

PMLs containing ARBUTIN (5%)

CODE: PL220

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Revision: 9

GENERAL DESCRIPTION

Liposomes are spherical vesicles comprised of specific types of lipids. They can contain proteins, peptides or other active ingredients that are important for maintaining the strength and the tone of skin and hair. Liposomes interact with the cells of the epidermis and release their contents inside them. Plurilamellar Multivesicular Liposomes (PMLs) are a specific kind of liposome composed by several concentric bilayers that contain various vesicles.

PMLs are liposomes entrapping liposomes and can encapsulate large amounts of both hydrophilic and hydrophobic active ingredients. Hydrophobic actives are contained within the liposomes and hydrophilic actives are trapped between bilayers as shown Fig. 1.

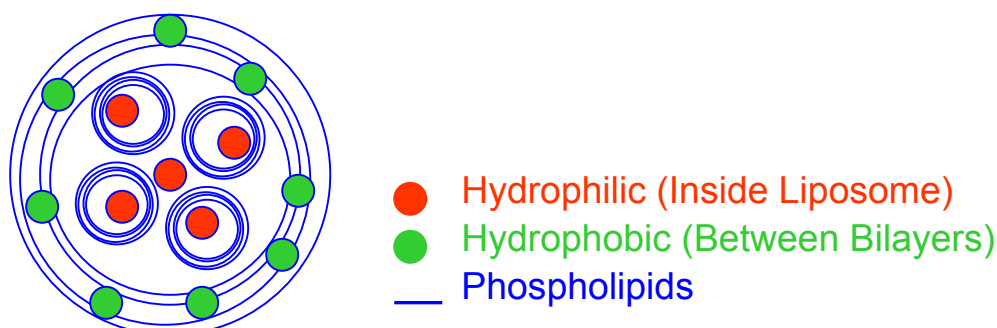


Fig. 1. Structure of a PML

PMLs are obtained with microfluidizing techniques and are coated with a colloidal hydrophilic matrix that makes them stable in emulsions.

Phospholipids used for the preparation of these liposomes are of plant origin (Soybean lipids) and are stabilized by Carrageenans (seaweeds of marine origin) which protect the liposomal structure from tensioactives and therefore allow their use in emulsions.

Arbutin is a natural tyrosinase inhibitor. Tyrosinase is an enzyme involved in the formation of melanin pigment by converting tyrosine into DOPA and further into dopaquinone, a melanin precursor. Structurally, Arbutin is a hydroquinone glycoside, and it generates hydroquinone in situ upon absorption into the skin, showing remarkable inhibitory effects on melanin formation and skin beautifying effects. It causes no irritation, which allows continuous use for a long period of time at high concentrations to develop satisfactory skin-lightening effects.

Arbutin is water-soluble material which can be encapsulated in suitable Delivery Systems. Lipotec S.A. has encapsulated Arbutin in PMLs with the aim to protect the molecule from degradation. This delivery system also ensures a better release profile of Arbutin in the different layers of the epidermis.

PMLs CONTAINING ARBUTIN have been dispersed into a colloidal polymeric matrix that forms a very thin layer when spread on the skin and hair, allowing its diffusion throughout the upper layers of the epidermis in a controlled and sustained release manner. This system represents the initiation of the RETARD concept in the Cosmetic Technology

PROPERTIES AND APPLICATIONS

- Used for de-pigmentation and skin whitening.
- Recommended for age spots, sun spots, prevention of freckles and skin pigmentation disorders
- Presents healing properties which make it suitable for treatment on cracked or roughened skin, or after shaving
- Also recommended for shampooing to damaged scalp
- Extremely safe natural product without side effects

TECHNICAL INFORMATION

PRODUCT SPECIFICATIONS

Appearance:	Suspension
Colour:	Brown
Active ingredient content:	5% Arbutin
pH:	5.0 - 6.0
Solvent:	Demineralized water
Preservatives:	Phenonip 0.5%, Biopure 0.3%

PROCESSING AND DOSAGE

PMLs CONTAINING ARBUTIN can be incorporated into the finished emulsion in the final step at 35 - 40 °C. Care should be taken not to exceed 50 °C. The recommended dosage in skin care formulations is 3-10% of PMLs CONTAINING ARBUTIN.

STORAGE AND SHELF LIFE

Keep in a clean, cool and dark place. If product is stored as recommended it will remain stable for at least 12 months.

SAFETY

All the raw materials involved are regarded safe in terms of skin irritation, sensitivity, ophthalmic irritation, oral and cutaneous toxicity

GENERAL PRODUCT INFORMATION

Trade name	PMLs CONTAINING ARBUTIN (5%)
Product code	PL220

INGREDIENTS

INCI name	CAS No	EINECS No
WATER (AQUA)	7732-18-5	231-791-2
ARBUTIN	497-76-7	207-850-3
PHOSPHOLIPIDS	-	-
CARRAGEENANS (CHONDRUS CRISPUS)	9000-07-1	232-524-2
XANTHAN GUM	11138-66-2	234-394-2
EDTA	60-00-4	200-449-4
SODIUM CITRATE	68-04-2	200-675-3
PHENOXYETHANOL	122-99-6	204-589-7
METHYLPARABEN	99-76-3	202-785-7
ETHYLPARABEN	120-47-8	204-399-4
PROPYLPARABEN	94-13-3	202-307-7
BUTYLPARABEN	94-26-8	202-318-7
ISOBUTYLPARABEN	4247-02-3	224-208-8
IMIDAZOLIDINYL UREA	39236-46-9	254-372-6

^a Not Listed