

# Stabisol 300

## Silica Sol

A colloidal solution of silicic acid (SiO<sub>2</sub>) in water. It appears bluish opalescent and consists of special unlinked particles of amorphous silicic acid. The surface of the particles is hydroxylised; the particles possess no internal porosity and are negatively charged. For this reason, Silica Sol is resistant to agglomeration and precipitation.

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### Benefits

- Increases clarification rates of beer
- Removes proteinaceous material as well as yeast
- Can be used at hot wort stage and at maturation
- Meets the requirements of the Reinheitsgebot, the German Purity Law for brewing

### Characteristics

<b>Density:</b>	1.2 g/mL
<b>Internal Surface Area:</b>	300 m <sup>2</sup> /g SiO <sub>2</sub>
<b>Particle Size</b>	5 – 140 nm
<b>Distribution:</b>	

### Applications

**Hot Cast Wort:** The easiest way to use Stabisol 300 is in the treatment of the hot cast wort. The Sol is applied in the copper after boiling or dosed into the wort stream before the whirlpool. The precipitate settles with the hot break.

It is not advised to boil the Silica Sol with the wort in an attempt to get an intensive distribution, as the silicic acid flocculation will be broken up, therefore making it difficult to separate.

The hot break can still be blended with the spent grains if this is the practice, as the amount of SiO<sub>2</sub> is negligible in relation to the dry matter of the spent grains.

**Maturation:** Also the addition of Stabisol 300 is routinely used in fermented beer at the transfer process. Stabisol 300 will have greatest effect if the fermentation is complete and the temperature is close to the freezing-point. The bulk of the haze-forming components are already insoluble, and together with other filtration impeding substances; they are absorbed by the silica sol and settle to the tank bottom. With this addition, a fast clarification is achieved, and this also leads to an optimisation of filtration.

### Dosage Guidelines

It is not possible to give exact advice on the dose rate of Stabisol 300 without preliminary tests, but some initial guidelines or starting points are given:

**Hot Cast Wort:** Customarily, addition rates of between 30 mL and 60 mL Stabisol 300 per hectolitre of cast wort. At a density of 1.2, this is equivalent to 36 and 72 g/hL or 11 and 22 g SiO<sub>2</sub>.

**Maturation:** Commonly, 50 mL of Stabisol 300 per hectolitre of beer at 0°C is an initial starting point for determining optimum dose rates at the transfer process, but also see below.

**Optimisation:** At 0°C, increasing quantities of Stabisol 300 from 20, 25 to 45, 50 mL/hL should be added to the beer, after precipitation and removal of the precipitate the beer should be tested for filterability.

### **Packaging**

Stabisol 300 is packed in 70 Kg Drums or 1250 Kg IBC

### **Storage**

Stabisol 300 is sensitive to chilling and should be stored at ambient temperatures above 0°C (at or below freezing point it converts to water-insoluble silica gel). The material can be held in stock for 18 months, if stored properly.

### **Safety and Enzyme Handling**

Inhalation of enzyme dust and mists should be avoided. In case of contact with the skin or eyes, promptly rinse with water for at least 15 minutes.

For detailed handling information, please refer to the Material Safety Data Sheet.



### **Technical Services**

Zymus International Limited welcomes the opportunity to work with customers offering technical services with the use of our products in application development and optimisation.

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