Quality, Consistency & Support

TECHNICAL INFORMATION SHEET: CASKLEER PASTE—ISINGLASS FININGS

PRODUCT NAME:
CASKLEER PASTE

PRODUCT CODE:
CKPAS

COMMODITY CODE:
35030080

PACKAGING:
2.5 AND 14 KG

GUIDELINES FOR USE

Check that the product is within its shelf life

Store at 5-14°C

Shelf life is six months

Carry out optimisation trial to determine rate of use

Do not mix with auxiliary finings before adding to beer

Description

Caskleer Paste is a very concentrated isinglass solution optimised for clarifying yeast from cask conditioned beer.

Benefits

- Rapidly clears yeast from beer
- Also lowers protein and lipid level in beer
- A traditional and natural product
- Large saving in both cooling energy costs and capital investment may be achieved by shorter conditioning tank residence time
- Enhances beer foam stability
- Easily and quickly mixed to make ready-for-use finings
- Very concentrated isinglass, saving on storage space and transport volumes
- High stability provides a long shelf life
- Optimised for cask conditioned beers

TECHNICAL SUPPORT

tel: +44 (0) 115 978 5494 | e: techsupport@murphyandson.co.uk

REGULATORY COMPLIANCE INFORMATION

Refer to the **Product Specification Sheet** or contact us on
tel: +44 (0) 115 978 5494 | e: compliance@murphyandson.co.uk

HEALTH & SAFETY INFORMATION

Refer to the **Safety Data Sheet (SDS)**

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Registered in England No. 106442
VAT No. 196 8782 88

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Principle

The active ingredient in Isinglass is the protein molecule collagen. Unfined, unfiltered beer may be thought of as consisting of negatively charged yeast cells and uncharged non-microbiological particles in a buffered alcoholic solution.

Positively charged isinglass is attracted to the yeast cell walls and adheres the cells together, thereby increasing the floc radius. The larger aggregates settle faster; as they do, they also enmesh the uncharged protein particles.

The shift in particle size is a rapid reaction and is for the most part complete within two hours. The rapid settlement of yeast and protein is seen by a rapid decrease in beer haze such that conditioning time can be reduced to as short as three days in tank.

Application

How to dilute the product

Before it can be used, Caskleer Paste must be diluted with water and then acidified.

Method 1 - High Shear Mixing

Set up a mixing tank with a high shear mixer

Fill the mixing tank with 29 units of water at a temperature of 12 to 15 °C

Turn on the mixer

Add to the tank, 1 unit of Caskleer Paste

Mix until the tank contents appear to be homogenous

Add to the tank 0.1 units of citric acid and mix for a short time to dissolve

Method 2 - Recirculation Pump Method

Set up a mixing tank with a high speed recirculating pump (e.g. centrifugal)

The pump feed should be at the bottom of the tank

The pump return should be below the liquid level, to avoid formation of foam

Filling the mixing tank with 29 units of water at a temperature of 12 to 15 °C

Turn on the recirculation pump

Add to the tank 1 unit of Caskleer Paste

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Mix until the tank contents appear to be homogenous

At the end of the mixing process, the tank will contain ready –for-use isinglass. If kept at the recommended storage temperature of 5 to 15°C and sealed to prevent loss of sulphur dioxide, this solution will have a shelf life of 4 weeks. It is however advised that isinglass solutions are prepared more frequently, once per week being typical.

Note: In larger installations, phosphoric acid can be used as an alternative to citric acid. This is particularly recommended where dilution and mixing is automated.

Adding isinglass to casks:

It is better to add isinglass into the cask before the cask before it is filled. Add the appropriate quantity of ready-for-use isinglass is put into the cask before filling. Mixing can be poor if the filling rate is slow and further agitation is then recommended. Adding isinglass after the cask has been filled is less reliable as mixing is then totally dependent on agitation or rolling of the cask after filling. With full casks and little head space, effective mixing of the isinglass takes much more agitation than is generally realised.

