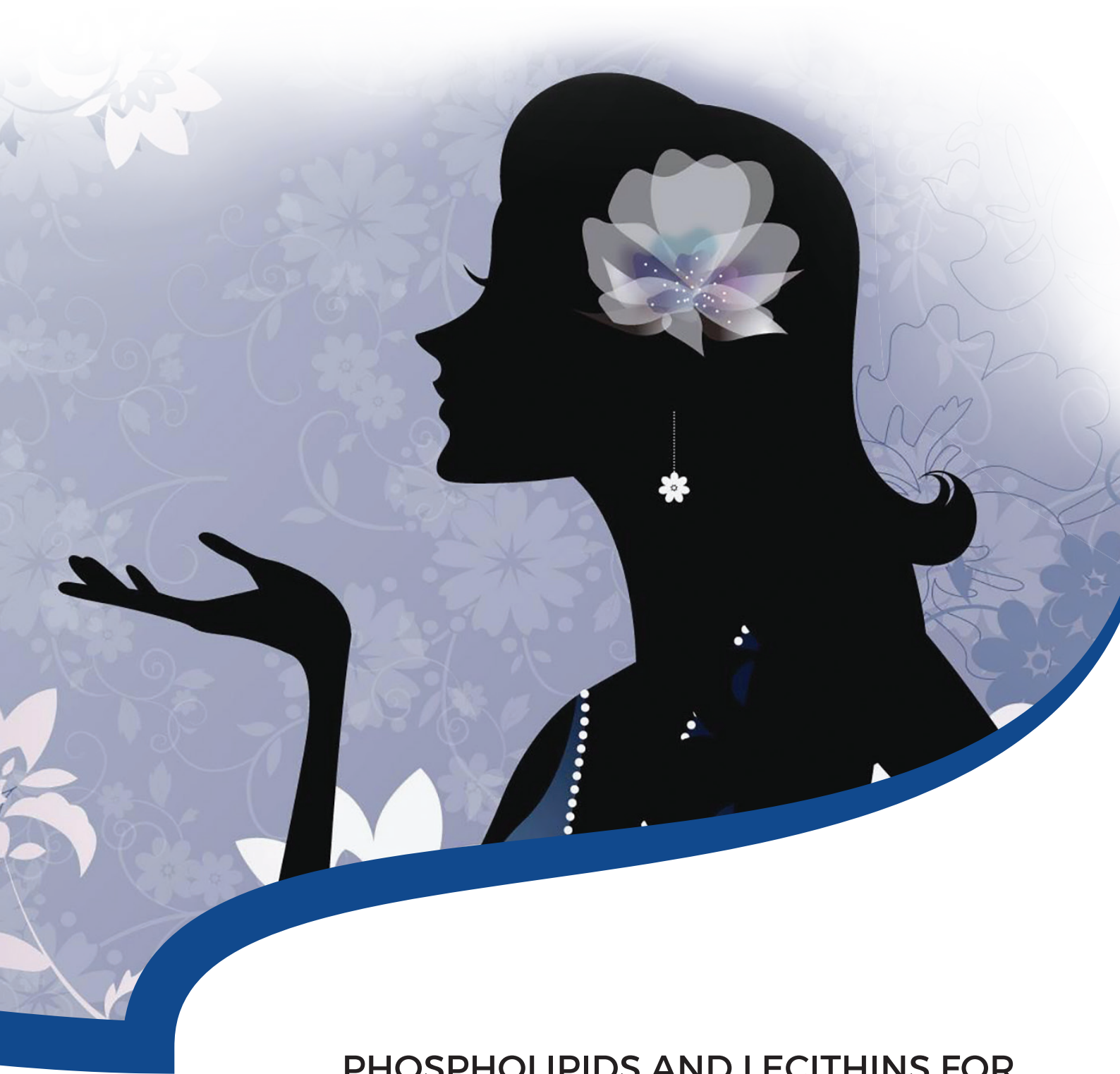




Binding Phospholipids To Life



**PHOSPHOLIPIDS AND LECITHINS FOR
COSMETIC APPLICATIONS**

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VAV at a Glance

VAV Life Sciences along with its subsidiary VAV Lipids is an innovation driven company manufacturing 'Phospholipids and Lecithins' for cosmeceutical, drug delivery, nutraceutical and pharmaceutical applications.

Our quest is to be a globally significant company in this domain. We are committed to technology, ethics and quality of customer service, people and operations. We retain the flexibility we need to keep on adapting and responding to trends in society and technology. We are ready to embrace the opportunities they create.

AWARDS & ACHIEVEMENTS

VAV was honoured with India's Best SME (Innovation) by Yes Bank & Business Today. We also won the national award for business excellence (Chemicals & Pharmaceuticals) by Dun & Bradstreet. Recognised by the Government of India under "Ubharte Sitare" (Rising stars) programme.

