

MULTIFUNCTIONAL FRUIT STONE GRANULES AND FINE POWDERS



Company Presentation and Product Catalog
2017-2018

Who are we?

BioPowder.com is a brand launched in 2016 by a small but international team after decades of experience in the biomass-processing industry.

We proud ourselves of our production and raw-material competence, internationality and well-rounded knowledge of different markets and their requirements.

Production is handled by a team of 9 in Benamejil (Southern Spain), one of Europe's major olive and fruit cultivation areas.

Our USPs

- ❖ Production with state-of-the art grinding and sieving machines (> 98% micron range accuracy)
- ❖ Direct access to top-quality raw materials due to long-term contracts with farmers and agricultural cooperatives
- ❖ Long-standing contracts with argan oil producers in Morocco and therefore a guaranteed supply of argan shells
- ❖ Sound expertise in Mediterranean logistics and worldwide shipping



FRUIT STONE GRANULES AS COSMETIC INGREDIENTS

Are you looking for 100% organic, plant-based cosmetic ingredients?

Herbal powders are well suited as raw materials for **cremes, balms, soaps and gels** – without the need for preserving agents.

Coarse granules are excellent **exfoliating grains** or **smoothing particles** (abrasives) for highly efficient hand and foot cleansers.



Fruit stone granules combine a **creamy or granular texture** with a variety of **active properties**, e.g.

- ❖ Inoxidant effects (anti-aging effects) due to their high content of polyphenolics and polyunsaturated fatty acids
- ❖ Rehydrating and re-fattening effects
- ❖ Anti-inflammatory and protective qualities
- ❖ Soothing and strengthening effects

Our flours, powders and granules are:

- ❖ anti-allergic
- ❖ suitable for halal and vegan products
- ❖ not tested on animals
- ❖ COSMOS-approved



FRUIT STONE GRANULES AS FOOD/FEED & PHARMA INGREDIENTS

In pharmaceutical applications, fruit stone powders have been used as **innovative APIs**, often with the goal of replacing animal or synthetic ingredients.

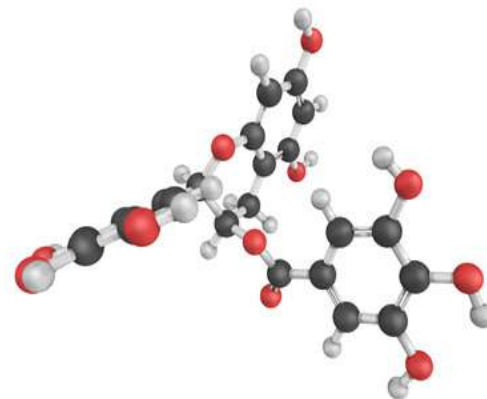
Besides, innovative food/feed manufacturers have recognized the super-food potential of certain fruit stone powders. In fine micron sizes, our materials are versatile specialty ingredients, more specifically nutritive additives, **bases/carriers** of flavors, **colorants** or natural **thickeners** and **stabilizers**.

Another application includes **smoking** and **flavoring** of fish and meat products.

Nutritional Properties

Scientific research has proven that fruit stones contain the following nutrients in significant doses:

- ❖ Fibres and carbohydrates (polysaccharides)
- ❖ Bioactive compounds
 - Polyphenolics
 - Polyunsaturated fatty acids
 - Vitamins (especially B-vitamins)
 - Bio-proteins



Fruit Stone Granules for INDUSTRIAL AND DECORATIVE APPLICATIONS

Fruit stone granules have been proven raw materials for innovative, bio-based industrial applications:

Material Science:

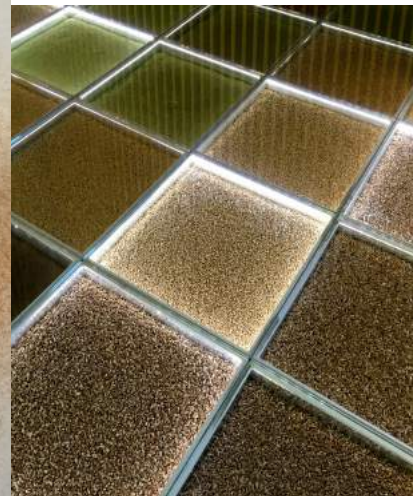
- ❖ Carbon fibers
- ❖ Activated carbon
- ❖ Carbon briquettes
- ❖ Filter media (water, oil)
- ❖ Bio-polymers / plastics
- ❖ Composite materials
- ❖ Paints, coatings
- ❖ Substrates

Design and Construction:

- ❖ Filling and insulation
- ❖ Interior design
- ❖ Booth design (World Expo 2017)
- ❖ Floor, plate, panel construction
- ❖ Animal bedding, e.g. for terraria

Abrasion:

- ❖ Cleaning and polishing of specialty instruments (dental care, precious metals, etc.)
- ❖ Surface abrasion, e.g. sand blasting
- ❖ Machine cleaning



OUR BESTSELLERS

OLIVE PIT GRANULES



Pure, clean *olea europaea* seed granules are the result of a complex treatment process of olive oil production residues.

