

Chitosan 1.5% solution

A highly effective liquid fining agent for the clarification of alcoholic beverages

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Product Description and Function

Chitosan 1.5 % Solution is a high purity solution of chitosan (β -1,4-poly-D-glucosamine) derived from the shells of Crustacea – it is intended for use as a high-performance clarification agent or flocculation aid in alcoholic beverage applications.

The macromolecular structure of chitosan combined with strong positive charging ensure rapid interaction with negatively charged yeast cells and other fermentation debris, producing a strong and rapid flocculating action, and forming compact lees.

For optimum clarification results, Chitosan 1.5 % Solution should be used in-conjunction with a suitable colloidal silica solution / silicic acid such as kieselsol, since the negatively charged particles present in silicic acid / kieselsol will significantly improve the level of interaction and rate of clarification from the chitosan.

Not that in addition chitosan and water, this product also contains malic acid (used to achieve suitably low pH to dissolve the chitosan) and sodium metabisulphite (used as a preservative to ensure the microbial stability of the highly aqueous solution).

Technical Characteristics

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|---------------------------------|--|
| Appearance: | Colourless to pale yellow, viscous liquid. |
| Density: | 1.02 g/ml (+/- 0.03) |
| Chitosan content: | 1.5 % by weight (+/- 0.1) |
| Acidity: | 45 g/kg Malic Acid (+/- 2) |
| pH: | 2.6 (+/- 0.2) |
| Degree of deacetylation: | ≥ 95 % |
| Total SO₂: | < 350 mg/kg |
| Heavy Metals (as Pb): | < 5 mg/kg |
| Arsenic: | < 2 mg/kg |
| Cadmium: | < 1 mg/kg |
| Lead: | < 1 mg/kg |
| Mercury: | < 1 mg/kg |

Dosage and Application

For use as a clarification agent: Chitosan 1.5 % Solution can be applied directly to the beverage once fermentation is complete and the beverage has been stabilised / preserved (if necessary). Before using Chitosan 1.5 % Solution it is preferable to degas the beverage as excess dissolved CO₂ will increase the clarification time.

Chitosan can be introduced directly into the fermentation or clarification vessel at a rate of up to 300 g/hl. Once added, the beverage should be agitated gently to ensure thorough distribution and left to clear before racking off from the lees. Dosage can be optimised based on specific application / requirements.

Note that for optimum clarification speed and lowest post-clarification turbidity, silicic acid / kieselsol should be added 1 hour prior to addition of Chitosan 1.5 % Solution.

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For use as a flocculation aid: Where using Chitosan solution 1.5 % as a flocculation aid, add to beverage at the end of fermentation at a rate of up to 150 g/hl and leave to flocculate for between 6 and 12 hours before centrifugation and filtration.

Packaging

Pack Size: Chitosan 1.5 % Solution is available in bulk quantities in 25kg in high density polythene containers. Alternatively, small sachets are available for home use product, either as a standard-alone product, or as part of a duplex sachet also containing silicic acid / kieselsol.

Safety

This material is irritating to eyes and causes serious eye injury. Protective clothing must be worn when handling. MSDS available on request.

Storage

Store in original sealed containers in a cool, preferably dark place. Keep containers sealed when not in use. If stored correctly, chitosan 1.5 % Solution will have a shelf life of 24 months.

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