

# Soria Natural's *Dynamic Extraction Process*

## WHY IS IT BETTER?

Because it's:

- ✓ More efficient
- ✓ Faster



Soria Natural gets the **95% of the active principles in the plant in less than 6 hours**, while when following the traditional method, 48 hours are necessary to obtain, by percolation, the 65%-70% of these active principles.

## WHY IS IT MORE EFFECTIVE AND FASTER?

**Cryogenic milling and Lyophilization** are the key procedures in our process.

We can describe our process in 4 stages:

### 1. MICRONIZATION

The fresh plant is dried in an oven under controlled temperature and then micronized. This extremely fine grinding is done through cryogenization of the plant (freezing at very low temperature)

These micronized particles make it possible to initiate the extraction process at lower temperatures and to increase the contact surface area of the particles.

Extracting at lower temperatures minimizes the loss of volatile elements.

Extracting with a higher contact surface area increases the extraction efficiency.

### 2. EXTRACTION

Plant powder is extracted with hydro-alcoholic solvent by a double Dynamic extraction (in warm solvent and in circulating movement) and double filtration process:

- 1st Dynamic extraction (hydroalcoholic solvent: 30%-95% v/v, depends on the herbs)
- 2nd Dynamic extraction (hydroalcoholic solvent: 60% v/v)

### 3. CONCENTRATION

The liquid obtained after centrifugal filtrations is concentrated under vacuum by evaporation.

### 4. PULVERIZATION

The concentrated liquid extract is pasteurised and dried (removing the solvent), either:

- By spray drying (= pulverization in microdrops and exposed to a controlled hot air flow).
- By lyophilization (= sublimation of liquids by freezing and high vacuum).

#### spray drying vs. lyophilization

Lyophilisation (or freeze drying) is considered to deliver the highest product quality; but it requires very expensive equipment that takes up a great deal of space within a production facility. It can increase the stability, temperature tolerance, and shelf life of pharmaceutical products and it is the perfect method in case we want to protect the ingredients and maintain their biological activity. Even the most sensitive ingredients like enzymes and volatile essential oils are preserved that way.

Spray drying is flexible, efficient, and requires less financial investment and operational time (much quicker) compared with a similar scale lyophilisation, the cycle time for spray drying is hours instead of days.

Therefore, depending on the characteristics of the components and the results we want to achieve, we use spray drying or freeze drying technique.

The result in both cases is a dry powder maintaining the **maximum amount of properties** of the fresh plant.

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