To produce olive oil, the olive is always compressed as a whole, i.e. including the kernel. The de-oiled olive cake is then processed by means of specialized machines.

As part of a centrifugation process, olive pit fragments are separated from pulp and shell rests and subsequently cleaned mechanically, dried and screened based on their particle sizes.

The result is a light beige powder without any dust and pulp residues. It can be cleaned further and transformed into high-grade flours and granules.

ALMOND SHELL GRANULES

Our powders are made of the raw material *prunus dulcis*, known as the common almond.

We buy our raw material from selected almond producers in Southern Spain where the harvest takes place throughout the summer. Spain produces an average of 45,000-50,000 tons of almonds per year; this translates into around 8,000 tons of high-quality almond shells.

We obtain all our almond shells freshly and start processing them immediately during the harvest season. They are cleaned, separated from any foreign matter such as dust, dried and stored in a clean environment.



ARGAN PIT GRANULES



Argan pit shells are the shells of the kernel inside the argan fruit. Today, argan trees (*argania spinosa*) grow almost exclusively in Southern Morocco.

The century-old know-how and method to exploit the tree and its fruits were declared intangible cultural heritage of humanity by UNESCO in 2014.

As part of the argan oil production, the argan seed inside the fruit kernel is pressed using a traditional method. It is the work of women at cooperative organizations that ensure fair working conditions as well as sustainable and ecological business practices. The almond-like argan core is compressed in manually operated stone mills without any additives.

AVOCADO STONE GRANULES

Hardly any other fruit has become such a trend food or “superfood” as the avocado in recent years. Its pulp is an extraordinarily healthy ingredient for pastes, salads, smoothies and sauces.

Most nutrients of the avocado, however, are contained in its large, heavy stone. It is richer in amino acids, vitamins and soluble fibers than any other fruit or vegetable. In its Central and South American countries of origin, the so-called “corazón de aguacate”, i.e. the heart of the avocado, has traditionally been pulverized and added to many dishes.

Also in Europe, avocado stone powder is used as a herbal remedy for vascular diseases, excessive cholesterol levels, inflammations and other illnesses. The high antioxidant content makes the avocado stone a popular elixir to prevent signs of aging. The powder has a somewhat nutty flavor. Due to its relatively high oil content, it should be eaten and processed in a fresh state.



APRICOT, PLUM AND PEACH STONE GRANULES

Apricot stones are usually crushed to obtain the almond-like seed for the production of apricot kernel oil. This oil is mainly used as a high-quality ingredient for cosmetic and food products.

Also plum and peach stone oil have become increasingly popular in recent years. Consequently, there has been a better availability of plum and peach stone shells for transformation into high-grade powders. We use exclusively fresh stones and therefore supply our powders preferably during and shortly after the harvest season.

Fruit stone shells mostly consist of lignocellulose material, i.e. of insoluble fibers. Hence, they are a wood-like, inflammable raw material with a characteristic brownish color and a high calorific value. In a dry state, they are extremely durable and their mechanical strength/hardness is similar to olive pit granules. They are neither chemically treated nor genetically modified and fulfill the common European food standards.

OTHER GRANULES

Besides the fruit stone and shell powders displayed herein, we can also supply the following (ground and unground) raw materials upon request:

- | | | |
|--------------------|---------------------------|--------------------------|
| ❖ Grape seeds | ❖ Olive peel | ❖ Pumice |
| ❖ Pistachio shells | ❖ Orange/lemon seeds | ❖ Bamboo canes |
| ❖ Mango stones | ❖ Papaya seeds | ❖ Rice husk |
| ❖ Quince kernels | ❖ Corn cobs | |
| ❖ Walnut shells | ❖ Wood (pine, olive wood) | ❖ ...others (please ask) |
| ❖ Pecan shells | ❖ Hazelnut shells | |
| ❖ Cherry stones | ❖ Coconut shells | |

Grain Sizes / Micron Ranges

Depending on your specific demand, we can produce any micron size range between 0 and 2000 microns. To ensure fast processing and supply, we recommend the following standard grain sizes:

0-300 µm

Fine, creamy powders

Ideal as binders, food/feed additives, pharma raw materials, dental abrasives

300-600 µm

Medium granules

Perfect for face and body exfoliants, cleaning media and fine abrasives

600-800 µm

Large granules

Perfect for body exfoliants, robust cleaning media and industrial abrasives

SERVICE AND LOGISTICS

- ❖ We make powders in **your preferred grain size** (micron size), generally within a range from <0.05 to 5mm. In other words, we produce bespoke products of any raw material. Blends of different fruit stone powders are also possible upon request.
- ❖ We are pleased to advise you based on your intended use and to provide you with a small **sample**.
- ❖ You can order the **packaging of your choice**, for example plastic bags in multi-layer paper envelopes or big bags.
- ❖ We can **produce all year round and export globally** thanks to long-standing cooperation agreements with leading logistics providers. Therefore, we can handle door-to-door transportation including customs clearance.



Remark about quantities:

we can supply anything from 25kg lots to full container loads. Larger quantities allow for significant transportation savings and hence lower per-kg prices

HOW TO REACH US

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