Using isinglass with auxiliary fining in cask conditioned beer

With many cask conditioned beers, the best clarity is achieved by using an auxiliary fining product such as Alginex, Cellabrite, Finings Adjunct or Superkleer in combination with isinglass. These products enhance the action of the isinglass. Auxiliary finings can be added at one of several points:

Into the fermentation vessel:

In order to avoid the difficulties of mixing auxiliary and isinglass finings in cask, the auxiliary can be added to the fermentation vessel. The addition should be made at the end of fermentation, just as the vessel goes onto chill. In most cases, the residual fermentation and convection currents on cooling are sufficient to mix the product. With larger vessels, it is recommended to recirculate the tank contents if possible or to rouse with CO_2 from the tank bottom.

Into the cask before it is filled:

The appropriate quantity of auxiliary is put into the cask before filling. If the filling rate is fast and turbulent, isinglass can then be added towards the end of the fill or after.

*N.B. Auxiliary finings should not be mixed with isinglass prior to mixing with beer.

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Rates of Use

For cask conditioned beer

The exact rate for a given beer will vary according to the brewery, the recipe and the types of yeasts and adjuncts used. If isinglass rates are too high the sediment will be fluffy and voluminous, causing wastage and poor filtration. Most cask conditioned beers will require additional rates of between 4ml and 14ml of isinglass to one litre of beer. Yeast count will also affect the isinglass performance. Providing yeast counts are maintained within reasonable limits, (0.5–3.0 x 10^6 cell/ml), satisfactory finings performance is obtained. Very low yeast counts can result in poorly developed flocs which are easily disturbed. Isinglass finings optimisations should be carried out to determine this more accurately.

Yeast count and viability kits can be purchased from Murphy and Son Ltd.

Finings Optimisation

This should be carried out on a regular basis and certainly when a new season's malt comes on stream. Usage rates need to be optimised both to ensure economic cost is achieved and in order to gain the best possible results. Over fining can cause hazes just as under fining can leave hazes: it is not a case of more finings always giving better clarity.

An optimisation is run by making trials to optimise the rate of Isinglass addition within the range of 0.4–1.6 litres per hl by adding 2, 4, 6 and 8 ml of RFU Isinglass to 4 labelled 500 ml bottles and mixing well.

Samples containing Auxiliary finings within the range 0.2, 0.4, 0.6 and 0.8 litres per hl are set up to run concurrently by adding 1, 2, 3 and 4 ml of RFU Auxiliary finings to 4 labelled 500 ml bottles and mixing well.

After an appropriate time interval, which will vary with beer type, an assessment is made of the optimum rate of isinglass required to fine the beer. This will not necessarily be the brightest beer, since the Auxiliary will improve the polish. With the Isinglass we are looking for the point at which any extra Isinglass added appears to add only excess bottoms, with no appreciable improvement in clarity. This rate of Isinglass is then added to all the sample bottles of Auxiliary finings, mixing well. It is then quite easy to check the effects of three or four re-settles as required.

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Once an optimum rate has been assessed, it is important to keep a check to ensure that it is going to work. Take a sample of the beer, either from FV after fermentation or from the Conditioning Tank/Racking Back. Add to this the equivalent rate of Auxiliary and mix well. An hour later add the optimum rate of Isinglass and remix. Within a short period of time you should see floc formation and clarification of the beer occurring. You can then have peace of mind that the beer should fine well in trade.

A free finings optimisation service is available for Murphy and Son customers. Please contact us for more information.

Storage and shelf life

- Store in cool conditions away from direct sunlight
- Keep in original container and keep containers sealed when not in use
- Recommended storage temperature for paste is 5°C - 20°C
- Maximum storage temperature for paste is 25°C
- Do not allow the product to freeze
- The shelf life of the paste at the recommended storage temperature is 12 months from the date of manufacture
- Once diluted to ready to use strength, we recommend storing at 5°C - 15°C for a maximum of four weeks
- The product may separate slightly on storage; remix before use
- For best quality, only make up sufficient for immediate use

Sulphur regulations

Sulphur dioxide, sulphide and sulphites at concentration of more than 10 mg/kg or 10 mg/l (ppm) expressed as SO_2 must be labelled as allergenic. Normal use of this product will add 2 to 7 ppm of SO_2. The maximum level permitted for SO_2 in cask conditioned beer is 50 ppm. In all other beers only 20 ppm SO_2 is permitted.

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WRITTEN BY	I Kenny	**AUTHORISED BY**	RJ Haywood

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