Botanical innovation *meets* Cutting edge encapsulation

LABIOTASTE technology

A technological platform developed thanks to Labiotre's extensive expertise in the formulation of innovative botanical extracts combined with Sphera Encapsulation's know-how in the field of encapsulation. The use of **fluid bed technology in the manufacturing process** allows for the encapsulation of the raw extract, providing multiple functional advantages.

Labiotaste technology finds different application in the nutraceutical field:

- **Taste masking**
- **Improved stability**
- **Enhanced dispersibility**

RAW EXTRACT

Fluid bed Coating and agglomeration

ENCAPSULATED

Encapsulation provides the raw material with multiple functional benefits.

- Improved flowability and processability
- Hide unpleasant taste and flavour
- Tailored release
- Better solubility
- Improved stability and humidity resistance

Discover the first application of LABIOTASTE technology on challenging botanical extract:

Valeriana officinalis
available

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Why Choose Our Granulated LabioTaste extracts?

A next-generation herbal ingredient engineered to overcome the sensory and processing limitations of traditional powders - delivering **reliability**, **efficiency**, and **consumer-friendly performance**.

✓ Enhanced Sensory Experience

Botanicals' naturally intense smell and taste are effectively mitigated through our specialized granulation process. The protective matrix reduces exposure of the native powder, resulting in:

- **Odor control**
- Better **Consumer Acceptance**

✓ Exceptional Flowability & Processing Efficiency

Engineered granule morphology ensures superior powder behavior:

- Free-flowing material with improved filling and weight uniformity
- Reduced dust generation and **easier handling** for **high-speed production**

✓ Reduced Hygroscopicity for Improved Stability

The granule structure helps shield the Valerian particles from environmental humidity, providing:

- **Moisture protection**
- Improved **shelf-life** and **storage stability**

Your formulations stay consistent, stable, and easy to process over time.

RAW EXTRACT

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EXTRACT	COMPRESSIBILITY INDEX	FLOWABILITY
Valerian dry extract Tit. 0,8% total sesquiterpenic acid	**43.8%**	Very very poor
Valerian LabioTaste dry extract Tit. 0,42% total sesquiterpenic acid	**7.79%**	Excellent

*The Carr Index is a measure of the compressibility and flowability of a powder.

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Encapsulation: Advanced Protection for High-Value Actives

Encapsulation is a precision technology that **encloses sensitive molecules within a protective matrix**, creating **granulated particles that shield the active from the external environment.** Originally used for flavors and dyes, encapsulation has become a key innovation driver in food and nutraceutical science.

Microencapsulation in Nutraceuticals

Nutraceutical ingredients—derived from plants, animals, minerals, or microorganisms—often lose quality during extraction due to exposure to oxygen, heat, or mechanical stress. This process can also intensify unpleasant sensory traits such as odor and taste.

Microencapsulation overcomes these challenges by protecting the active compound and improving its suitability for formulation. Through controlled barrier systems, encapsulated ingredients deliver:

- Improved **taste** and **odor**
- Enhanced **workability** and **flowability**
- Greater **physical** and **chemical stability**

A Technology That Elevates Ingredient Performance

By isolating delicate actives and optimizing their functionality, encapsulation transforms raw materials into:

- **Stable**
- **Consumer-friendly** and **technician-friendly**
- **High-performing nutraceutical ingredients** ready for next-generation formulations.

Fluid bed as technology of manufacturing

Among various **microencapsulation techniques**, a fluidized bed is a versatile method **for encapsulating molecules.** It exploits the physical phenomenon according to which a solid particle behaves like a fluid under specific physicochemical conditions. This technology helps achieve a quick and uniform result, using air to coat and dry the substrate simultaneously. This allows drying, depositing functionalizing coatings, and forming new particles through the **granulation or agglomeration of fine powders** to improve their performance and solubility.

The advantages:

- efficiency and speed of the process
- compatibility with heat-sensitive products
- wide range of applications and uses
- adaptability to large-scale production

Characteristics:

granules with dimensions greater than 100-200 um, variable payload based on the type of technology