EXTRA VIRGIN OLIVE OIL

PRODUCT DATA SHEET

EXTRA VIRGIN OLIVE OIL is a Natural Vegetable Oil original from the Mediterranean area broadly used in cosmetic and personal care products.

EXTRA VIRGIN OLIVE OIL has a specific fatty acid distribution that provides excellent skin-care properties such as smoothness and lubricity effects which are intrinsic to Olive Oil.

EXTRA VIRGIN OLIVE OIL contains also 1% to 2% minor components that other olive oils, as pomace oil, don’t contain or that contain in lower concentration. The minor components that EXTRA VIRGIN OLIVE OIL contains are α-tocopherol, phenol compounds, carotenoids, squalene, phytosterols, and chlorophyll and they provide some unique qualities for skin care.

EXTRA VIRGIN OLIVE OIL contains 150 to 200 mg/kg α-tocopherol with an optimum E/polyunsaturated fatty acid ratio (milligrams of vitamin E per gram of polyunsaturates). This ratio, which should never be less than 0.5, is hardly ever found in pomace oil, but in extra virgin oil it is 1.5 to 2. Moreover, in seed oils and pomace oil, the tocopherols present are mainly of β, γ, and δ types used scarcely by the body or the skin, therefore not useful for cosmetic purpose¹.

In addition to α-tocopherol, EXTRA VIRGIN OLIVE OIL contains some carotenoids as β-carotene and lutein (responsible for the yellow color), and especially numerous phenol compounds, which are presently attracting the attention of the cosmetic industry. The most important of these are hydroxytyrosol and oleuropeine. Other phenol compounds present, in lesser amounts, are caffeic acid, vanillic acid, and ferulic acid, which exert an α-tocopherol saving action, in addition to the lignanes.

The presence of numerous and varied antioxidants agents is of importance because diverse antioxidants act synergistically, whereby when only one antioxidant is present, even in high amounts, it is not effective and can even have adverse effects, and this synergic combination is found mostly in EXTRA VIRGIN OLIVE OIL.

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The similarity of EXTRA VIRGIN OLIVE OIL's composition to sebum, given by its high content of squalene, β-sitosterol content, optimum fatty acids content (the presence of oleic acid, which acts as a skin softener), and wealth of antioxidant substances, makes it particularly able to directly protect the skin.

When applied to the skin after sun exposure, olive oil has an inhibitory effect on sun-induced cancer development. This is accomplished by the activation of enzyme p53, the substance that prevents and repairs skin damage caused by exposure to UVA².

On the whole, EXTRA VIRGIN OLIVE OIL is indicated for use directly on the skin and in creams and salves used in cosmetics as an ingredient in dermo-cosmetology since it shows more therapeutic effects (anti-inflammatory, anti-neoplastic, and anti-aging)

EXTRA VIRGIN OLIVE OIL may be easily combined with other oils to produce any product for cosmetic and personal care applications.

EXTRA VIRGIN OLIVE OIL may be used in almost all applications because of its excellent oxidative stability.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Appearance:</th>
<th>Yellow or yellow-greenish oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid Index:</td>
<td>&lt; 2.0 mg KOH/g</td>
</tr>
<tr>
<td>Peroxide Index:</td>
<td>&lt; 20 meq O₂/kg</td>
</tr>
<tr>
<td>Unsaponifiable matter:</td>
<td>Max. 1.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatty Acid</th>
<th>Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palmitic acid</td>
<td>7.5 - 20 %</td>
</tr>
<tr>
<td>Palmitoleic acid</td>
<td>Max. 3.5 %</td>
</tr>
<tr>
<td>Stearic acid</td>
<td>0.5 - 5 %</td>
</tr>
<tr>
<td>Oleic acid</td>
<td>56 - 85 %</td>
</tr>
<tr>
<td>Linoleic acid</td>
<td>3.5 - 20 %</td>
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</tbody>
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² P. Viola and M. Viola, Clinics in Dermatology, Volume 27, Issue 2, Pages 159-165

Updated: 11/2010
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APPLICATION

EXTRA VIRGIN OLIVE OIL possesses excellent emollient properties that are appreciated in all type of cosmetics products. It is widely used as carrier oil, for hair care solutions and in body care recipes, where it offers a great conditioning effect.

EXTRA VIRGIN OLIVE OIL may also be directly applied onto the skin or used in formulations for cosmetic and personal care at dosages that typically range between 3 and 10 %.

OIL STABILITY INDEX (OSI)

The Oil Stability Index (OSI) was determined using a Rancimat instrument. The rapidity of oxidation of oil depends on the degree of unsaturation, the presence of antioxidants, and prior storage conditions. In the OSI analysis, the rate of oxidation is slow until resistance to oxidation is overcome. This time is known as the oxidation induction period and it is a tool to determine the useful life of the oil.

EXTRA VIRGIN OLIVE OIL OSI: 56.4 hours (100 ºC)

ISO 6886 (1996)
Animal and vegetable fats and oils
Determination of oxidation stability

Conditions
Sample amount 2.5 ± 0.01 g
Temperature 100ºC ± 0.2ºC
Gas flow: 20 L/h
Vessel: 50 mL distilled water
Evaluation Conductivity
Induction time (tangent method)

Blue: determination at 100 ºC
Red: determination at 110 ºC

INCI Name: Olea Europeae (Olive) Fruit Oil.
CAS Nº: 8001-25-0  EINECS Nº: 232-277-0

EXTRA VIRGIN OLIVE OIL complies with European Pharmacopoeia 5.0

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