

**CASKLEER PASTE****1 DESCRIPTION**

The product is a very concentrated form of isinglass, for use in cask conditioned beers.

- ◆ A traditional and natural product
- ◆ Blended specifically for clarification of cask beers
- ◆ Easily and quickly mixed to make ready-for-use finings
- ◆ Very concentrated isinglass, saving on storage space
- ◆ High stability provides a long shelf life

**2 PACKAGING**

**2.5kg**  
**Plastic Pail**  
Makes ca. 70 litres  
ready-for-use isinglass finings

**14kg**  
**Plastic Pail**  
Makes ca. 420 litres  
ready-for-use isinglass finings

**1000kg**  
**IBC**  
Makes 30,000 litres  
ready-for-use isinglass finings

The product is normally provided with a quantity of citric acid to be used when the product is mixed and diluted. It can be supplied without the citric acid on request, when other methods of acidification are to be used.

**3 STORAGE AND SHELF LIFE**

- Store in cool conditions, away from direct sunlight
- Keep containers sealed when not in use
  
- Maximum storage temperature - 25°C
- Recommended storage temperature - 5 to 20°C
- Minimum storage temperature - 1°C
- Do not allow the product to freeze
  
- The shelf life at the recommended storage temperature is 6 months from date of manufacture
- The product may separate slightly on storage; remix before use

**4 USING THE PRODUCT****(a) How to dilute and mix the product**

Before it can be used, the product must be diluted with water and then acidified.

**Method 1 - High Shear Mixing**

- Set up a mixing tank with a high shear mixer (e.g. Silverson, Greaves)

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

#### Method 2 - Recirculating 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*
- Fill 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
- Mix until the tank contents appear to be homogeneous
- Add to the tank 0.1 units of citric acid and mix for a short time to dissolve

At the end of the mixing process, the tank will contain ready-for-use isinglass. If kept at the recommended storage temperature of 12 to 15°C and sealed to prevent loss of sulphur dioxide, this solution will have a shelf life of 8 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.

#### **(b) How much isinglass to add to cask conditioned beer**

Most cask conditioned beers will require an addition of ready-for-use isinglass at rates between 2 pints and 4 pints per barrel. For the most commonly used containers, these addition rates are as shown below:-

READY-FOR-USE ISINGLASS	9 gallon (Firkin)		18 gallon (Kilderkin)		36 gallon (Barrel)	
2 pints per barrel	½ pint	0.28 litres	1 pint	0.57 litres	2 pints	1.14 litres
3 pints per barrel	¾ pint	0.43 litres	1½ pints	0.85 litres	3 pints	1.70 litres
4 pints per barrel	1 pint	0.57 litres	2 pints	1.14 litres	4 pints	2.28 litres

#### **(c) Where to add isinglass to cask conditioned beer**

Ready-for-use isinglass can be added at one of several points. See also below *Using isinglass with auxiliary finings*:-

- **Into the beer main feeding the racking heads**

This method is combined with proportional metering to ensure the correct rate of addition. If the distance to the racking head is short, a static mixer should be used.

- **Into the cask as part of the racking process**

Ready-for-use isinglass is metered into the beer as it fills the cask. The turbulence of the filling process ensures good mixing.

- **Into the cask before the cask is filled**

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.

- **Into the cask after it has been filled**

The least reliable method as mixing is then totally dependent on agitation or rolling of the cask after filling. With full casks and little headspace, effective mixing of the isinglass takes much more agitation than is generally realised.

#### **(d) Using isinglass with auxiliary finings**

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<sub>2</sub> from the tank bottom.

- **Into the beer main feeding the racking heads**

This method is combined with proportional metering to ensure the correct rate of addition. Typically, the auxiliary is added first with a static mixer positioned between the addition point and the isinglass addition point downstream. If the distance to the racking head is short, another static mixer should be used after the isinglass.

- **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.

## **5 GUIDELINES FOR USE**

### **DO**

- Check that the product is within its shelf life before use
- Make sure that the paste has been properly dispersed before adding the acid
- Remember that isinglass solutions once made up are temperature sensitive
- Carry out optimisation trials to determine the correct rate of use

### **DO NOT**

- Mix auxiliary and isinglass finings before they are added to beer
- Forget to add the acid when making up the paste - it will not work if you do
- Add isinglass finings before auxiliary finings - it rarely works
- Add too much isinglass. Tank bottoms will be very loose with high beer losses

## **6 TECHNICAL SUPPORT**

For Health & Safety information on this product, please see the Materials Safety Data Sheet (MSDS)

For support and advice on the use of this product, please call or e-mail our Technical Administrator:-

Telephone:- + 44 (0)115 978 5494

E-Mail:- [laboratory@murphyandson.co.uk](mailto:laboratory@murphyandson.co.uk)

## 7 SPECIFICATION

Composition	A blend of finely milled isinglass, water and sodium metabisulphite
Appearance	A stiff off-white paste
Odour	Sulphur dioxide (SO <sub>2</sub> )
Specific Gravity (@ 20°C)	1.0
Viscosity (cP) (@ 10°C)	3800 at low shear; 2000 at high shear
<u>Analysis</u>	
Total Nitrogen (ppm)	16,000 ± 800
Total Soluble Nitrogen	95 ± 5% of Total Nitrogen
Soluble Collagen	75% minimum of Total Nitrogen
Sulphur Dioxide (ppm)	10,000 ± 1000 *
pH	5.5 ± 0.5
Flavour	Does not adversely affect beer flavour
<u>Microbiological</u>	
Total Plate Count (cfu/ml)	< 10,000
<u>Maximum Limits of Impurities</u>	
As (ppm)	3
Pb (ppm)	10
Cu (ppm)	50
Zn (ppm)	25
Cu + Zn (ppm)	50

\* *The sulphur dioxide specification is that at the time of manufacture. Because of its volatile nature, the level at delivery may be less than this figure*

This product is classed as acceptable for use in food by the MAFF document 'Report on the Review of Additives and Processing Aids used in the Production of Beer' (FAC/REP/26).

Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/litre expressed as SO<sub>2</sub> must be labelled as allergenic (*European Directive (2003/89/EC)*).

## 8 REFERENCE

Product	Caskleer Paste
Authorised by	H.J. Kane
Issue No.	4.0

Product Code	CKPAS
Formulation	
Date	28/09/97