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## TECHNICAL INFORMATION SHEET

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### PGA POWDER—FOAM CONTROL

#### Description

PGA powder is a specially prepared food grade propylene glycol alginate derived from brown seaweed. It is used as a beer and cider foam stabiliser.

#### Benefits

- Protects beer foam against contaminants at dispense e.g. dirty glasses
- Enhances foam stability of beers with a naturally high level of foam inhibitors
- Improves foam cling to side of glass
- Improves measured head retention value in beers

#### Principle

Propylene glycol alginate is a molecule possessing both hydrophilic and hydrophobic portions, thus modifying bubble wall characteristics. PGA concentrates at the surface of the bubble with the hydrophobic end interacting with gas molecules inside and outside the bubble and the hydrophilic part in contact with water molecules in the liquid forming the bubble wall. There is less attraction between the hydrophobic groups than there is between the water molecules in which the PGA is dissolved, so the surface tension at the bubble surface is reduced, stabilising the foam structure.

#### Application

The solution of PGA Powder should be added to beer after final filtration and not in combination with any other additions.

#### Preparing the product before use

**THIS PRODUCT REQUIRES SPECIAL EQUIPMENT TO PREPARE PLEASE PURCHASE SOLUTION IF UNSURE**

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

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

Fill the mixing tank with water at a temperature of between 30 and 40°C

Turn on the mixer

Add to the tank the PGA Powder at a rate of 20g/litre of water

Mix until the tank contents appear to be homogeneous

Filter the solution

#### Rates of Use

An addition to beer of 0.2 litres/hl of a 2% solution of PGA Powder will ensure retention of beer head. To enhance the beer head, use a rate of 0.4 litres/hl. The maximum recommended addition of such a solution is 0.5 litres/hl.

#### Guidelines for use

- Check that the product is within its shelf life before use
- Carry out optimisation trials to determine the correct rate of use,
- Remember that PGA Powder solutions are temperature sensitive
- Use the product quickly after making up the solution
- Read the Safety Data sheet prior to use

## Specification

Composition	Propylene glycol alginate is a highly esterified, low viscosity food grade PGA specifically for use in beer.		
Appearance	A white or off-white powder		
Odour	Free from odour		
Viscosity (2% soln):	50-200 mPa.s (Cp)		
pH (2% aqu):	3.4 - 4.5		
Haze (2% aqu):	Max 2.5° E.B.C.		
Loss on drying:	Max 15%		
Esterified carboxyl groups	At least 80%		
Particle size:	At least 93% through 60 mesh		
<b>Microbiological</b>			
Total Plate Count (cfu/ml)	< 1000		
Coliforms	Negative by MPN		
E.Coli	Absent in 25g		
Salmonella	Absent in 25g		
Heavy Metals as Pb (ppm)	5		
Heavy Metals as As (ppm)	3		
Hg (ppm)	1		
Cd (ppm)	1		

## Storage & Shelf life

- Keep in original container
- Keep containers sealed when not in use
- Maximum storage temperature is 20°C
- Recommended storage conditions are a cool dry place between 5°C to 25°C
- Minimum storage temperature is 1°C
- The shelf life at the recommended storage temperature is 1 year

## Technical Support

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

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

Telephone:- + 44 (0)115 978 5494

[techsupport@murphyandson.co.uk](mailto:techsupport@murphyandson.co.uk)

For up to date information regarding, Kosher, Halal, Vegetarian, GMO status, or anything not mentioned on this tech sheet please email:-

[compliance@murphyandson.co.uk](mailto:compliance@murphyandson.co.uk) or call +44 (0)115 978 5494

## Reference

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CREATED BY	F.M.Maud	AUTHORISED BY	Dr Christine Fleming