

**We make  
beauty natural**

**Lecithins and  
Phosphatidylcholine**

**Product Catalog**

## A NEW NAME BASED ON LONG-STANDING EXPERTISE

In 2007, the Lipoid Group acquired Cosmetochem AG to strengthen its business in the cosmetic market. Cosmetochem AG, a Swiss-based company, is internationally renowned for its production of high quality botanical extracts and actives. For more than 35 years Lipoid has been manufacturing high value lecithins and phospholipids derived from plant seeds and a wide range of natural phospholipid-based delivery systems. On the other hand Cosmetochem provides the actives and extracts that need to be encapsulated. The perfect fit!

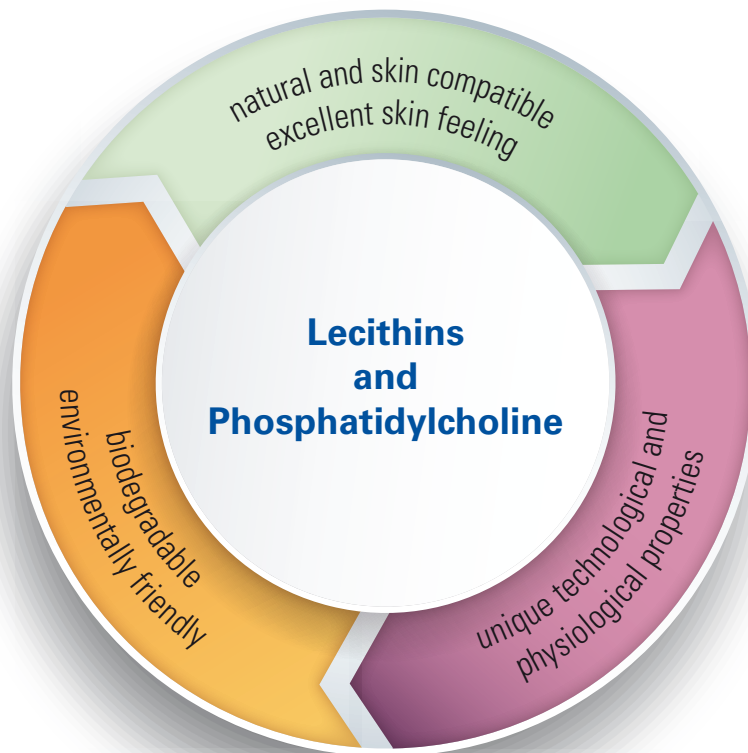
In recent years, both group partners have already worked closely together. As a result, the two companies merge their cosmetic activities to form Lipoid Kosmetik AG. Based on their original expertise on both fields, the new company will continue to offer high quality natural products for use in skin care, skin repair and other applications in cosmetics. Thanks to synergy effects Lipoid Kosmetik AG will be able to focus even more on value added product innovations.

## Lecithins and Phosphatidylcholine

The term “lecithin” designates a mixture of lipids mainly composed of phospholipids. For cosmetic applications, lecithin is most commonly derived from soybean and other vegetable sources.

The active components in lecithin are phospholipids, amphiphilic molecules which function as emulsifiers, liposome builders, penetration enhancers and delivery systems. The most important phospholipid is phosphatidylcholine which is also the major component in biological membranes.

Natural lecithins and phosphatidylcholine are isolated by environmentally friendly extraction and can be transformed to their saturated (nearly natural) counterparts via hydrogenation.



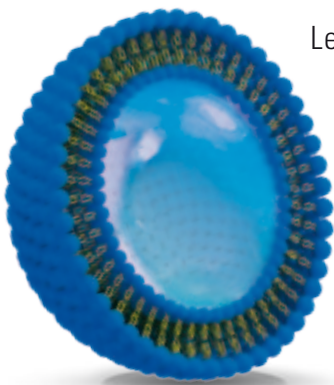
## Lecithin and Phosphatidylcholine can be used for multiple purposes as:

### Emulsifiers

Lecithin and phosphatidylcholine are excellent and versatile O/W (mainly) and W/O emulsifiers. Their HLB value cannot be determined classically due to their ionic structure for which the HLB value is not valid.



