Vitryxx® Bioactive Glass Powder

Material Data

Vitryxx® bioactive glass powder is entirely made of elements that also naturally occur in the human body, such as silicon, calcium, sodium, and phosphorus. The elements used in Vitryxx® are closely integrated into its material structure and work synergistically to create its unique properties.

As is true for all glasses, Vitryxx® is an inert, inorganic material with an amorphous structure. It does not age or deteriorate with time and is insensitive to light and temperature extremes. Therefore, it is not necessary to add any preservatives to the glass powder.

Anti-odor properties
Independent external institutes have proven the anti-odor properties of bioactive glass powder

Preservative-boosting properties
In aqueous suspensions, bioactive glass powder shows a high efficiacy against bacteria

Anti-inflammatory effects/ soothing & calming
In tests, cosmetic products that include bioactive glass powder demonstrate an ability to reduce skin redness

Mineral-enriching effects
In contact with water, bioactive glass powder releases calcium and silica, which form a mineral layer on keratin surfaces

Excellent biocompatibility
Bioactive glass powder is composed of the inorganic oxides SiO_2, CaO, Na_2O, P_2O_5, and exhibits proven skin compatibility

Alkalizing agent
Bioactive glass powder offers a skin-friendly and well controllable local alkaline milieu without any undesired smell

Vitryxx® Bioactive Glass Powder	
Material number:	MD01
Classification:	Frit, chemicals
Form of delivery:	Powder, grain sizes upon request
INCI-name:	Calcium Sodium Phosphosilicate

Component	
CAS	65997-18-4
EINECS	266-047-6
wt %	100 %

Disclaimer: Efficacy varies depending on formulation of end product. Properties and characteristics refer to the bioactive glass powder only. Tests by renowned institutes available upon request.

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Vitryxx®M Bioactive Glass Powder with Mica:
Pre-blending of Vitryxx® with Mica improves its dispersibility and enhances the appearance of the formulation. It is ideal for formulations like emulsions, liquids, and low-viscous formulations.

Vitryxx®M Bioactive Glass Powder	
Material number:	G018-270
Classification:	Frit, chemicals/Mica
Form of delivery:	Powder, grain sizes upon request
INCI-name:	Calcium Sodium Phosphosilicate/Mica

Component	Vitryxx®	Mica
CAS	65997-18-4	12001-26-2
EINECS	266-047-6	310-127-6
wt %	95-99 %	1-5 %

Appearance:
Vitryxx® bioactive glass powder is a fine white powder that is odorless and tasteless. Due to its hydrophilic properties, it must be stored under dry conditions. It is suitable for waxy, solid, powder, and highly viscous formulations.

Grain sizes:
SCHOTT offers Vitryxx® in the following standard grain size. Custom grain sizes are also available on request.

SM4.0	specified by	d50: (4.0 ± 1.0) µm	d95: ≤ 20 µm

Chemical Properties:
Vitryxx® is composed of four inorganic oxides:

Name	[wt%]
SiO_2	45 ± 5
CaO	24.5 ± 3
Na_2O	24.5 ± 3
P_2O_5	6 ± 2

Solubility:
The solubility of Vitryxx® varies with its grain size. For example, the SM4.0 grain size has a solubility of 10%.

Microbiological Properties:
Maximum content of microorganisms:

- Total viable count ≤ 100 cfu/g
- Yeasts and molds ≤ 100 cfu/g

Purity:
The melting process is conducted at over 1,200 °C so that organic impurities are not present in the material.

Strict production procedures are also adhered to in order to minimize the presence of inorganic impurities.

Specifications for elements as stated in the cosmetics directive:

- Lead (Pb) < 20 ppm
- Mercury (Hg) < 5 ppm
- Arsenic (As) < 5 ppm
- Antimony (Sb) < 5 ppm
- Beryllium (Be) < 10 ppm

The sum of all heavy metal impurities, namely lead (Pb), mercury (Hg), bismuth (Bi), arsenic (As), antimony (Sb), tin (Sn), cadmium (Cd), silver (Ag), and copper (Cu) is less than 50 ppm.

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