

Beer Clarification

BECOSOL™ 30

Silica Sol

BECOSOL 30 silica sol fining agent is a silica sol formulated especially for clarifying beer and improving filtration in the brewing industry. The specific surface of BECOSOL 30 silica sol fining agent guarantees optimum adsorption of substances contained in the beer that cause turbidity and at the same time has excellent flocculation properties. This gives a low and compact sediment and optimum clarification of the beer. BECOSOL 30 silica sol fining agent has a very high chemical purity and contains 30% pure colloidal silicon dioxide.

The specific advantages of BECOSOL 30 silica sol fining agent:

- Adsorption of substances contained in the beer that cause turbidity
- Optimum clarification of the treated beer
- Improved filtration properties of the beer
- Small and compact sediment

Application

The effect of BECOSOL 30 silica sol fining agent in beer is based on the flocculation properties of the SiO₂ particles and the formation of a hydrogel. The hydrogel flocculates together with the turbidities in the beer and with a part of the protein contained in the beer that is sensitive to cold.

When the silica sol is added to the storage tank the turbidities precipitate by the force of gravity and form a compact sediment at the bottom of the tank.

Adding BECOSOL 30 silica sol fining agent to reduce turbidities in the unfiltered beer greatly improves filtration performance and prolongs the filter lifetime.

Dosage

Application	Quantities fl oz/100 gal (ml/hl)
Addition to hot starting wort	3.8 – 7.6 (30 – 60)
Addition to storage	4.4 – 5.8 (35 – 45)
Addition before filtration (with buffer tank)	1.3 – 1.9 (10 – 15)

The optimum quantity and point at which to add BECOSOL 30 silica sol fining agent should be determined individually by means of laboratory or field tests.

Addition to the hot starting wort

BECOSOL 30 silica sol fining agent can be added to the starting wort in three ways:

1. Directly to the wort copper after completion of the boiling process
2. To the wort line by means of a suitable measuring apparatus
3. Directly upon entering the whirlpool

Addition to the storage tank

In this case, BECOSOL 30 silica sol fining agent is added directly by means of a measuring apparatus when the beer is repumped into the storage tank. For best results, the beer should already have a very low temperature (approx. 32 – 41 °F (0 – 5 °C)) because the substances that are sensitive to cold will have already precipitated to a large extent. Thorough mixing of the beer with the silica sol must be ensured. A dosage of 5 fl oz/100 gal (40 ml/hl) sol will cause rapid clarification of the beer during storage and greatly improve its filtration properties.

Addition before filtration

If, despite the application of finest filter aids, the beer is not filtered clearly, silica sol should be added in a buffer tank by means of a measuring apparatus before diatomaceous earth (DE) filtration. The silica sol must be added early enough so that the agglomerates can grow to a size which builds a sediment in the buffer tank until filtration. It must be guaranteed that no sediment comes to DE filtration, so that the filtration will not be unnecessarily loaded. A dosage of 1.3 to 1.9 fl oz/100 gal (10 – 15 ml/hl) is necessary.



Product Characteristics

BECOSOL 30 silica sol fining agent is a transparent, slightly opalescent solution of silicic acid in water and contains 30% silicon dioxide (SiO₂).

Safety

When used properly no negative effects are known.

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

Storage

BECOSOL 30 silica sol fining agent is produced and packed with utmost care and is stored in scentless polyethylene packing drums until delivery. Opened packages should be used up as soon as possible.

BECOSOL 30 silica sol is sensitive to frost. Do not store under 41 °F (5 °C).

Even a brief lowering of the temperature under 41 °F (5 °C) will lead to flocculation of the silica sol and it will become ineffective.

Delivery Information

BECOSOL 30 silica sol fining agent is sold under article no. 62.111 and is supplied in the following package sizes:

551.15 lb (250 kg) PE drum
2645.5 lb (1200 kg) IBC container on request

Certified Quality

The product is monitored regularly in the laboratory to ensure consistently high quality.

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