### Building Block of Liposomes



Lecithin and especially phosphatidylcholine form liposomes in aqueous systems. These small vesicles are ideal transport vehicles for hydrophilic, lipophilic and amphiphilic active ingredients. The encapsulated active ingredients are released uniformly onto the skin.

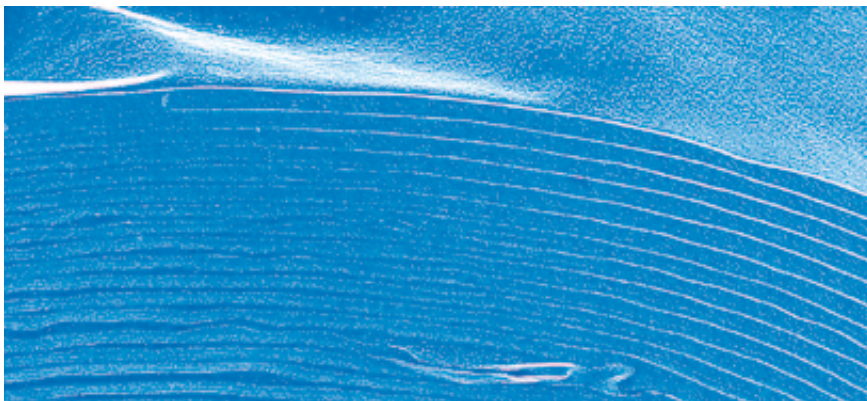
## Penetration Enhancer

Lecithin and phosphatidylcholine interact with the surface of the stratum corneum and thus can impact on the penetration of active ingredients. In particular natural (unsaturated) lecithin and phosphatidylcholine are well established penetration enhancers, due to the temporary fluidization of the skin barrier.



## Former of Lamellar Structures

In high concentrations, phosphatidylcholine can form lamellar structures. Hydrogenated phosphatidylcholine is particularly used to enhance the lamellar structures of formulations mimicking the lipid layer of the stratum corneum.



## INCI Nomenclature

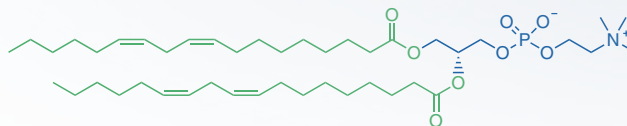
Depending on the type and content of phosphatidylcholine, LIPOID and PHOSPHOLIPON® products comply with the following INCI names:

INCI Name	Type of Phospholipid
<b>Lecithin</b>	Lecithin with up to 80% phosphatidylcholine content
<b>Hydrogenated Lecithin</b>	Hydrogenated (saturated) lecithin with up to 80% phosphatidylcholine content
<b>Phosphatidylcholine</b>	Lecithin fraction with 80% or more phosphatidylcholine content
<b>Hydrogenated Phosphatidylcholine</b>	Hydrogenated (saturated) lecithin fraction with 80% or more phosphatidylcholine content

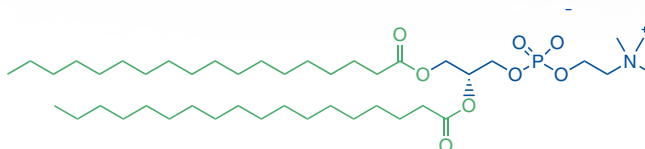
## Chemical Structure of Phosphatidylcholine

Among the phospholipids, the most important constituent is phosphatidylcholine. Two fatty acids bound in position 1 and 2 of the glycerol backbone form the lipophilic part of the molecule. The polar head group consists of phosphocholine bound to the glycerol backbone. Natural lecithin and phosphatidylcholine consist mainly of unsaturated and essential fatty acids, mainly oleic and linoleic. Hydrogenated phospholipids consist of saturated fatty acids, mainly palmitic and stearic acid.

Typical structure of unsaturated (natural) phosphatidylcholine: Linoleic acid (green) is bound to the polar head group (blue).



