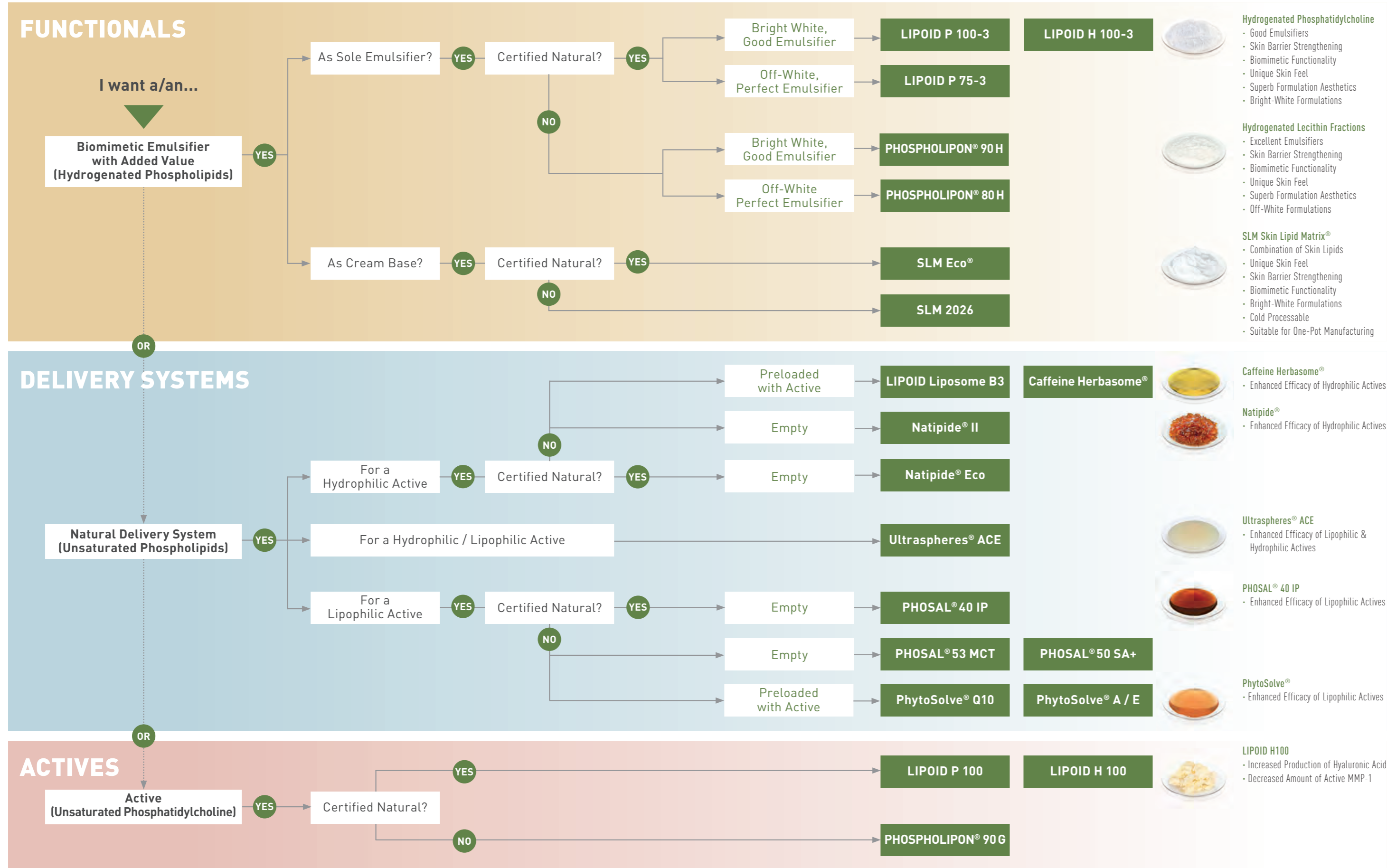
Our experienced application engineers are continuously investigating the usability of our phospholipids in various cosmetic applications. We are regularly developing new frame formulations and innovative concepts, in order to offer the best technical support to our customers and partners.

