

Origanum Oil



Botanical Name	<i>Origanum Vulgare L.</i>											
Botanical Family	Lamiaceae											
Starting Raw Material	Aerial parts											
CAS Number	8007-11-2											
FEMA Number	2660											
Main Origins	Central Europe, Turkey, Spain, Morocco											
Harvest Period	J	F	M	A	M	J	J	A	S	O	N	D

General Description

This is a vigorous plant 30 to 80 cm high, with an erect stem and pink-crimson colored flowers. It is known from ancient times in Greece, where it was planted on tombs to appease the dead. For Dioscorides, it was one of the best remedies for reviving appetite. Romans used it in the "ars-ornatrix" composition, and in India, it was a part of the rituals worshipping Shiva. The name "Oregano" comes from the Greek "oros" (mountain) and "ganos" (glamour). The use of the dry plant as a condiment spread worldwide through the widespread consumption of pizzas.

There are a lot of species and varieties cultivated around the world to produce the essential oils, however the most used are "Origanum Vulgare Ssp. Hirtum", "Origanum Onites" and "Thymus Capitatus". The latter is almost exclusively distilled in Spain and it is olfactively superior to the rest, being less cresolic, spicier and stronger than Vulgare species.

Uses & Regulation

- In fragrances, flavors (mainly in seasonings), animal feed, and in aromatherapy (it has been proven that Origanum oil is an excellent bactericide, apart from antioxidant and antifungal).
- Monographs: ISO 13171. FCC monograph corresponds to Spanish Origanum oil.

- IFRA: Permitted.
- Cosmetic Allergens: Limonene, Linalool.
- Safety summary: Maximum dermal use level: 1.1% (based in the skin irritation effect of Thymol and Carvacrol). Contraindication: Pregnancy and breastfeeding.

Chemical Profile & Chemotypes

There are a lot of chemotypes depending of the subspecies and the origin of the plant. In this sheet, the chemical composition is focused in *Origanum Vulgare Ssp. Hirtum* (the most common essential oil in the market). Its chemical profile is very similar to *Thymus Capitatus* ("Spanish Oregano") but there are some differences that allow to distinguish between the two oils, for example, the lower content in Alpha Thujene and some typical sesquiterpenes and diterpenes in *Origanum Vulgare*.

The high availability and low price of synthetic Carvacrol makes the adulteration of Origanum oils a common practice. Due to the high purity of Carvacrol, it is difficult to detect it. However, experienced analysts can identify and isolate some trace markers of the synthetic routes of Carvacrol, P-cymene and Gamma Terpinene, the three major compounds of Origanum.

Typical values for the main compounds present in this oil are detailed below:

- Alpha Thujene: 0.5 - 2.5%
- Alpha Pinene: 0.2 - 2.5%
- P-Cymene: 4 - 14%
- Gamma Terpinene: 3 - 9%
- Linalool: Tr - 3%
- Terpinen-4-ol: 0.5 - 2%
- Beta Caryophyllene: 0.5 - 4%
- Thymol: 0.5 - 5%
- Carvacrol: 60 - 80%