

# MEADOWFOAM SEED OIL AND DERIVATES

## ISO 16128



- ANTI-AGE
- DERMAL FILLER
- GAS CARRIER

**MEADOWFOAM SEED OIL** is a vegetable oil extracted by a cold process (hexane free) from the seeds of the *Limnanthes Alba* plant. It contains omega-6 and omega-9 fatty acids. It brings a good emolliency without tackiness and it is strongly photostable because it possesses a high level of oxidative stability mainly due to the position of the double carbon bond on  $\Delta 5$ . The oxidative stability is defined as the Oil Stability Index (OSI) that is the duration (in hours) for which the oil starts to be oxidised. This commonly used method exposes a sample of oil to oxygen at a determined temperature.

**MEADOWFOAM SEED OILS** contain naturally occurring antioxidants: tocopherols. Moreover, they are not composed of oxidation sensitive polyunsaturated fatty acids in contrast to other common vegetable oils. This also explains the high OSI value of **MEADOWFOAM SEED OIL** in the above table. **MEADOWFOAM SEED OILS** and derivatives can be used in mixture with other oils to improve the stability of final formulations. **MEADOWFOAM SEED OILS** are slightly film forming, giving efficacy on skin hydration and TEWL reduction.

The high content of omega-9 (essential fatty acids) and vitamin E give anti-inflammatory properties to the **MEADOWFOAM SEED OILS** and derivatives, making it possible to reduce skin redness and microcirculation.

Meadowfoam ISO 16128 and Meadowfoam MD ISO 16128 are natural cosmetic ingredients according to the ISO 16128 regulations, providing guidelines specific to the cosmetics sector on definitions and criteria for natural and



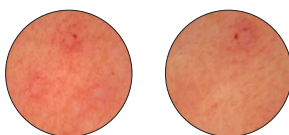
organic cosmetic ingredients and products. Meadowfoam MD ISO 16128 are extracted from the seeds of the *Limnanthes Alba* and are then molecularly distilled. This purification process only uses high temperatures and vacuum to separate components. The benefits are that no solvents have been used so there are no traces of hexane contrary to other processes.

Meadowfoam Wax is obtained from the fully purified **MEADOWFOAM SEED OIL**

by hydrogenation process. During this process, its physical aspect changes from liquid to wax with a melting point of 70-80°C.

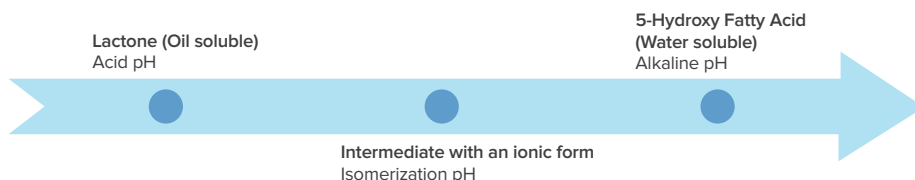
Lactone MSO is the reaction product obtained by the condensation of the fatty acids derived from Meadowfoam Seed Oil consisting primarily of the delta-lactone. It can be water or oil-soluble depending on the pH. It has a strong hydration capacity thanks to its rich texture.

Trade Name	INCI Name	Particularities	Melting Point (°C)
Meadowfoam Seed Oil	Limnanthes Alba (Meadowfoam) Seed Oil	Liquid	
Meadowfoam ISO 16128	Limnanthes Alba (Meadowfoam) Seed Oil	Liquid compliant with ISO 16128	
Meadowfoam MD ISO 16128	Limnanthes Alba (Meadowfoam) Seed Oil	Molecular distilled liquid	
Meadowfoam Wax	Hydrogenated Meadowfoam Seed Oil	White to light yellow wax	70-80
Lactone MSO	Meadowfoam Delta-Lactone	White Wax	2 points 20-40



The following pictures show the impact of Meadowfoam Seed Oil ISO 16128 on skin redness reduction.

On the left, the skin before applying Meadowfoam Seed Oil ISO 16128. On the right, the skin 8 hours after Meadowfoam Seed Oil ISO 16128 application.