Our products are easy to handle and to formulate with standard laboratory or production equipment, they are freely combinable with other cosmetic raw materials such as oils, thickeners, emollients, preservatives, actives, etc.

Scientific Standards: State-of-the-Art Studies

To investigate the capabilities of our products, we collaborate with leading institutes to generate *in vitro* as well as *in vivo* data.

Which Product is the Perfect Fit?



08

Cosmetic Application of Phospholipids

Phospholipids as Functionals

Emulsifiers
Hydrogenated phospholipids are excellent emulsifiers, especially for o/w emulsions.

Skin Texture Modifiers
Hydrogenated phospholipids leave the skin with an extremely pleasant and smooth feeling.

Phospholipids as Delivery Systems

Loaded Carriers for Cosmetic Actives
Encapsulation of cosmetic ingredients with phospholipids (liposomal or as nanoemulsion) allows to achieve a more efficient and controlled transport of cosmetic active substances into the skin. For hydrophilic actives, we recommend our liposome range; for lipophilic actives, use our PhytoSolve® technology.

Empty Carriers for Cosmetic Actives
Phospholipids interact with the surface of the stratum corneum and thus can support the penetration of active ingredients into the skin. For hydrophilic actives, we recommend our Natipide® products; for lipophilic actives, use our PHOSAL® range.

Phospholipids as Actives

Skin Repair & Protection
Hydrogenated phospholipids help to repair and restore our skin's natural protective barrier. They mimic the lamellar structure of the extracellular matrix and form a protective layer, preventing water loss from the skin.

Skin Rejuvenation
Unsaturated phospholipids are key molecules involved in the process of skin formation and skin renewal. As cosmetic active ingredients, they can significantly counteract the visible signs of skin aging on a cellular level.



Multifunctionality is the Key

Based on their amphiphilic character and their ability to interact with human skin, phospholipids can serve as actives for skin protection and skin rejuvenation, delivery systems for cosmetic active ingredients, and as emulsifier systems with perfect skin feel. They can form colloidal systems like liposomes or micelles, or even form lamellar structures mimicking the skin's natural lipid layer.

Unsaturated phospholipids:

- Are excellent penetration enhancers
- Function as actives for skin rejuvenation

Hydrogenated phospholipids:

- Are powerful emulsifiers with superior skin feel
- Will restore the skin lipid barrier and protect the skin from water loss on the one hand, and environmental stress on the other hand

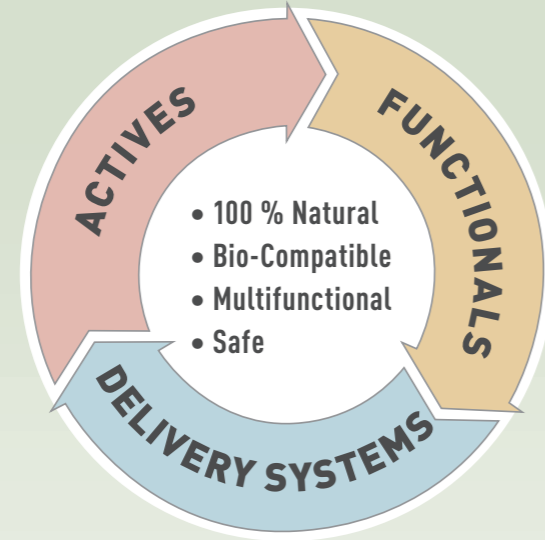
INCI Nomenclature

Our products are produced from the natural, plant-based raw material lecithin, which is still reflected in the INCI nomenclature (see below).

We fractionate the lecithin and purify the phospholipids contained therein. The phospholipids are obtained in fractions of ascending phosphatidylcholine content. Therefore, we prefer using the term "phospholipids" or, for the highest purity, "phosphatidylcholine", for our products.

