SOLUBILITY STUDY

OLIVE ACTIVE MASLINICO POWDER

PRODUCT **OLIVE ACTIVE MASLINICO POWDER**
CODE: **OL 003**

1. INCORPORATION IN COSMETIC FORMULATIONS

1.1. EXAMPLE 1

Operation mode:

1. For 100 grams emulsion, heat separately aqueous and oil phases at 75ºC.
2. Preheat separately 3 g of Butylene Glycol to 70-75ºC, add 0.2 g of Olive Active Maslinico Powder (Maslinic Acid) and agitate until Olive Active Maslinico Powder is completely melted. This process takes a few seconds. Keep this mixture at 75ºC. PHASE A
3. Mix aqueous and oil phases in order to prepare the emulsion.
4. Add PHASE A to the emulsion already prepared.
5. Let it cool down.

Topical use only

Our specific tests reports do not relieve you from the obligation to test the goods for your own intents and purposes. User is responsible for the interpretation and application of this information.

1.2. EXAMPLE 2

PHASE	COMPONENTS	%
A	Aqua (Water)	81.98
A	Glycerin	3.00
B	Maslinic Acid (Olive Active Maslinco Powder)	0.20
B	Propylene Glycol	5.00
B	Alcohol	7.00
C	Preservative	q.s.
C	Hydroxyethyl Acrylate/Sodium Acryloyldimethyl Taurate Copolymers (Sepinov EMT 10)	1.35
D	Citric Acid	q.s.

Operating mode

1. Mix phase A and heat to 40ºC. Keep at this temperature.
2. Heat propylene glycol to 90ºC and add Olive Active Maslinico Powder. Mix until complete dissolution. Once solved, let cool down to 55ºC. At this temperature, add alcohol.
3. Add phase B to phase A with soft agitation.
4. Add to phase A+B each of the components of phase C, one by one with agitation, and emulsifying if it is necessary.
5. Adjust ph to specifications with phase D.

* Annex I: Sample's evolution at different conditions for 5 days.

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2. INCORPORATION IN COSMETIC FORMULATIONS. ACCELERATED STABILITY STUDY OF THE COSMETIC FORMULATION

2.1. FORMULATION OLIVE ACTIVE MASLINICO POWDER

COMPONENTS	A	B	C	D
Aqua (Water)	q.s.	q.s	q.s.	q.s
Glycerin	3	3	3	3
Preservative	q.s	q.s.	q.s.	q.s.
Disodium EDTA	0,1	0.1	0.1	0.1
Propylene Glycol	0	9	9	0
Maslinic Acid (Olive Active Maslinico Powder)	0	0	1	1
Isopropyl Myristate	7	7	7	7
Polysorbate 60	2.46	2.46	2.46	2.46
Sorbitan Stearate	0.54	0.54	0.54	0.54
Steareth-2	0.48	0.48	0.48	0.48
Steareth-21	1.52	1.52	1.52	1.52
BHT	0.1	0.1	0.1	0.1
Tocopheryl Acetate	0.25	0.25	0.25	0.25
Bisabolol	0.75	0.75	0.75	0.75
Acrylates/C10-30 Alkyl Acrylate Cross polymer (ETD 2020)	0.1	0.1	0.1	0.1
Acrylates/C10-30 Alkyl Acrylate Cross polymer (Pemulen TR2)	0.15	0.15	0.15	0.15
Sodium Hydroxide 10%	q.s.	q.s.	q.s.	q.s.

Operating mode

1. Heat separately aqueous and oil phases to 80ºC.
2. Mix both phases with agitation and homogenization in order to emulsify.
3. At 60ºC add carbopols phase, dispersed in Isopropyl Myristate. It is agitated and neutralized at 50ºC. It is all homogenized. Agitation is maintained up to 25ºC.

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Formulation C stability study:

Product samples are followed in stability to study their evolution. (Samples at room temperature, 40 and 50ºC).

