

MAGICOL 250AC**1 DESCRIPTION**

Magicol 250AC is a powdered isinglass that can be dissolved to make a ready-for-use isinglass solution for treatment of brewery conditioned beers.

- ◆ A traditional and natural product
- ◆ The most concentrated form of isinglass; lowest cost in use
- ◆ Very long shelf life in comparison to other forms of isinglass

2 STORAGE AND SHELF LIFE

- Store in cool, dry conditions, away from direct sunlight
- Keep containers sealed when not in use

- Maximum storage temperature - 20°C
- Recommended storage temperature - 10 to 15°C

- The shelf life at the recommended storage temperature is indefinite
- The dissolved product should be used immediately following the make-up process as it does not contain any sulphur dioxide as preservative

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

Before it can be used, the product must be dissolved in water.

Method - High Shear Mixing

- *Set up a mixing tank with a high shear mixer (e.g. Silverson, Greaves)*
- Fill the mixing tank with water at a temperature of 12 to 15°C
- Turn on the mixer
- Add to the tank the Magicol 250AC at a rate of 6g/litre of water
- Mix until the tank contents appear to be homogeneous
- Leave to stand for several hours and then mix again for a short time
- Repeat the previous step until solubilisation is complete

Depending on the shear strength of the mixer, the product can take quite a long time to dissolve. If it has only partially solubilised by the time the solution is used, reduced fining efficiency will be the result. For best performance, make up the solution 96 hours in advance, stirring occasionally. 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.

(b) How much isinglass to add to brewery conditioned beer

Most beers will require an addition of ready-for-use isinglass at rates between 0.15% and 0.35% v/v. The exact rate will depend amongst other things upon whether or not kettle finings have been used in the brewhouse, the degree of yeast flocculation, the residence time on chill at the end of fermentation and the strength of the beer. An addition of 0.3% v/v is a good starting point for optimisation of the rate. For brewery conditioned beers, it is not necessary to achieve bright beer in the fining process; a haze value of ca. EBC 4 is usually sufficiently low to permit good filtration. Excessive additions of isinglass finings will not harm beer, but losses will increase due to large volumes of tank bottoms.

(c) Where to add isinglass to brewery conditioned beer

The ready-for-use isinglass solution is best added during the transfer of beer from Fermentation Vessel (FV) to Maturation Vessel (MV) or Conditioning Tank (CT):-

- **Into the beer main with proportional metering and static mixing**

The correct rate of finings addition is ensured by metering the beer flow rate. Good mixing is ensured by inserting into the main a static mixer element. A long run to the MV/CT with bends, can substitute for a mixer.

- **Into the beer main during the majority of the beer transfer**

About 10% of the beer to be transferred should be run and then the finings injected at such a rate to ensure it has all been added by the time 90% of the transfer has been completed. The remaining 10% of beer can then be transferred to flush through.

- **Into the MV/CT before the beer is transferred**

Mixing in this case will be good at the start, but will be significantly worse once the vessel has filled. If the transfer rate is slow and takes more than ca. 30 minutes, it is unlikely that all of the beer will be contacted by isinglass in its active form and the fining will be poor.

- **Into the MV/CT after it has been filled**

The least reliable method as mixing is then totally dependent on agitation or worse still, diffusion. Injection of the required amount of finings at the bottom of the tank followed by gas rousing can however be effective.

5 GUIDELINES FOR USE

DO

- Check that the product is within its shelf life before use
- Remember that isinglass solutions are temperature sensitive
- Use the made-up solution immediately
- Carry out optimisation trials to determine the correct rate of use

DO NOT

- Add too much isinglass. Tank bottoms will be very loose with high beer losses
- Store the dissolved product; it does not have microbiological stability

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

7 SPECIFICATION

Composition	A blend of milled isinglass and citric acid	
Appearance	An off-white coarse powder	
Odour	Slight characteristic odour	
<u>Analysis (aqueous solution 6g/litre)</u>		
Total Nitrogen (ppm)	600 ± 50	
pH	3.0 ± 0.3	
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	

8 REFERENCE

Product	Magicol 250AC
Authorised by	C.J. Fleming
Issue No.	2.0

Product Code	MLAC
Formulation	
Date	16/11/93