Depending on the content of phosphatidylcholine, LIPOID and PHOSPHOLIPON® products comply with the following INCI names:

| INCI NAME | TYPE OF PHOSPHOLIPID |
|----------------------------------|---|
| LECITHIN | Lecithin Fractions with < 80 % Phosphatidylcholine |
| HYDROGENATED LECITHIN | Hydrogenated Lecithin Fractions with < 80 % Phosphatidylcholine |
| PHOSPHATIDYLCHOLINE | Lecithin Fractions with ≥ 80 % Phosphatidylcholine |
| HYDROGENATED PHOSPHATIDYLCHOLINE | Hydrogenated Lecithin Fractions with ≥ 80 % Phosphatidylcholine |



Lecithin Fractions & Phospholipids

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|---------------------|--------------------|---|--|--|
| SOYBEAN | LIPOID S 45 | Lecithin, Tocopherol | Soybean lecithin fraction with 45 % phosphatidylcholine | • China INCI compliant |
| | LIPOID S 75 | Lecithin, Tocopherol | Soybean lecithin fraction with 70 % phosphatidylcholine | • China INCI compliant |
| | PHOSPHOLIPON® 90 G | Phosphatidylcholine, Ascorbyl Palmitate, Tocopherol | Soybean phosphatidylcholine (≥ 94 %) | • China INCI compliant |
| NON-GMO SOYBEAN | LIPOID P 45 | Lecithin, Tocopherol | Soybean lecithin fraction with 45 % phosphatidylcholine from non-genetically modified plants | • COSMOS-approved raw material • China INCI compliant |
| | LIPOID P 75 | Lecithin, Tocopherol | Soybean lecithin fraction with 70 % phosphatidylcholine from non-genetically modified plants | • COSMOS-approved raw material • China INCI compliant |
| | LIPOID P 100 | Phosphatidylcholine, Tocopherol | Soybean phosphatidylcholine from non-genetically modified plants | • COSMOS-approved raw material • China INCI compliant |
| SUNFLOWER (NON-GMO) | LIPOID H 100 | Phosphatidylcholine, Tocopherol | Sunflower phosphatidylcholine from non-genetically modified plants | • COSMOS-approved raw material • China INCI compliant |



LIPOID P 100



LIPOID H 100



LIPOID P 45






PHOSPHOLIPON® 90 G




LIPOID S 75

Hydrogenated Lecithin Fractions

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|---------------------|--------------------|----------------------------------|---|--|
| SOYBEAN | PHOSPHOLIPON® 80 H | Hydrogenated Lecithin | Biomimetic emulsifier, hydrogenated soybean lecithin fraction with 70 % phosphatidylcholine | <ul style="list-style-type: none"> China INCI compliant |
| | PHOSPHOLIPON® 90 H | Hydrogenated Phosphatidylcholine | Biomimetic emulsifier, hydrogenated soybean phosphatidylcholine (≥ 90 %) | <ul style="list-style-type: none"> China INCI compliant |
| NON-GMO SOYBEAN | LIPOID P 75-3 | Hydrogenated Lecithin | Biomimetic emulsifier, hydrogenated soybean lecithin fraction with 70 % phosphatidylcholine | <ul style="list-style-type: none"> COSMOS-approved raw material China INCI compliant  |
| | LIPOID P 100-3 | Hydrogenated Phosphatidylcholine | Biomimetic emulsifier, hydrogenated soybean phosphatidylcholine (≥ 90 %) | <ul style="list-style-type: none"> COSMOS-approved raw material China INCI compliant  |
| SUNFLOWER (NON-GMO) | LIPOID H 100-3 | Hydrogenated Phosphatidylcholine | Biomimetic emulsifier, hydrogenated sunflower phosphatidylcholine (≥ 90 %) | <ul style="list-style-type: none"> COSMOS-approved raw material China INCI compliant  |