### Benefits

- ✔ Anti-inflammatory
- ✔ Soothing
- ✔ Photostable
- ✔ Improve skin softness
- ✔ Natural antioxidants
- ✔ Bring a good emolliency without tackiness touch

### Properties

- ✔ Contain over 98% fatty acids chains with 20 to 22 carbon atoms
- ✔ Enriched in tocopherols and phytosterols
- ✔ Allow hot and cold processing
- ✔ Rich in vitamin E
- ✔ Compatible for skin and hair

# MEADOWFOAM SEED OIL ISO 16128

## Application Areas

### Skin Care

**MEADOWFOAM SEED OILS** and derivatives are ideal materials for day care products since they are resistant to oxidation. As **MEADOWFOAM SEED OILS** are emollients, they are suitable for all kinds of skin care preparations. Depending on their viscosity and melting point, they modify the texture of formulations accordingly. They repair the skin and mucous membranes such as lips and form a slight film on the skin, increasing the long term hydration. They leave a substantial residue on the skin and are non-tacky or sticky.

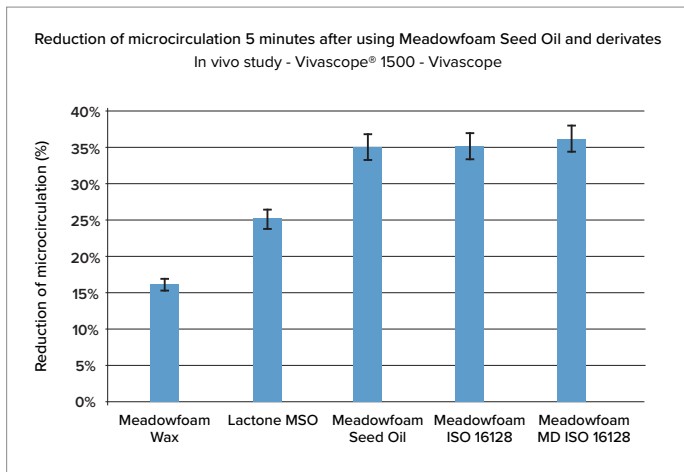
They can also be used as a base for various anhydrous treatment products in which oil soluble ingredients can be added.

### Sun Care

**MEADOWFOAM SEED OILS** and derivatives provide a rich emollience to sunscreen products and form a soft feel to the skin. The high OSI of **MEADOWFOAM SEED OIL** ensures photostability products.

### Colour Care

Meadowfoam Wax and Lactone MSO are ideal for lipstick formulations as they are tasteless with repairing action. They reduce microcirculation to relax lips, hair and skin.



By reducing microcirculation on young skins (23-28 years), Meadowfoam ISO 16128 preserves cells to delay skin ageing. Its moisturizing action contributes to rejuvenating cells with an anti-wrinkle and anti-inflammatory effect..

## Formulating

**MEADOWFOAM SEED OILS** and derivatives products can be used in O/W and W/O emulsions and in anhydrous systems.

### Emulsions

**MEADOWFOAM SEED OILS** are added in the oil phase before emulsification and they can be used in both hot and cold processes.

Lactone MSO and Meadowfoam Wax are added in the oil phase before emulsification and they can be used in only hot processes.

**MEADOWFOAM SEED OILS** and derivatives tolerate strong mixing and homogenization. Generally, they don't have any specific requirements for the formulation process.

TYPICAL USE LEVEL: MEADOWFOAM SEED OILS: 5-30%,

LACTONE MSO AND MEADOWFOAM WAX: 5-15%.

### Anhydrous Systems

**MEADOWFOAM SEED OILS** are added in the oil phase before emulsification and they can be used in both hot and cold processes.

Lactone MSO and Meadowfoam Wax are added in the oil phase before emulsification and they can be used in only hot processes.

They are ideal ingredients to repair skin and lips.

TYPICAL USE LEVEL: MEADOWFOAM SEED OILS: 5-50%,

LACTONE MSO AND MEADOWFOAM WAX: 10-60%.

### Meadowfoam® Seed Oil

INCI Name	Limnanthes Alba (Meadowfoam) Seed Oil
OSI @110°C	75 hours
C <sub>16:0</sub> content (palmitic acid)	0,4%
C <sub>16:1</sub> content (palmitoleic acid)	0,3%
C <sub>18:1</sub> content (oleic acid)	1%
C <sub>18:2</sub> content (linoleic acid)	0,3%
C <sub>20:1</sub> content (eicosenoic acid)	65%
C <sub>22:1</sub> content (erucic acid)	18%
C <sub>22:2</sub> content (docosadienoic acid)	10%