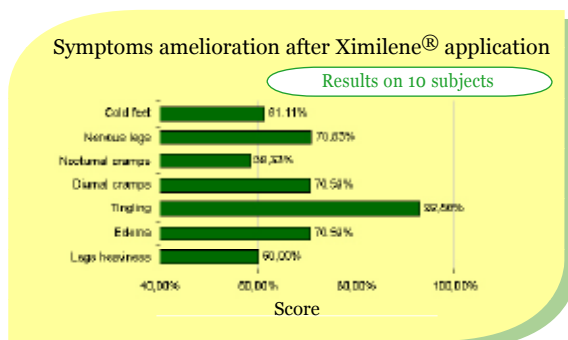
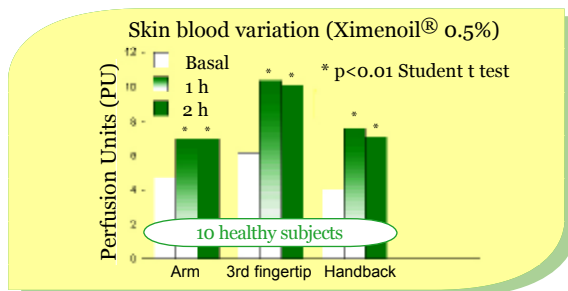
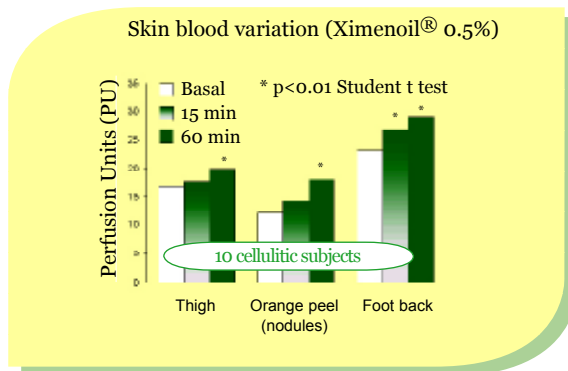




Ximilene® and Ximenoil®

Microcirculation improvers

Proven efficacy on humans



The effects of acute topically applied Ximenoil® have been evaluated in 40 female volunteers divided into four groups: ten female volunteers (group B) with cellulite have been tested applying a cream at a concentration of 0.5% (see formulation reported) and after one administration the result of skin blood flow variation has been checked using Laser Doppler Flowmetry (LDF). The application of Ximenoil® is able to induce a marked increase of the blood perfusion (measured in perfusion units), particularly evident 60 minutes after the topical treatment (from 20% to 50% depending on the area of application). The effect is also evident in those orange peel areas in which the basal value of blood perfusion is very low and usually resistant, also for reason of penetration, to treatments with "anticellulitic" agents. In this case, blood perfusion increased by 50%.

Ten healthy female subjects (group A) have been examined for skin blood variation by means of LDF also in different body areas. This test shows a long lasting activity, since after 3 hours from application the blood perfusion in most areas was still more elevated than the baseline. Similar results have been obtained in the other groups: in subjects with initial signs of venous stasis and insufficiency (group C), as well as in the subjects with peripheral blood supply disorders (group D) the topical application of a single dose of Ximenoil® caused significant improvements of the blood perfusion.

Ximilene® is a more manageable (oily) ethyl ester and has been synthesized from the free acid, ximeninic acid (Ximenoil®). Its biological activity has been tested on ten women (aged 19-34 years)² suffering from venous stasis in their first stage and with main evidence of that, signs of cellulite on the thighs. They have been examined before and after long term (60 days) treatment with Ximilene® (2.5% in O/W emulsion, see formulations reported), and typical cellulitic skin parameters have been evaluated with positive results. Other evaluations³ have been performed on male volunteers, and the same results in improvement of blood perfusion have been confirmed up to a period of three hours. This demonstrates that Ximilene® has the same kind of activity as Ximenoil®.

Mechanism of action

Ximenoil® could stimulate the conversion of arachidonic acid into eicosanoids in the dermis, and an increased level of eicosanoids is correlated with a vasokinetic action with an increase of the microcirculation³.

A second hypothesis relates to a direct action of Ximenoil® on the arterial smooth muscle cells³.

