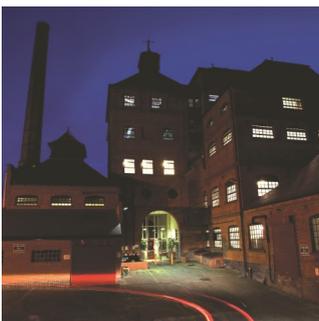


TECHNICAL INFORMATION SHEET: CASKLEER A—ISINGLASS FININGS

PRODUCT NAME: CASKLEER A	Description Caskleer A is a ready for use isinglass solution that can be added directly to cask conditioned beers to clear yeast.
PRODUCT CODE: CKA	
COMMODITY CODE: 35030080	Benefits <ul style="list-style-type: none">• 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• Filter performance is enhanced• Enhances beer foam stability• Optimised for cask conditioned beers
PACKAGING: 25, 200, 600 AND 1000 KG	
GUIDELINES FOR USE: Check that the product is within its shelf life Store at 5-14°C Shelf life is eight weeks Carry out optimisation trial to determine rate of use Do not mix with auxiliary finings before adding to beer	



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)**

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 size. 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

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 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 CO₂ 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.

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. 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 10⁶ 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.

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
- Keep containers sealed when not in use
- Minimum storage temperature is 1°C, maximum storage temperature is 15°C
- Recommended storage temperature is 5°C - 14°C
- Do not allow the product to freeze
- The shelf life at the recommended storage temperature is eight weeks from the date of manufacture
- The product may separate slightly on storage; remix before use especially if using 1000 and 200 litres IBC

Sulphur regulations

Sulphur dioxide, sulphide and sulphites at concentration of more than 10 mg/kg or 10 mg/l (ppm) expressed as SO₂ must be labelled as allergenic. Normal use of this product will add 2 to 7 ppm of SO₂. The maximum level permitted for SO₂ in cask conditioned beer is 50 ppm. In all other beers only 20 ppm SO₂ is permitted.



PRODUCT	CASKLEER A	PRODUCT CODE	CKA
ISSUE No.	6	DATE	29/8/18
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