



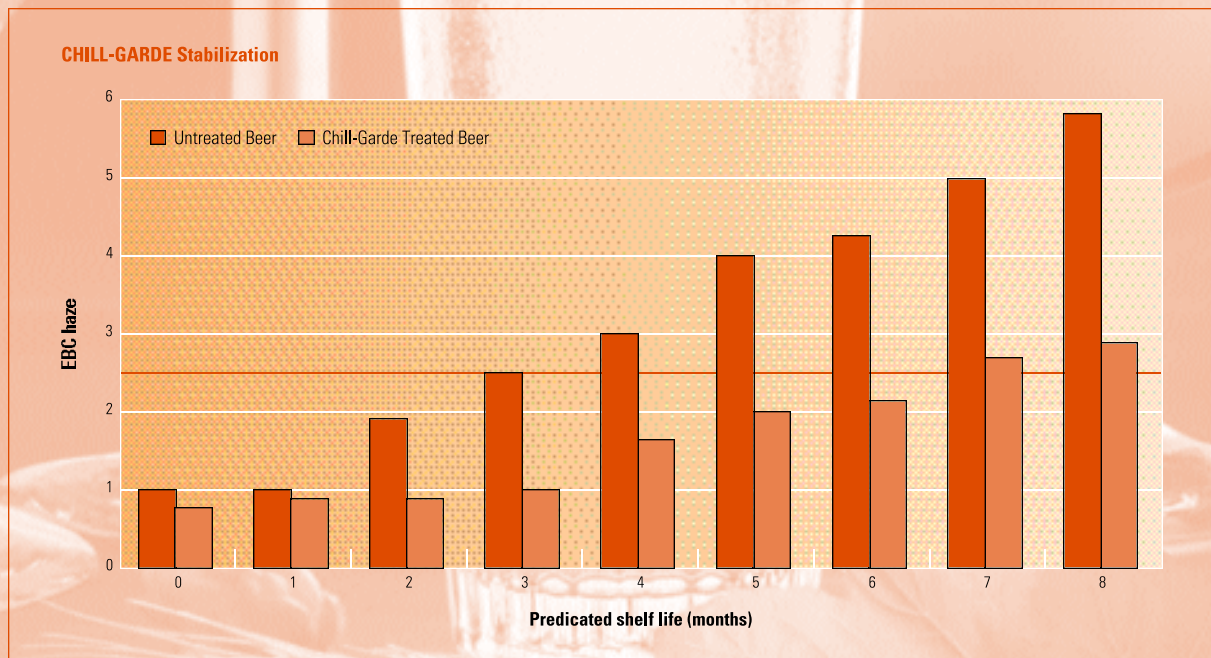
CHILL-GARDE SILICA HYDROGELS

INEOS Silicas offers a range of amorphous silica hydrogels for use as beer stabilizers. These products are non-dusting and can be applied with equal effectiveness during aging or at the filtration. Used in isolation, silica hydrogels typically deliver up to 6 months shelf life.

CHILL-GARDE - Silica hydrogel stabilization in aging or at the filter

CHILL-GARDE is a quick dispersing silica hydrogel designed for fast, consistent slurry make up to meet with production demands. Applied during aging, CHILL-GARDE forms low volume sediments, reducing beer losses and aiding processing. Alternatively, the medium range permeability of this product permits its use at the diatomaceous earth filter, often enabling the partial replacement of filter aid.

The graph below illustrates how application of CHILL-GARDE can extend the shelf life of the beer. The amount of CHILL-GARDE required will depend on beer type and shelf life requirements.





CHILL-GARDE properties

The sponge-like structure of CHILL-GARDE silica particles provides an enormous internal surface area for protein adsorption. However, CHILL-GARDE preferentially adsorbs haze-forming proteins, offering a high level of specificity. The proteins involved in foam stabilization are not easily adsorbed on the silica surface. The internal surface area of the particles is several hundred square meters per gram of silica. Because of this large surface available for adsorption, stabilization is rapid. It is, however, important that thorough contact is made with the beer being treated.

CHILL-GARDE procedures

Preparation

CHILL-GARDE is added to the beer as a 10-20% slurry in cold de-aerated water or beer. Agitation should be applied to achieve complete dispersion of the silica. CHILL-GARDE does not swell in water and so no 'soak or hydration' time is required. The slurry should be mixed until it is free from lumps prior to addition to the beer. Agitation of the slurry should then be maintained through the injection to prevent the silica settling out in the slurry tank.

Rate of use

Most American-style beers are effectively stabilized by treatment with 10 to 15 lbs of silica hydrogel per 100 barrels. The exact rate of use can vary by beer and brewery. It depends on factors such as the malt/adjunct ratio, type and gravity of the beer and cellar processing.

In-Tank treatment

For treatment in-tank, CHILL-GARDE slurry is injected into the beer during transfer from fermentation to cold storage. To ensure thorough contact, the slurry should be proportionally dosed to the beer stream throughout the transfer stage. If this is not possible then the slurry should be added slowly to the beer throughout the first two-thirds of the filling operation. During beer storage the hydrogel particles settle to form a compact and stable sediment which can be removed with minimum loss of beer.

Treatment at the filter

CHILL-GARDE slurry can be injected into the beer just prior to filtration. To provide a minimum contact time of 10 minutes, or longer if possible, the point of injection should be just prior to the filter surge tank. The CHILL-GARDE and the body feed slurries can be dosed into the beer stream either simultaneously or separately. When CHILL-GARDE is used at the filter, it may be possible to reduce the level of diatomaceous earth used and achieve optimum filtration rates and clarities.

For information on handling, safety data and packaging, please refer to the General Stabilization brochure.

Technical service

INEOS Silicas offers a high standard of technical and analytical service to ensure optimum performance of its products. For assistance, contact us via e-mail: techsupport@ineossilicas.com

For further information please contact:

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