



Botanical Name	<i>Lavandula latifolia</i> Medik.											
Botanical Family	Lamiaceae											
Starting Raw Material	Flowering tops											
CAS Number	8016-78-2											
FEMA Number	3033											
Main Origins	Spain											
Harvest Period	J	F	M	A	M	J	J	A	S	O	N	D

General Description

This plant is a rounded bush of 40 - 90cm high with purple flowers arranged in spikes at the top of the plant. It grows wild in the Mediterranean area, mainly in Spain. Morphologically it is similar to Lavender, but differs from it by its larger and spatulated leaves, and a double fork on the spike of the flower. Additionally, the flowers have a softer purple color than Lavender.

Between 500 and 800 meters high, a spontaneous cross takes place between Lavender (*Lavandula Angustifolia*) and Spike Lavender. This hybrid is called "Lavandin". After the Second World

War, and due to the world shortage of Lavender, Spike Lavender production was increased to more than 150 tons per year, and then it decreased again when Lavandin oils began to be used. Today its production has recovered due to the highly appreciated odor quality for the perfumery industry.

The oil is concentrated in the flowers spikes, so the harvest is usually done by cutting these spikes in order to achieve more yield (between 0.8 and 1.5%). Its odor profile is agrestic, floral and herbaceous, with a powerful camphor note, which it shares with Lavandin oil.

Uses & Regulation

- In fragrances, flavors, cosmetics and aromatherapy (decongestant, antiviral, antioxidant, antiseptic and cutaneous healing).
- Monographs: ISO 4719, FCC, European Pharmacopoeia.
- IFRA: Permitted.

- Cosmetic Allergens: Limonene, Linalool, Geraniol, Coumarin.
- Safety summary: Maximum dermal use level: 19%. Maximum daily oral dose: 603 mg (based on Camphor content).

Chemical Profile & Chemotypes

The three major compounds of Spike Lavender are 1,8-Cineole (Eucalyptol), Camphor and Linalool. In terms of hazard, since Linalool is an anticonvulsant, it may mitigate the neurotoxicity of Camphor. Regarding the odor profile, Camphor and Cineole contribute to distinguish it from Lavender, since the Spike Lavender is more fresh and diffusive.

Spike Lavender is easily adulterated with eucalyptus fractions, synthetic Linalool and synthetic or natural Camphor. Its main fingerprint is a typical sesquiterpene, Trans-Alpha Bisabolene. This compound has been standardized by ISO and Pharmacopoeia so all essential oils with its value out of range should be discarded.

Typical values of several compounds present in this oil are detailed below:

- Alpha Pinene: 1 - 4%
- Limonene: 0.5 - 3%
- 1,8-Cineole: 16 - 39%
- Camphor: 8 - 16%
- Linalool: 34 - 50%
- Linalyl Acetate: Tr - 1.6%
- Alpha Terpineol: 0.2 - 2%
- Borneol: 0.1 - 3%
- Trans-Alpha Bisabolene: 0.4 - 2.5%