SLM | SKIN LIPID MATRIX®

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|---------------------|----------|---|--|--|
| SOYBEAN | SLM 2026 | Aqua (Water), Caprylic/Capric Triglyceride, Hydrogenated Phosphatidylcholine, Pentylene Glycol, Glycerin, Butyrospermum Parkii (Shea) Butter, Squalane, Ceramide NP | Cream matrix with hydrogenated soybean phosphatidylcholine and skin-identical lipids of the stratum corneum | <ul style="list-style-type: none"> China INCI compliant (Ceramide NP = Ceramide 3) Dosage: 10 - 30 % |
| SUNFLOWER (NON-GMO) | SLM Eco® | Aqua (Water), Caprylic/Capric Triglyceride, Hydrogenated Phosphatidylcholine, Pentylene Glycol, Glycerin, Butyrospermum Parkii (Shea) Butter, Squalane, Ceramide NP | Cream matrix with hydrogenated sunflower phosphatidylcholine from non-genetically modified plants and skin-identical lipids of the stratum corneum | <ul style="list-style-type: none"> COSMOS-approved raw material (Ceramide NP = Ceramide 3) China INCI compliant Dosage: 10 - 30 %  |



PHOSPHOLIPON® 90 H



LIPOID P 75-3



SLM Skin Lipid Matrix®

Empty Liposomal Carriers for Hydrophilic Substances

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|-----------------|---------------|--|--|---|
| NON-GMO SOYBEAN | Natipide® Eco | Aqua, Lecithin, Glycerin, Pentylene Glycol, Tocopherol, Sodium Hydroxide | Empty pre-liposomes of soybean phospholipids from non-genetically modified plants for encapsulation of hydrophilic actives | <ul style="list-style-type: none"> COSMOS-approved raw material <i>in vivo</i> data China INCI compliant  |
| SOYBEAN | Natipide® II | Aqua (Water), Lecithin, Alcohol, Tocopherol, Sodium Hydroxide | Empty pre-liposomes of soybean phospholipids for encapsulation of hydrophilic actives | <ul style="list-style-type: none"> China INCI compliant |

Liposomal Delivery Systems with Hydrophilic Actives

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|-----------------|-------------------------------------|---|---|---|
| NON-GMO SOYBEAN | LIPOID Liposome B3 with Niacinamide | Aqua (Water), Niacinamide, Alcohol, Lecithin, Glycerin, Potassium Phosphate, Disodium Phosphate, Sodium Hydroxide, Tocopherol | Liposome dispersion of soybean phospholipids with niacinamide | <ul style="list-style-type: none"> China INCI compliant Dosage: 1 - 5 % |
| | Caffeine Herbasome® with Caffeine | Aqua (Water), Niacinamide, Propylene Glycol, Caffeine, Lecithin, Phenoxyethanol, Tocopherol | Liposome dispersion of soybean phospholipids with caffeine | <ul style="list-style-type: none"> <i>in vitro</i> data China INCI compliant Dosage: 1 - 5 % |

Delivery System with Hydrophilic and Lipophilic Actives

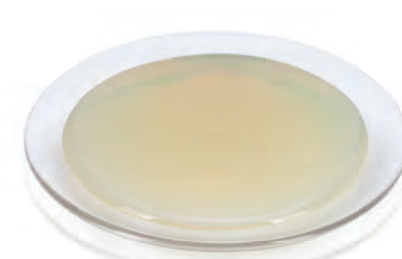
| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|-----------------|--|--|---|---|
| NON-GMO SOYBEAN | Ultraspheres® ACE with Vitamin A, C, and E | Glycerin, Aqua (Water), Phosphatidylcholine, Tocopheryl Acetate, Sodium Ascorbyl Phosphate, Retinyl Palmitate, Citric Acid, Tocopherol, Ascorbyl Palmitate | Finely dispersed emulsion with vitamin A, C, and E and soybean phosphatidylcholine as single emulsifier | <ul style="list-style-type: none"> China INCI compliant Dosage: 1 - 5 % |