T=15 days: ph and viscosity significant variations are not observed at room temperature, 40 or 50ºC. There is no precipitated.

T=30 days: ph and viscosity significant variations are not observed at room temperature, 40 or 50ºC. There is no precipitated.

T=3 meses: particles have appeared.

Conclusion: formulation containing Olive Active Maslinico Powder solved in propylene glycol (C) remained stable after 90 days in stability.
It has been observed that after 3 months of stability particles appear, which in any case are noticeable in the application of the cosmetic product.

Formulation D stability study:

Product samples are followed in stability to study their evolution. (Samples at room temperature, 40 and 50ºC).

T=10 days: ph and viscosity significant variations are not observed at room temperature, 40 or 50ºC. In the microscopic observations, particles are observed in all samples. Samples are kept in incubation for stability monitoring.

Conclusion: formulation containing Olive Active Maslinico Powder without dissolution in propylene glycol (D) remained stable after 90 days in stability.
The size of the dispersed particles does not vary over the time, there is only a change in their aggregation. These particles are not noticeable in the application of the cosmetic product.

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2.2. FORMULATION OF OLIVE ACTIVE MASLINICO POWDER SOLUBILIZED IN ETHANOL AND FORMULATED IN COSMETIC GEL BASE

COMPONENTS	A
Aqua (Water)	q.s.
EDTA	0.10
Glycerin	3.00
Alcohol 96%	7.00
Maslinic Acid (Olive Active Maslinico Powder)	1.00
BHT	0.05
Preservative	q.s.
Carbomer (Easy Gel DO)	0.30
Sodium Hydroxide 10%	q.s.

Operating mode

Olive Active Maslinico Powder previously solved in ethanol 96% is incorporated in a gel-type base.

This formulation has a white appearance.

Stability study

Product samples are followed in stability to study their evolution. (Samples at room temperature, 40 and 50ºC).

T=10 days: ph and viscosity significant variations are not observed at room temperature, 40 or 50ºC. In the microscopic observations, particles are observed in all samples. Samples are kept in incubation for stability monitoring.

Conclusion: formulation containing Olive Active Maslinico Powder solubilized in ethanol 96% and in a gel-type base remained stable after 90 days in stability.
Microscopic observation shows that after 90 days the initial particles have completely disappeared. This formulation greatly exceeds the accelerated stabilty test.

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3. SOLUBILIZATION STUDY

PHASE	COMPONENTS	%
A	Sodium Hydroxide 100%	8.59
A	Aqua (Water)	9.52
B	Maslinic Acid (Olive Active Maslinico Powder)	0.20
C	Propylene Glycol	81.88

Operating mode:

1. Mix sodium hydroxide and water in cold conditions. Agitate until complete dissolution of sodium hydroxide. Heat this phase until 85-90ºC.
2. Add Olive Active Maslinco Powder to phase A with agitation and keeping temperature.
3. Heat propylene glycol until 90ºC and add to phase A+B.

The result is a transparent yellow solution.

Note: Add the solution to the emulsion in hot conditions.

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1. FORMULATION OF OLIVE ACTIVE MASLINICO POWDER USED IN THE EFFICACY TESTS

COMPONENTS	%
Aqua	62.954
Glycerin	7.00
Caprylic/Capric Triglyceride	6.00
Stearyl Alcohol	3.50
Cyclopentasiloxane	3.25
Glyceryl Stearate	2.50
PEG-100 Stearate	2.50
Methylpropanediol	2.385
Squalane	2.00
Cyclohexasiloxane	1.75
Butyrospermum Parkii Butter	1.50
Dimethicone	1.00
PEG-40 Stearate	1.00
Propylene Glycol	1.00
Caprylyl Glycol	0.525
Polyacrylate-13	0.259
Polyisobutene	0.259
Polysorbate 20	0.222
OA Maslinico Powder	0.20
Disodium EDTA	0.10
Phenylpropanol	0.09
Sodium Hydroxide	0.006

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