QUALITY - OUR PRIORITY

All our functional cosmetic ingredients are produced at our WHO GMP approved factory, manned by technical-qualified scientists who guarantee each process is governed by rigorous quality control standards. Our lecithin and phospholipid grades have been granted COSMOS attestation, making us the ideal ally for businesses and operations in the cosmetic world, exporting our products globally. Additionally, we have cleared many audits successfully from our global pharmaceutical customers and different regulatory bodies like CDSCO to grant the Written Confirmation Letter (WCL).

VAV sets the standard for excellence in cosmeceutical ingredient manufacturing by:

- ✓ Ensuring the consistency of operations through the qualification of equipment and utilities
- ✓ Fully equipped microbiological lab
- ✓ Inhouse state of the art laboratories
- ✓ Continuous improvement processes

TECHNICAL SUPPORT & DEVELOPMENT

Understanding the complexity of novel formulation development, we provide our customers start to end technical support. This includes the selection of right grade of phospholipids or lecithins as a guidance on formulation, application and stability aspects. Our techno-commercial team works in close association with customers to help them achieve their target objectives.

RESEARCH & DEVELOPMENT

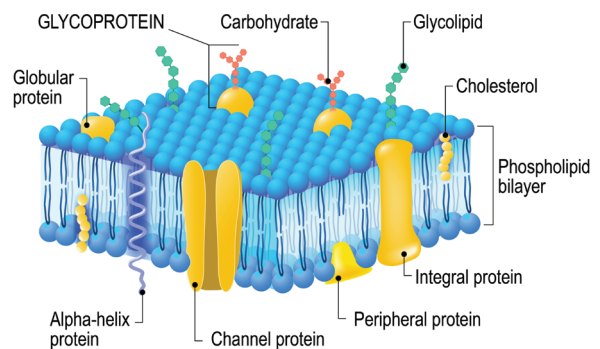
Innovation at VAV is backed by strong chemistry, analytical expertise and advanced knowledge of lipids acquired over several years of research. Experimentation and ingenuity is built into the fabric of our organization which has resulted in novel products and processes increasing efficiency and reducing risks associated with our ingredients.

We actively support academic researchers at top institutions worldwide by providing samples and technical expertise. These efforts have resulted in a continuous output of publications in scientific journals and patents.



Lecithins & Phospholipids : Nature's Gift to Beauty

- ✓ Every living cell is surrounded by a bilayer of polar lipids called PHOSPHOLIPIDS. They are the essential lipids of every biological membrane
- ✓ Classified by US FDA as Generally Regarded as Safe (GRAS) at all concentrations
- ✓ Natural (non chemical) origin
- ✓ Diverse applications
- ✓ Non-GMO grades available on request



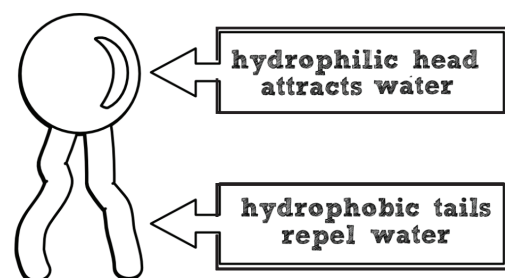
PLASMA MEMBRANE

Blending is a rare art, few are blessed



AMPHIPHILICITY

- ✓ Grants reduction in surface tension, thus giving emulsification property
- ✓ Maintains homogeneity of emulsions
- ✓ Bestows stability to emulsion
- ✓ Allows formation of O/W as well as W/O emulsions



PHOSPHOLIPID

EMULSIFICATION SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-IMMIX*	LECITHIN (100%)	Micro-filtered liquid soya lecithin	General emulsification of cosmetic preparations
LECIVA-IMMIX M	LECITHIN (100%)	Micro-filtered liquid sunflower lecithin	General emulsification of cosmetic preparations
LECIVA-IMMIX+	LECITHIN (100%)	Hydrophilic liquid soya lecithin	Emulsification of cleansing/washing products
LECIVA-IMMIX M+	LECITHIN (100%)	Hydrophilic liquid sunflower lecithin	Emulsification of cleansing/washing products
LECIVA-SMAP*	LYSOLECITHIN (100%)	Hydrophilic soya lecithin powder	Emulsification of highly aqueous cosmetic preparations
LECIVA-ACE*	PHOSPHOLIPIDS (100%)	Lipophilic soya lecithin powder	Emulsification of high fat loaded cosmetics
LECIVA-ACE H+	HYDROGENATED LECITHIN (100%)	Lipophilic saturated soya lecithin powder	Emulsification of high fat loaded cosmetics
LECIVA-AUBADE*	PHOSPHOLIPIDS (100%)	Lipophilic sunflower lecithin powder	Emulsification of high fat loaded cosmetics