Typical structure of saturated (hydrogenated) phosphatidylcholine: Stearic acid (green) is bound to the polar head group (blue).





## Our Brands

### Lecithins and Phosphatidylcholine

#### Natural

##### Natural Lecithins

<b>LIPOID S</b>	Source: Soybean	Page 8
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<b>LIPOID P</b>	Source: NON-GMO soybean	Page 8
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##### Natural Phosphatidylcholine

<b>PHOSPHOLIPON®</b>	Source: Soybean	Page 9
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<b>LIPOID P</b>	Source: NON-GMO soybean	Page 9
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<b>LIPOID H</b>	Source: NON-GMO sunflower	Page 9
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<b>LIPOID R</b>	Source: NON-GMO rapeseed (canola)	Page 9
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#### Hydrogenated

<b>PHOSPHOLIPON®</b>	Source: Soybean	Page 10
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<b>LIPOID P</b>	Source: NON-GMO soybean	Page 10
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<b>Guide Formulation</b>		Page 11
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### Base Formulations

<b>PHOSAL®</b>	Liquid Base Formulations with soybean phosphatidylcholine	Page 12
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<b>NATIPIDE® II</b>	Proliposomal system to encapsulate hydrophilic and lipophilic actives	Page 12
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<b>SLM</b>	Viscous lipid matrix consisting of lamellar structures	Page 13
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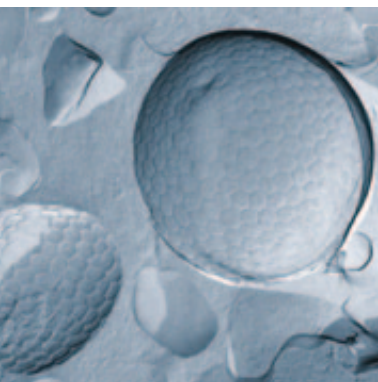
### Delivery Systems

<b>PhytoSolve®</b>	Solubilization system for lipophilic actives	Page 14
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<b>LIPOID Cerasome</b>	Liposomes made of skin lipids	Page 14
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<b>LIPOID Liposome</b>	Liposomal carrier for hydrophilic and lipophilic actives	Page 15
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<b>Ultraspheres®</b>	Combined encapsulation of hydrophilic and lipophilic actives	Page 15
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## Natural Lecithins

### Soybean Lecithins

#### LIPOID S 45

Lecithin with approx. 45% Phosphatidylcholine

INCI: Lecithin

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#### LIPOID S 75

Lecithin with approx. 70% Phosphatidylcholine

INCI: Lecithin

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### NON-GMO Soybean Lecithins

#### LIPOID P 45

Lecithin with approx. 45% Phosphatidylcholine  
from genetically non-modified plants

INCI: Lecithin

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#### LIPOID P 75

Lecithin with approx. 70% Phosphatidylcholine  
from genetically non-modified plants

INCI: Lecithin

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Natural lecithins and phosphatidylcholine are stabilised with not more than 0,25% tocopherol



# Natural Phosphatidylcholine

## Soybean Phosphatidylcholine

### PHOSPHOLIPON® 90 G

Lecithin fraction with approx. 95% Phosphatidylcholine

INCI: Phosphatidylcholine

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## NON-GMO Soybean Phosphatidylcholine

### LIPOID P 100

Lecithin fraction with approx. 95% Phosphatidylcholine  
from genetically non-modified plants

INCI: Phosphatidylcholine

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## NON-GMO Sunflower Phosphatidylcholine

### LIPOID H 100

Lecithin fraction with approx. 95% Phosphatidylcholine  
from genetically non-modified plants

INCI: Phosphatidylcholine

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## NON-GMO Rapeseed Phosphatidylcholine

### LIPOID R 100

Lecithin fraction with approx. 95% Phosphatidylcholine  
from genetically non-modified plants

INCI: Phosphatidylcholine

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# Hydrogenated Lecithins and Phosphatidylcholine

