

FININGS

PROTAFLOC GRANULES

TECHNICAL DATA SHEET

Description

Protafloc Granules (E407a) are a semi-refined grade carrageenan product which is added to wort in the kettle to enhance protein removal as the wort cools.

Benefits

- Brilliant wort clarity - Protafloc is optimised for removal of haze sensitive proteins from wort as the wort cools, giving extensive cold break formation
- Reduced costs of beer processing by removing fine proteinaceous particles, simplifying downstream fining, filtration and beer stabilisation
- Energy Efficiency: Protafloc maintains performance even with shorter boil times, saving energy without sacrificing clarity
- Consistent beer fining: Protafloc can clean up worts with variable particle content presenting a more consistent beer
- Prolonged beer shelf-life: Protafloc removes substantial qualities of proteinaceous haze-precursor material without affecting head retention

Principle

The active ingredient in Protafloc is a polysaccharide called carrageenan which is derived from seaweed. Carrageenan in solution is negatively charged, owing to the sulphate groups along the polysaccharide backbone. It is these charged sites which interact with wort proteins. In solution at temperatures above 65°C, the carrageenan has a random coil structure. As the wort cools the carrageenan takes a much more compact and ordered helical structure which is thought to drag the protein particles together to form aggregates. The aggregates, having a larger particle radius, settle faster. Kettle finings are added in the kettle only to allow the carrageenan to dissolve. Wort proteins react with carrageenan as the wort cools and settle as a cold break during fermentation to be removed along with the excess yeast.

Increasing the levels of kettle finings correlates with a decrease in fine particle counts, thus notably preventing filter pore blockage. Given that kettle finings effectively eliminate both particulate and soluble proteins, which are implicated in chill haze formation, the colloidal stability of kettle-fined beers is significantly improved.

PRODUCT CODE

PFG

COMMODITY CODE

13023900

PACKAGING (kg)

2 & 20 kg

STORAGE

Keep in original container.
Keep containers sealed when not in use

Temperature

Recommended storage temperature is 10°C - 15°C

Maximum storage temperature 30°C.

Location

Store in cool conditions away from direct sunlight.

Shelf Life

At the recommended storage conditions, three years from the date of manufacture.

Application and Rates of Use

Protafloc Granules should be added to the kettle ten minutes prior to the end of the boil or to the whirlpool if this is not possible. This allows the granules to dissolve and disperse the carrageenan into the wort. Should Protafloc be added early in the boil, then degradation of the polymer may occur and product efficiency is lost. The reaction between wort proteins and carrageenan is pH dependant and occurs at an optimum pH of 5.3. Below pH 4.4, the reaction does not occur and little benefit is gained from using carrageenan.

Rates of use:

The exact rate for a given wort will vary according to the brewery, the recipe and the types of malt and adjuncts used. Typical rates vary from a range of 1-4 g/hL, but a kettle finings optimisation should be carried out to determine this more accurately. Rates of use should be checked when you change supplier or move to new seasons malt.

When the dose rate increases, the clarity improves, but the level of sediment increases. Over-fining will give rise to beer losses in fermentation vessel. Contact our team for our finings optimisation guidelines.

Guideline for use


- Check that the product is within its shelf life before use
- Ensure that the product is dispersed into the wort and does not stick to the walls of the kettle or be drawn up the stack with the steam
- Carry out optimisation trials to determine the correct rate of use
- Read the Safety Data Sheet prior to use
- DO NOT open the kettle to make the addition unless the boil has been temporarily turned off
- DO NOT add the product significantly earlier or later than the recommended time

TECHNICAL SUPPORT

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

REGULATORY COMPLIANCE INFORMATION

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

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