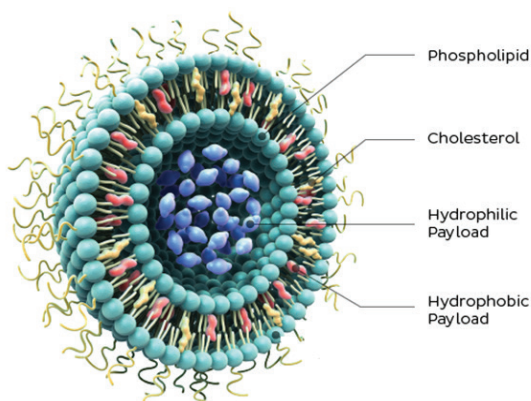
* Marked ingredients are COSMOS approved

The Head & Tail of Permeation

Phospholipids when hydrated form spherical vesicles having one or more lipid bilayers (unilamellar or multilamellar LIPOSOMES). This is a result of the unique property of phospholipids to self assemble in an aqueous medium. The hydrophilic heads form the outermost and innermost layers to protect the lipophilic tails. Modified phospholipids may also be used to form unimeric conical nanoparticles (MICELLES).

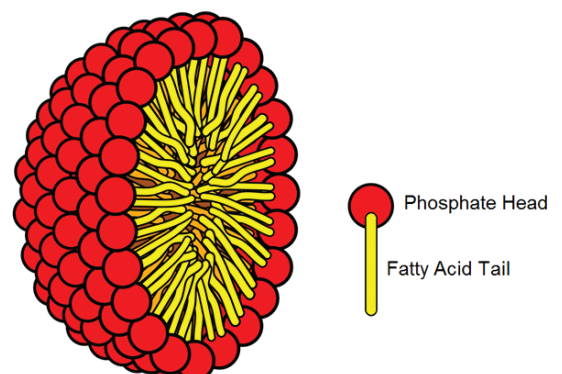
LIPOSOMES

- ✓ Enhance percutaneous absorption of actives
- ✓ Can be loaded with Hydrophilic as well as Lipophilic actives
- ✓ Improve bioavailability of actives
- ✓ Encapsulating phyto-actives are known as Phytolipids



MICELLES

- ✓ Enhance percutaneous absorption of actives
- ✓ Encapsulate cutaneous soiled particles and are wiped off mechanically
- ✓ Inhibit trans-epidermal water loss (TEWL)



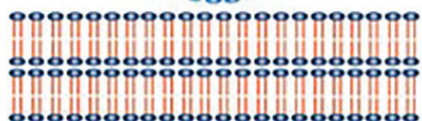
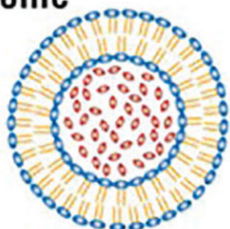
PERMEATION SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-SMAP*	LYSOLECITHIN (100%)	Modified soya lecithin powder	Precursor for micelle formation of hydrophobic actives
LECIVA-DIFUZ*	PHOSPHOLIPIDS (100%)	Polyunsaturated soya phospholipids	High purity liposome precursor
LECIVA-DIFUZ H*	HYDROGENATED PHOSPHOLIPIDS (100%)	Saturated soya phospholipids	High purity liposome precursor
LECIVA-DIFUZ O	LECITHIN (100%)	Polyunsaturated soya phospholipids	Soluble phospholipids for lipidic formulations and hydrophilic formulations
LECIVA-DIFUZ M	PHOSPHOLIPIDS (100%)	Polyunsaturated sunflower phospholipids	High purity liposome precursor
LECIVA-DIFUZ+*	PHOSPHOLIPIDS (100%)	Phosphatidylcholine enriched polyunsaturated soya phospholipids	High purity liposome precursor
LECIVA-DIFUZ M+	PHOSPHOLIPIDS (100%)	Phosphatidylcholine enriched polyunsaturated sunflower phospholipids	High purity liposome precursor
LECIVA-LITHE*	PHOSPHATIDYLCHOLINE (99.95%), TOCOPHEROL (0.05%)	Polyunsaturated soya phosphatidylcholine	High purity liposome precursor
LECIVA-LITHE M	PHOSPHATIDYLCHOLINE (99.95%), TOCOPHEROL (0.05%)	Polyunsaturated sunflower phosphatidylcholine	High purity liposome precursor
CHOLESTEROL	CHOLESTEROL (100%)	Membrane Lipid	Maintains stability and structural integrity of liposomes

