

VEGETABLE OILS USED AS SUNSCREENS

SPF index of some vegetable oils

Type of Oil	SPF
OLIVE	7,549
COCONUT	7,119
ALMOND	4,659
MUSTARD	2,105
SESAME	1,771

Figure 1.

A recent *in vitro* test carried out by the spectrophotometric method has determined the SPF index of a series of vegetable oils. (2)

Sun Protection Factor (SPF)

It is defined as the indicated protection time of sunscreens against the exposure of ultraviolet rays. There are different types of sun protection factors, ranging from SPF 5+ to SPF 50+.



Long-term exposure to **ultraviolet radiation (UV)** can cause sunburn, wrinkles, decreased immunity against infections, premature aging, or even cancer in the most severe cases. Therefore, there is a permanent need to protect ourselves against solar radiation and to prevent its side effects. (1)

Vegetable Oils have radioprotective power:

This is because these oils are known for being natural antioxidants for the body. They act by mitigating the damage generated by Radical Oxygen Species (ROS) of the body, which cause numerous negative skin changes and long-term skin degeneration. (1) (3)

Vegetable oils and sun protection

The data reflected in Figure 1. show that the SPF values of these non-volatile vegetable oils are between 2 and 8. There were obtained the following SPF values from the mentioned vegetable oils: (2)

- **OLIVE OIL** → SPF around **8**.
- **COCO OIL** → SPF around **7**.
- **ALMOND OIL** → SPF around **5**.
- **MUSTARD OIL** → SPF around **2**.
- **SESAME OIL** → SPF around **2**.

It can be concluded that olive oil and coconut oil have the best sun protection factors, a finding that will be useful in the selection of the fixed oil during the formulation of sunscreens.

- ✦ The knowledge of the SPF values of oils helps in the formulation of numerous cosmetic skin care products such as creams and lotions. (2)
- ✦ Vegetable oils do not have a high SPF value by themselves. Therefore, it is advisable to use them in synergy with other sunscreens or adding them to the current sunscreen composition in order to reduce the total amount of chemicals that are absorbed by the body. (3)
- ✦ The antioxidant properties of these oils block the action of harmful radical species, which delay the deterioration, the wear and the aging of the skin, contributing to the preservation of the skin health. (3)

Bibliography

1. *Korać, R. R., & Khambholja, K. M. (2011). Potential of herbs in skin protection from ultraviolet radiation. Pharmacognosy reviews, 5(10), 164.*
2. *Kaur, C. D., & Saraf, S. (2010). In vitro sun protection factor determination of herbal oils used in cosmetics. Pharmacognosy research, 2(1), 22.*
3. *Gause, S., & Chauhan, A. (2016). UV-blocking potential of oils and juices. International journal of cosmetic science, 38(4), 354-363.*

Farma- Química Sur SL

C/ Carlo Goldoni, 32 Polígono Industrial Guadalhorce –
Málaga 29004 España · Teléfono: 952 240 988 · Fax: 952
242 585 · e-Mail: farmaquimicasur@farmaquimicasur.com