Natipide® Eco




Caffeine Herbasome®



Ultraspheres® ACE

Empty Carriers for Lipophilic Substances

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|-----------------|----------------|---|---|--|
| NON-GMO SOYBEAN | PHOSAL® 40 IP | Lecithin, Helianthus annuus (Sunflower) Seed Oil, Alcohol, Tocopherol | Fluid mixture of soybean phospholipids from non-genetically modified plants enriched in phosphatidylcholine (≥ 37 %) in organic sunflower oil | <ul style="list-style-type: none"> • COSMOS-approved raw material • China INCI compliant • <i>in vitro</i> data  |
| SOYBEAN | PHOSAL® 50 SA+ | Phosphatidylcholine, Carthamus tinctorius (Safflower) Seed Oil, Glycerin, Caprylic/Capric Triglyceride, Alcohol, Sunflower Seed Oil Glyceride, Soy Acid, Ascorbyl Palmitate, Tocopherol | Soybean phosphatidylcholine (≥ 50 %) in safflower seed oil. | |
| | PHOSAL® 53 MCT | Phosphatidylcholine, Caprylic/Capric Triglyceride, Alcohol, Sunflower Seed Oil Glyceride, Oleic Acid, Ascorbyl Palmitate, Tocopherol | Soybean phosphatidylcholine (≥ 50 %) in medium-chain triglycerides (MCT). | |

Delivery Systems with Lipophilic Actives

| ORIGIN | PRODUCT | INCI | DESCRIPTION | DETAILS |
|-----------------|-----------------------------------|--|---|---|
| NON-GMO SOYBEAN | PhytoSolve® Q10 with Coenzyme Q10 | Glycerin, Aqua (Water), Ubiquinone, Caprylic/Capric Triglyceride, Lecithin, Tocopherol, Sodium Hydroxide | Finely dispersed transparent emulsion with coenzyme Q10 and soybean phospholipids from non-genetically modified plants as single emulsifier | <ul style="list-style-type: none"> • China INCI compliant • Dosage: 1 - 5 % • <i>in vitro</i> data |
| | PhytoSolve® A with Vitamin A | Glycerin, Aqua (Water), Retinyl Palmitate, Caprylic/Capric Triglyceride, Lecithin, Tocopherol | Finely dispersed transparent emulsion with vitamin A and soybean phospholipids from non-genetically modified plants as single emulsifier | <ul style="list-style-type: none"> • China INCI compliant • Dosage: 1 - 5 % • <i>in vitro</i> data |
| | PhytoSolve® E with Vitamin E | Glycerin, Tocopheryl Acetate, Caprylic/Capric Triglyceride, Aqua (Water), Lecithin, Tocopherol | Finely dispersed transparent emulsion with vitamin E and soybean phospholipids from non-genetically modified plants as single emulsifier | <ul style="list-style-type: none"> • China INCI compliant • Dosage: 1 - 5 % |