* Marked ingredients are COSMOS approved | Other grades available on request

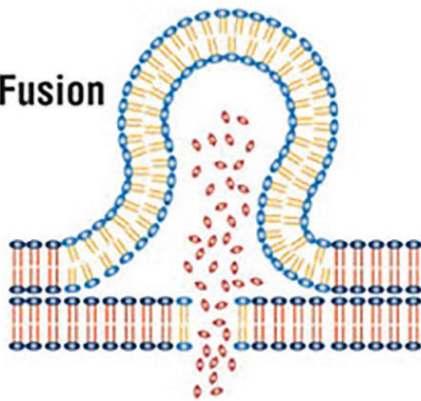
FUSION OF A LIPOSOME WITH SKIN BARRIER

Liposome

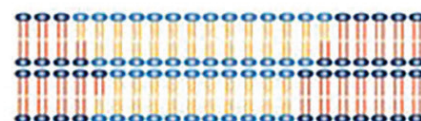


Skin barrier

Fusion



Release of actives



A Skin for Skin



Skin is the largest organ and it is protected by a fragile hydrolipid film that functions as a protective barrier from the external world. The epidermis is the outer layer of the two layers that make up the skin, the inner layer being the dermis. The epidermis is further composed of 4 or 5 sub-layers. The cells in each of these layers are surrounded in the extracellular space by stacked layers of lipids. The fatty acid composition of Phospholipids mimics that of the lipids of the hydrolipid film as well as the epidermal lipids. Because of this structural similarity, Phospholipids are often called as “second skin”.

SKIN CARE SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-SMAP*	LYSOLECITHIN (100%)	Hydrophilic soya lecithin powder	Humectant in moisturising skin care preparations
OLEOVA	EGG OIL (100%)	Natural premium egg oil	Humectant, Emollient, Antioxidant, Anti-Acne, Anti-Scar agent
Cholesterol	CHOLESTEROL (100%)	Membrane lipid	Humectant and permeation enhancer

* Marked ingredients are COSMOS approved

Shape Yourself

In Pharmaceuticals, there is a procedure in which the doctor uses injections with very fine needles to deliver lipolytic agents to the middle (meso) layer of your skin to tighten and rejuvenate it. This is very popular as Mesotherapy. Similar mode of action is seen in topical preparations for cellulite reduction. Phospholipids play a major active role, both as that of a lipolytic agent as well as to enhance permeation of other actives to the middle layer of skin.



MESOTHERAPY SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-DIFUZ*	Phospholipids (100%)	Polyunsaturated soya phospholipids	Lipolytic agent in topical preparations
LECIVA-DIFUZ+*	Phospholipids (100%)	Phosphatidylcholine enriched polyunsaturated Soya phospholipids	Lipolytic agent in topical and injectable preparations
LECIVA-LITHE*	Phosphatidylcholine (99.95%), Tocopherol (0.05%)	Polyunsaturated soya phosphatidylcholine	Lipolytic agent in injectable preparations

* Marked ingredients are COSMOS approved

Pair with Hair

Healthy hair is maintained through regeneration of hair follicles by activation of multipotent epithelial stem cells residing in the outer hair root sheath. The hair cycle is comprised of a finite period of hair growth (anagen phase), a brief regression phase (catagen phase), and a resting period (telogen phase). It is regulated by sensory neurons, cytokines, growth factors (GFs), and hormones. The growth of new hair requires re-entry into the anagen phase. Phospholipids possess potent growth effects on murine hair epithelial cells, thereby inducing early telogen-to-anagen phase conversion, promoting cell growth, and elongating shafts in hair follicles. Phospholipids also combine with the proteins (keratin) of the hair and simultaneously fixate the fat-soluble hair care substances carried along leaving hair supple and conditioned.



HAIR CARE SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-IMMIX*	LECITHIN (100%)	Micro-filtered liquid soya lecithin	Frizz control and conditioning agent
LECIVA-IMMIX M	LECITHIN (100%)	Micro-filtered liquid soya lecithin	Frizz control and conditioning agent
LECIVA-IMMIX+	LECITHIN (100%)	Hydrophilic liquid soya lecithin	Frizz control agent in shampoo
LECIVA-IMMIX M+	LECITHIN (100%)	Hydrophilic liquid sunflower lecithin	Frizz control agent in shampoo
LIPOVA-E200	DEFATTED EGG YOLK POWDER (100%)	Natural concentrate of egg yolk proteins	Protein substitute and additive in hair care preparations to impart strength and shine
OLEOVA	EGG OIL (100%)	Natural premium egg oil	Permeation enhancer, conditioning, anti-hair greying, anti-hair fall and anti-dandruff agent
CHOLESTEROL	CHOLESTEROL (100%)	Membrane lipid	Permeation enhancer and conditioning agent

* Marked ingredients are COSMOS approved

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COSMOS APPROVED



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OTHER GRADES AVAILABLE ON REQUEST

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