

Beer Stabilizing BECOSORB® 1000

Silica Gel

BECOSORB 1000 silica is a non-swelling silicic acid xerogel with a maximum moisture content of 10%. Through precisely defined particle size, uniform surface structure, pore size, and optimal total pore volume it adsorbs macromolecular protein compounds from the beer, which could cause colloidal hazing.

The specific advantages of BECOSORB 1000 silica gel:

- Selective adsorption of macromolecular protein fractions
- Improved stabilization effect
- No negative effect on foam-positive substances
- Can be used in all common beer stabilization processes
- Can easily be combined with other beer stabilizers, can be used for filtration tasks, supports filtration
- Odorless and tasteless, chemically inert

Application

BECOSORB 1000 silica gel can be used safely for all stabilization processes commonly used in breweries:

1. Sedimentation technique

- During hosing from fermentation to storage cellar
- During transfer pumping before the end of the storage

2. Continuous contact technique

- The most common and straightforward application of BECOSORB 1000 silica gel is together with diatomaceous earth – e.g. BECOGUR™ diatomaceous earth – during the filtration. Part of the fine diatomaceous earth used for the continuous dosage can thus be substituted. This saving corresponds to approx. 50% of the BECOSORB silica gel used.

Example: The addition of 66 °lb (30 kg) of BECOSORB 1000 silica gel to the continuous dosage saves about 33 lb (15 kg) of fine diatomaceous earth.

- Addition together with the diatomaceous earth directly in the dosing tank during the filtration
- Addition to a stabilization tank with a separate dosing device. This has the advantage of longer contact time with the beer to be stabilized
- Addition through a dosing tank at the start of the beer flow downstream of the mixing apparatus; here, too, the stabilization effect is improved through longer contact time

Dosage

In addition to the required shelf life of the beer, other important parameters for specification of the BECOSORB 1000 silica gel dosages are the operational technological beer production parameters, such as fermentation process, pH gradient, oxygen load, turbidity load and temperature during storage and filtration.

The quantities used range between 1.25 – 6.68 lb/1,000 gal (15 – 80 g/hl), depending on the protein composition of the raw materials.

The following guide values have been tried and tested in practice:

1.25 – 1.67 lb/1,000 gal (15 – 20 g/hl)	for approx. 3 – 4 months' shelf life
1.67 – 3.34 lb/1,000 gal (20 – 40 g/hl)	for approx. 4 – 6 months' shelf life
3.34 – 6.68 lb/1,000 gal (40 – 80 g/hl)	for approx. 6 – 12 months' shelf life
> 6.68 lb/1,000 gal (> 80 g/hl)	for approx. > 12 months' shelf life

As a general recommendation, BECOSORB 1000 silica gel should be added as a preparation to the second pre-coating with a dose of 5.12 – 10.24 lb/1,000 ft² (25 – 50 g/m²). This significantly improves the shelf life.



Product Characteristics

Through precisely defined particle size, uniform surface structure, pore size, and total pore volume BECOSORB 1000 silica gel is intended for selective, macromolecular protein adsorption in beer. It has no effect on the reduction of low-molecular foam stability carriers. Through its favorable Darcy values*) (corresponding to a fine diatomaceous earth quality) some of the respective filter aids can be substituted.

The lack of swelling capacity avoids increased beer losses. Optimal application ensures maximum efficacy.

Safety

When used as directed and handled correctly, there are no known unfavorable effects associated with this product. If dust is likely to form, an extraction facility or breathing masks should be used.

Further safety information can be found in the relevant Material Safety Data Sheet, which can be downloaded from our website.

Storage

As an active adsorbent BECOSORB 1000 silica gel may pick up moisture and odors. It must therefore be stored with the packaging intact in a dry, well-ventilated place without foreign odors.

The material must be stored and transported in the original packaging and protected from moisture and external odors.

The product should not be subject to extreme fluctuations in temperature. If possible, the product should be stored cool (optimum storage temperature is between 44.6 and 68 °F (7 – 20 °C)) and protected from direct sunlight. Condensation under the stretch film caused by large temperature changes or by the effect of the sun should be avoided.

Opened bags should be re-sealed to protect them from moisture (e.g. place in PE bags) and stored according to the above instructions.

Delivery Information

BECOSORB 1000 silica gel is sold under article no. 62.510 and is supplied in the following package size:

33 lb (15 kg) paper valve bag

Certified Quality

BECOSORB 1000 silica gel is regularly monitored in the laboratory to ensure consistently high product quality.

*) *Darcy is the standardized unit of measure for the permeability of a porous bed for liquids.*

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12-2016



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