## Hydrogenated Soybean Lecithin

PHOSPHOLIPON® 80 H

Hydrogenated Lecithin with approx. 70% Phosphatidylcholine

INCI: Hydrogenated Lecithin

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## Hydrogenated Soybean Phosphatidylcholine

PHOSPHOLIPON® 90 H

Hydrogenated Lecithin fraction with approx. 95% Phosphatidylcholine

INCI: Hydrogenated Phosphatidylcholine

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## Hydrogenated NON-GMO Soybean Lecithin

LIPOID P 75-3

Lecithin with approx. 70% Phosphatidylcholine,  
from genetically non-modified plants

INCI: Hydrogenated Lecithin

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## Hydrogenated NON-GMO Soybean Phosphatidylcholine

LIPOID P 100-3

Hydrogenated Lecithin fraction with approx. 95% Phosphatidylcholine  
from genetically non-modified plants

INCI: Hydrogenated Phosphatidylcholine

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## Frame Formulation

### Vitalizing Cream

based on SLM 2015 and PHOSPHOLIPON® 80 H and PhytoSolve 4004

	Ingredients	INCI	% W/W
A	SLM 2015	Water / Aqua, Caprylic / Capric Triglyceride, Butylene Glycol, Hydrogenated Phosphatidylcholine	20.00
B	Water Keltrol CG-SFT PHOSPHOLIPON® 80 H Panthenol	Water / Aqua Xanthan Gum Hydrogenated Lecithin Panthenol	40.90 0.10 0.50 0.50
C	MCT Jojoba Oil Vitamin E-acetate	Caprylic / Capric Triglyceride Simmondsia Chinensis Seed Oil Tocopheryl Acetate	18.00 6.00 1.00
D	Ethanol Glycerol Hydrolite-5	Alcohol denat. Glycerin Pentylene Glycol	6.00 3.00 3.00
E	PhytoSolve 4004	Glycerin, Water / Aqua, Lecithin, Caprylic / Capric Triglyceride, Ubiquinon	1.00

### Manufacturing Process

- 1) Combine ingredients of phase B at 60°C and add successively to phase A while stirring. Keep temperature at 40°C.
- 2) Combine ingredients of phase C and D at 40°C and add to batch.
- 3) Homogenize batch intensively using a rotor-stator homogenizer at 40°C.
- 4) Stir to cool down. Evacuate. Wait one day for final viscosity.
- 5) During cooling and stirring add E.



## Base Formulations with Natural Lecithins and Phosphatidylcholine

### Liquid Base Formulations with Soybean Phosphatidylcholine

#### PHOSAL® 50 SA+

Approx. 50% Phosphatidylcholine in safflower oil

INCI: Phosphatidylcholine, Carthamus Tinctorius (Safflower) Seed Oil, Glycerin, Caprylic/Capric Triglyceride, Alcohol, Sunflower Seed Oil Glyceride, Soy Acid, Ascorbyl Palmitate, Tocopherol

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#### PHOSAL® 75 SA+

Approx. 75% Phosphatidylcholine in safflower oil

INCI: Phosphatidylcholine, Alcohol, Carthamus Tinctorius (Safflower) Seed Oil, Sunflower Seed Oil Glyceride, Soy Acid, Ascorbyl Palmitate, Tocopherol

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### Liquid Base Formulation with NON-GMO Soybean Lecithin

#### PHOSAL® 40 IP

Approx. 40% Phosphatidylcholine from genetically non-modified plants in organic sunflower oil and with natural mixed tocopherols

INCI: Lecithin, Helianthus Annuus (Sunflower) Seed Oil, Alcohol, Tocopherol

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### Highly Viscous Base Formulation with Soybean Lecithin

#### Natipide® II

Proliposomal carrier for hydrophilic and lipophilic actives

INCI: Water/Aqua, Lecithin, Alcohol

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# Base Formulations with Hydrogenated Phosphatidylcholine

**Skin Lipid Matrix (SLM): Viscous Matrix consisting of Lamellar Structures**

## SLM 2005

SLM with Hydrogenated Phosphatidylcholine and Ethanol

INCI: Water/Aqua, Caprylic/Capric Triglyceride, Alcohol, Hydrogenated Phosphatidylcholine, Glycerin