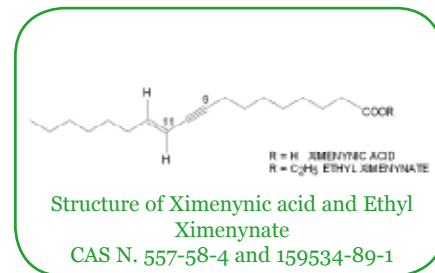
1. Morazzoni P., Bombardelli E., Cristoni A., Curri S.B.: "Microvasculokinetic activity of ximeninic acid" - Proceedings of the 19th IFSCC Congress (Sydney, 1996) - 2. Bombardelli E., Guglielmini G., Morazzoni P., Curri S.B., Polinelli W.: "Microvasculokinetic activity of ximeninic acid and ethyl ester" - Fitoterapia, Vol. LXV, No. 3, 1994, pp 195-201 - 3. Cristoni A., Guglielmini G., Stucchi P., Bouet A.: "An unsaturated fatty acid from traditional African cosmesis" - Proceedings In Cosmetics USA, (New York, 1999).



Safety Data

Ximenoil® and Ximilene® are perfectly tolerated and non sensitizing: they have been tested and showed no difference compared to an olive oil control preparation².

Characteristics



Ximenoil®	Ximilene®
Acidimetric contents: 98 - 105 of ximilynamic acid, with reference to the anhydrous and solvent-free substance Form: white to yellowish powder or flakes PF: 35 ° - 40°C Iodine number: 130 - 150 Stability: retesting date at 24 months Level of use: 0.5% Solubility*: soluble in Alcohol (75°, 90°), Ethoxydiglycol, Propylene Glycol, Polyisoprene, C12-15 Alkyl Benzoate, Wheat Germ Oil, Paraffinum Liquidum, IPM, C10-18 Triglycerides, Caprylic/Capric triglycerides	HPLC content: >70% Form: slightly yellowish oil Water content: < 0.5% Stability: retesting date at 24 months Level of use: 2.5% Solubility**: soluble in Alcohol 95°, Ethoxydiglycol, C12-15 Alkyl Benzoate, Wheat Germ Oil, IPM, C10-18 Triglycerides, Caprylic/Capric triglycerides**

* solubility has been tested at 100 mg in 10 g of solvent

** solubility has been tested at 200 mg in 10 g of solvent

Formulation examples

O/W emulsion with Ximenoil®		O/W emulsion with Ximilene®		Also suitable for
XIMENOIL®	0.50%	XIMILENE®	4.00%	Firming gels
Isopropyl myristate	6.50%	Isopropyl myristate	4.00%	Anticellulite emulsions
Wheat germ oil	3.50%	Cetyl palmitate	3.00%	Emulsions for heavy legs
Cetyl alcohol	3.00%	Dimethicone 350 c	0.50%	Hair lotions
Polysorbate 80	2.00%	Polysorbate 80	2.00%	
Buthylated Hydroxyanisole	0.05%	Hydrogenated lanolin	5.00%	
Carbopol 934P	0.50%	Buthylated hydroxytoluene	0.05%	
Carbopol 2020	0.25%	Disodium EDTA	0.10%	
Imidazolidinyl urea	0.30%	Imidazolidinyl urea	0.30%	
Kathon CG	0.05%	Kathon CG	0.05%	
Disodium EDTA	0.10%	Fragrance	0.10%	
Sodium Hydroxyde	0.13%	Carbopol	2.00%	
Distilled Water	as needed to 100	Distilled Water	as needed to 100	

Did you know...

The importance of polyunsaturated fatty acids (PUFA) relates to trophism and biochemical balance of the skin, as they make up an integral part of cell wall lipids, building up cell membranes. This becomes crucial in those tissues where a rapid cell renewal is required, as epidermis³. The activity of PUFA and in particular of ximilynamic acid finds further important confirmation in the traditional use in areas where the species Olax, Ximienia or Santalum grow spontaneously³. Poultices of these plants have been used as “traditional masks” to treat the skin and make it smoother, tauter and more velvety.

TRADE NAME	INCI (CTFA)	INCI (E.U.)	EINECS N.	CAS N.	INDENA CODE
XIMENOIL®	Ximilynamic Acid	Ximilynamic Acid	209-179-1	557-58-4	3009300
XIMILENE®	Ethyl Ximilynate	Ethyl Ximilynate	-	159534 - 89 - 1	3067950
XIMENESTER	Santalum album (Sandalwood) seed oil	Santalum album Extract	284 - 111 - 1	84787 - 70 - 2	3068005