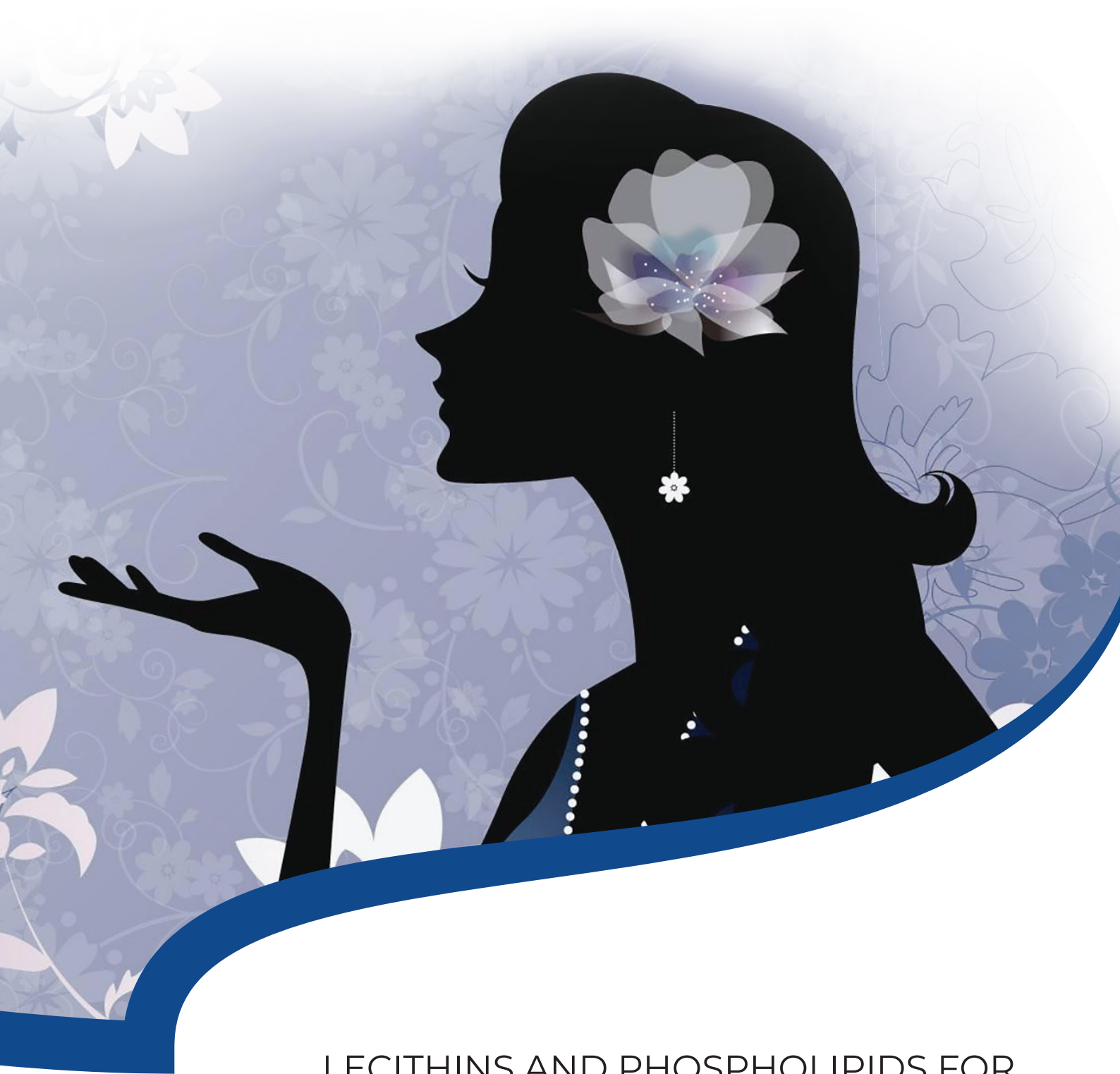




## Binding Phospholipids To Life



LECITHINS AND PHOSPHOLIPIDS 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 'Lecithins and Phospholipids' 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) 2013 by Yes Bank & Business Today. We also won the national award for business excellence (Chemicals & Pharmaceuticals) by Dun & Bradstreet in 2015.