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## SLM 2015

SLM with Hydrogenated Phosphatidylcholine and Butylene Glycol

INCI: Water/Aqua, Caprylic/Capric Triglyceride, Butylene Glycol, Hydrogenated Phosphatidylcholine

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## SLM 2026

SLM with Hydrogenated Phosphatidylcholine and Pentylene Glycol

INCI: Water/Aqua, Caprylic/Capric Triglyceride, Hydrogenated Phosphatidylcholine, Pentylene Glycol, Glycerin, Butyrospermum Parkii (Shea) Butter, Squalane, Ceramide NP

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## SLM 2028

SLM with Hydrogenated Phosphatidylcholine and Ethanol

INCI: Water/Aqua, Alcohol, Caprylic/Capric Triglyceride, Hydrogenated Phosphatidylcholine, Butyrospermum Parkii (Shea) Butter, Squalane, Ceramide NP

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## Delivery Systems

### PhytoSolve®: Solubilization System for Lipophilic Actives (patented)

#### PhytoSolve® 4004

Solubilizing Coenzyme Q10

INCI: Glycerin, Water/Aqua, Lecithin, Caprylic/Capric Triglyceride, Ubiquinone

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#### PhytoSolve® 8004

Solubilizing Tocopheryl Acetate

INCI: Glycerin, Tocopheryl Acetate, Caprylic/Capric Triglyceride, Water/Aqua, Lecithin

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#### PhytoSolve® 8009

Solubilizing Retinyl Palmitate

INCI: Glycerin, Water/Aqua, Retinyl Palmitate, Lecithin, Caprylic/Capric Triglyceride, Tocopherol, Ascorbyl Palmitate

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#### PhytoSolve® 4101

Solubilizing Ceramide II and Cholesterol

INCI: Sorbitol, Octyldodecanol, Water/Aqua, Hydrogenated Lecithin, Ceramide NS, Cholesterol

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### LIPOID Cerasome: Liposomes made of Skin Lipids

#### LIPOID Cerasome 9041

Spherical Membranes of skin lipids

INCI: Water/Aqua, Alcohol, Hydrogenated Lecithin, Cholesterol, Ceramide NS, Ceramide NP, Oleic Acid, Palmitic Acid, Sodium Ascorbate, EDTA

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## LIPOID Liposome: Liposomal Carrier for Hydrophilic and Lipophilic Actives

### LIPOID Liposome 0041

#### Empty Liposomes

INCI: Water/Aqua, Propylene Glycol, Lecithin, Phenoxyethanol

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### LIPOID Liposome 0307

#### With Sodium Ascorbylphosphate

INCI: Water/Aqua, Ethanol, Hydrogenated Phosphatidylcholine, Sodium Ascorbyl Phosphate, Cholesterol

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### LIPOID Liposome 0616

#### With Collagen Hydrolysate

INCI: Water/Aqua, Lecithin, Hydrolyzed Collagen

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## Ultraspheres®: Combined Encapsulation of Hydrophilic and Lipophilic Actives

### Ultraspheres 8041

#### With Vitamines ACE

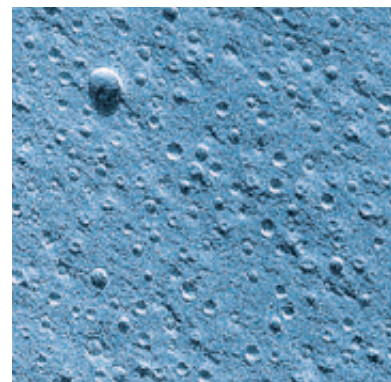
INCI: Glycerin, Water/Aqua, Phosphatidylcholine, Tocopheryl Acetate, Sodium Ascorbyl Phosphate, Retinyl Palmitate

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## Your Tailor-made Systems

Lipoid Kosmetik AG provides tailor-made carrier systems in industrial scale.

All data and recommendations made herein are based on our present state of knowledge. We disclaim any liability on risks or formulae that may result from the use of our products, including improper and illicit use.







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