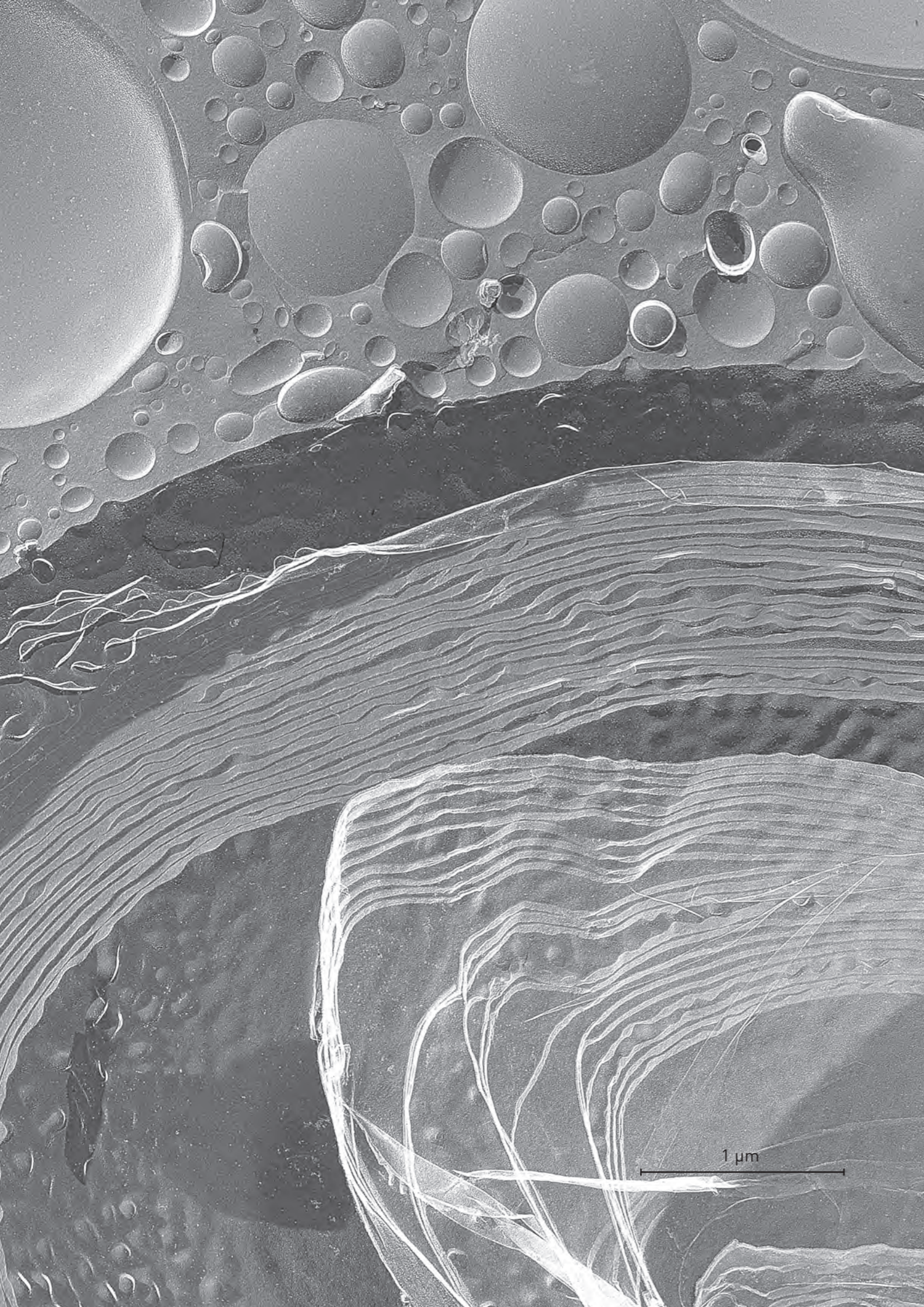
PHOSAL® 40 IP



PHOSAL® 53 MCT



PhytoSolve® Q10



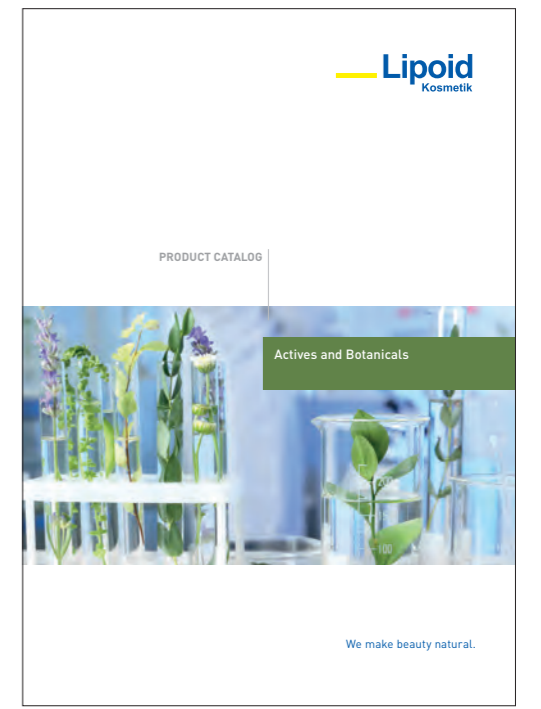
Facing page: Electron micrograph of lamellar structures/liposomes in a phospholipid formulation