## QUALITY - OUR PRIORITY

All our functional cosmetic ingredients are produced at our factory built as per cGMP standards, manned by technically-qualified scientists who guarantee that each process is governed by rigorous quality control standards.

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 lecithins or phospholipids 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

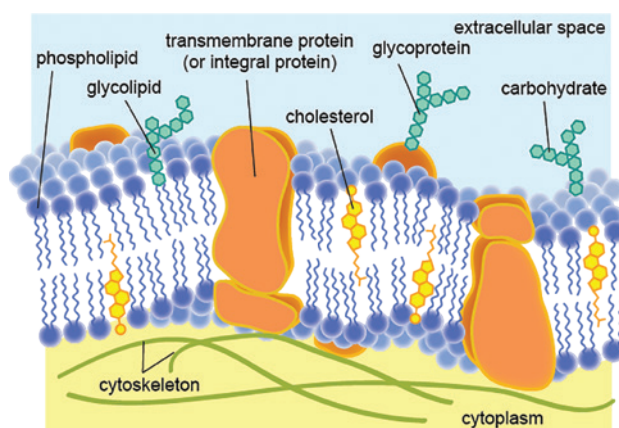
Innovation at VAV is backed by strong chemistry, analytical expertise and advanced knowledge of lipids acquired over several years of research. Experimentation and ingenuity is built into the fabric of our organization which has resulted in novel products and processes increasing efficiency and reducing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



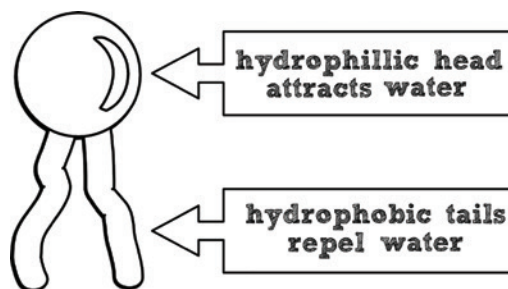
PLASMA MEMBRANE

## 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

## OUR PRODUCT OFFERINGS IN EMULSIFICATION SEGMENT

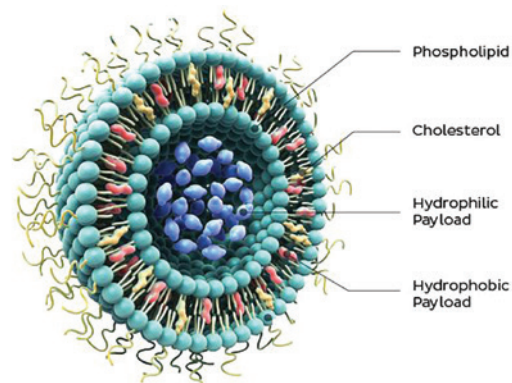
PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-S12NF	LECITHIN (100%)	Micro-filtered liquid soya lecithin	General emulsification of cosmetic preparations
LECIVA-ST12	LECITHIN (100%)	Hydrophilic liquid soya lecithin	Emulsification of cleansing/washing products
LECIVA-SMAP	LYSOLECITHIN (100%)	Hydrophilic soya lecithin powder	Emulsification of highly aqueous cosmetic preparations
LECIVA-S25P	PHOSPHOLIPIDS (100%)	Lipophilic soya lecithin powder	Emulsification of high fat loaded cosmetics
LECIVA-M25P	PHOSPHOLIPIDS (100%)	Lipophilic sunflower lecithin powder	Emulsification of high fat loaded cosmetics