Our Natural Phospholipid Brands

| BRAND NAME | SOURCE |
|------------------------|--|
| PHOSPHOLIPON® | Phospholipids based on GMO Soybean |
| LIPOID S Range | Phospholipids based on GMO Soybean |
| LIPOID P Range | Phospholipids based on non-GMO Soybean |
| LIPOID H Range | Phospholipids based on non-GMO Sunflower |
| Natipide® | Empty Carrier for Hydrophilic Actives |
| PHOSAL® | Empty Carrier for Lipophilic Actives |
| PhytoSolve® | Loaded Carrier for Lipophilic Actives |
| ULTRASPHERES® | Loaded Carrier f. Hydrophilic/Lipophilic Actives |
| SLM Skin Lipid Matrix® | Cream Matrix, Skin Repair & Protection |

Discover our Actives & Botanicals

This catalog covers the phospholipid products produced by Lipoid GmbH in Germany. If you are interested in our second product line, please request our Actives and Botanicals Catalog issued by Lipoid Kosmetik AG in Switzerland.





*Facing page: Lipoid GmbH Head-
quarters and production plant 2 at
Ludwigshafen/Rhine, Germany*



*Production plant 1 Lipoid GmbH at
Ludwigshafen/Rhine, Germany*



*Manufacturing site PHOSPHOLIPID
GmbH at Cologne, Germany*



*Manufacturing site R&R Extrakte
GmbH at Cologne, Germany*

All data and recommendations made herein are based on our present state of knowledge. We disclaim any liability for risks or formulate that may result from the use of our products, including improper and illicit use. Product properties identified and highlighted by specific tests or studies are to be interpreted in the context of the test/study conditions only. Please be aware that the use of any claim on cosmetic products is the sole responsibility of the customer and is regulated by your local Regulatory Body.

SWITZERLAND

Lipoid Kosmetik AG
Sennweidstr. 44/46
6312 Steinhausen
Switzerland
Phone: +41 41 748 33 33
E-Mail: info@lipoid-kosmetik.com

FRANCE

Lipoid
23 Bd Emile Zola
BP 43125
06130 Grasse Cedex
FRANCE
Phone: +33 493 366326
E-Mail: info@lipoid.fr

RUSSIA, UKRAINE & GEORGIA

Lipoid AG
Representative Office Moscow
Acad. Pilugina Str. 24
Office 105
Moscow, 117393
RUSSIA
Phone: +7 495 747 5942
E-Mail: moscow@lipoid.com

GERMANY

Lipoid Kosmetik GmbH
Ritterstr. 42
47228 Duisburg
GERMANY
Phone: +49 2065 61045
E-Mail: info@lipoid-kosmetik.de

GREAT BRITAIN

Lipoid Kosmetik Ltd.
Unit 10, Delta Court
Manor Way
Borehamwood
GB - WD6 1FJ Hertfordshire
UK
Phone: +44 20 37613000
E-Mail: info@lipoidkosmetik.co.uk

USA, CANADA & MEXICO

Lipoid LLC
The National Newark Building
744 Broad Street, Suite 1801
Newark, NJ 07102-3802
USA
Phone: +1 973 735 2692
E-Mail: info-lipoidllc@lipoid.com

SALES FOR ALL OTHER COUNTRIES

Lipoid Kosmetik AG
Sennweidstr. 44/46
6312 Steinhausen
Switzerland
Phone: +41 41 748 33 33
E-Mail: info@lipoid-kosmetik.com

Representatives in many other countries.



www.lipoid-kosmetik.com

© Lipoid Kosmetik AG



We make beauty natural.



LK_CAT_Phospholipids_032022