# 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

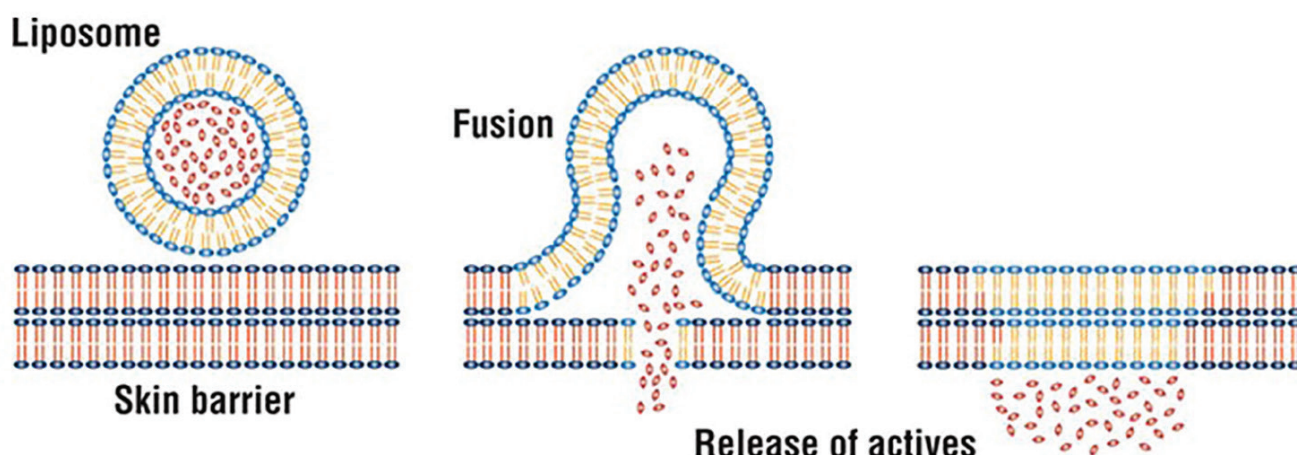
- ✓ Enhance percutaneous absorption of actives
- ✓ Can be loaded with Hydrophilic as well as Lipophilic actives
- ✓ Improve bioavailability of actives
- ✓ Encapsulating phyto-actives are known as Phytolipids



## OUR PRODUCT OFFERINGS IN LIPOSOMAL PERMEATION SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
<b>LECIVA-SMAP</b>	LYSOLECITHIN (100%)	Modified soya lecithin powder	Precursor for micelle formation of hydrophobic actives
<b>LECIVA-S25P</b>	PHOSPHOLIPIDS (100%)	Pure soya lecithin powder	Key lipid for liposome formation
<b>LECIVA-M25P</b>	PHOSPHOLIPIDS (100%)	Pure sunflower lecithin powder	Key lipid for liposome formation
<b>LECIVA-S70</b> <b>LECIVA-M70</b>	PHOSPHOLIPIDS (100%)	Polyunsaturated soya / sunflower phospholipids	High purity liposome precursor
<b>LECIVA-S75</b> <b>LECIVA-M75</b>	PHOSPHOLIPIDS (100%)	Polyunsaturated soya / sunflower phospholipids	High purity liposome precursor
<b>LECIVA-S80</b>	PHOSPHOLIPIDS (100%)	Polyunsaturated soya phospholipids	High purity liposome precursor
<b>Cholesterol</b>	CHOLESTEROL (100%)	Membrane lipid	Maintains stability and structural integrity of liposomes

## FUSION OF A LIPOSOME WITH SKIN BARRIER





# 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”.

## OUR PRODUCT OFFERINGS IN SKIN CARE SEGMENT

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-SMAP	LYSOLECITHIN (100%)	Hydrophilic soya lecithin powder	Humectant in moisturising skin care preparations
LIPOVA-E115	LECITHIN (100%)	Natural mixture of egg phospholipids and egg oil	Formation of Skin Lipid Matrix (SLM)
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



# 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.

## OUR PRODUCT OFFERINGS IN HAIR CARE SEGMENT:

PRODUCT	INCI	DESCRIPTION	APPLICATION
LECIVA-S12NF	LECITHIN (100%)	Micro-filtered liquid soya lecithin	Frizz control and conditioning agent
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



## CORPORATE OFFICE

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## OPERATIONS

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**Disclaimer:** 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.

DATASHEETS ARE AVAILABLE ON REQUEST  
OTHER GRADES AVAILABLE ON REQUEST