

PRESERVATIVES & STABILISERS

MASHLIFE

TECHNICAL DATA SHEET

Description

MashLife is a natural extract derived from pomegranates that improves flavour stability by limiting oxidative reactions. MashLife allows selective complexation and removal of iron and copper at the onset of the brewing process and thus prevents the formation of reactive oxygen species. The selective binding to haze-forming proteins, particularly those containing thiols, further improves colloidal stability and reduces the risk of the skunky light-struck off-flavour.

Benefits

- Increases antioxidative power
- Reduces staling (off-)flavours in beers
- Increases flavour stability during beer storage and transport
- Improved retention of hop bitterness
- Better resistance to sunlight
- Selective removal of haze forming proteins
- Improved retention of colour in pale beers
- No addition of flavour or colour directly from pomegranate extract

PRODUCT CODE

MASHLIFE-1K

COMMODITY CODE

13021970

PACKAGING (KG)

1KG

STORAGE

Temperature

5–25°C | 40–77°F

Location

Store in a clean, dry place.

Shelf Life

1 year from the date of manufacture if stored in a dry area in its original closed packaging.

Application and Rates of Use

1. Preparation guidance:

Prepare a 10% solution using water at approximately 50°C (to improve solubilisation).

2. Recommended dosage points during brewing:

a) Kettle Addition:

- Add solution shortly before the start of boiling, before hop addition

b) Combined Addition:

- Use 50% of the total dosage and add solution directly into brewing water before the addition of raw materials
- Add the remaining 50% to the kettle shortly before the start of boiling (before hop addition)
- This approach is suitable for higher dosage concentrations.

3. Dose rates:

Dose rates are typically between 1-2.5 g/hl for pales or 2-4 g/hl for dark or high gravity beers and high gravity beers. Addition rates depend on gravity, raw material type, water type usage and pH.

Guideline for use

- Check that the product is within its shelf life before use
- Read the Safety Data Sheet prior to use

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

	Product name : MashLife
	Product code: MASHLIFE-1K
	Doc Ref: TDS093
For Health & Safety Information refer to the Safety Data Sheet.	Issue Date: 08/04/2025
	Issue Number: V04
	Written by: Celina Dugulin
	Authorised by: Iain Kenny

TECHNICAL INFORMATION SHEET:

TRIZYME—ENZYMES

PRODUCT NAME:	Description
TRIZYME	Trizyme is a liquid enzyme preparation specially formulated for use in the mash tun. It is a blend of α -amylase, β -glucanase and proteases from approved bacterial sources..
PRODUCT CODE:	
TRIZ	

COMMODITY CODE:
00000000

PACKAGING:
5 AND 25 KG

Benefits

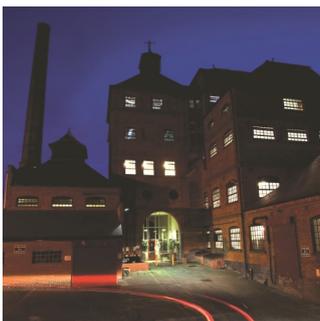
Trizyme has been developed to assist with mash tun problems including:

- Poor extract
- Slow run-off
- Inadequate production of assimilable nitrogen

In the fermenter, Trizyme will combat problems including:

- Slow and/or incomplete fermentations
- Altered yeast cropping and yeast suspension levels

In cask slow fining, loose bottoms and a general lack of brilliance may also be apparent. These symptoms may be due to use of barley varieties that do not lend themselves so readily to balanced modification. Trizyme provides a triple attack on such problems at the earliest possible stage.



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)**

Trizyme can also be used with non malted adjuncts to provide the necessary α -amylase and β -glucanase to achieve good quality worts with a satisfactory extract, the correct level of assimilable nitrogen and the required degree of fermentability.

Guidelines for use

- Check that the product is within its shelf life before use
- Read the Safety Data Sheet prior to use

Application and rates of use

(a) How much of the product to add

Typical rates of addition are between 500 and 700 ml per tonne of malt. Barley adjuncts require considerably higher addition rates, for example between 4 and 6 litres per tonne.

(b) Where to add the product

To achieve the best results, the product should be distributed evenly throughout the mash.

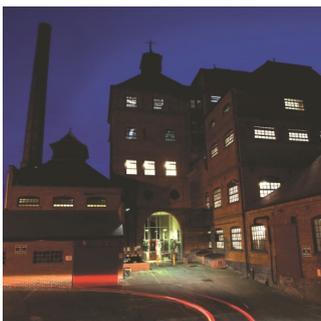
Storage and shelf life

- Store in cool conditions, away from direct sunlight
- Keep containers sealed when not in use
- Maximum storage temperature 10°C
- Recommended storage temperature 1 to 5°C
- Do not allow the product to freeze
- The shelf life at the recommended storage temperature is 2 years from date of manufacture

PRODUCT	TRIZYME	PRODUCT CODE	TRIZ
ISSUE No.	3	DATE	24/5/21
WRITTEN BY	I Kenny	AUTHORISED BY	RJ Haywood

TECHNICAL INFORMATION SHEET: PROTAFLOC TABLETS - KETTLE FININGS

PRODUCT NAME:	Description
PROTAFLOC TABLETS	Protafloc Tablets (E407) are a semi-refined grade carrageenan product which is added to the wort in the kettle to enhance protein removal as the wort cools.
PRODUCT CODE:	
PFT	
COMMODITY CODE:	Benefits
13023900	<ul style="list-style-type: none">• Brilliant wort clarity - Protafloc is optimised for removal of haze sensitive proteins from wort. It achieves clarity by precipitating virtually all haze material from cold worts and giving extensive cold break formation• Reduced costs of beer processing - Protafloc reduces costs by removing fine proteinaceous particles, simplifying downstream fining, filtration and beer stabilisation• Energy savings from reduced boil times - Protafloc will maintain performance even with reduced boil times• Consistent beer fining - Protafloc can clean up worts with variable particle content presenting a more consistent beer for racking• Prolonged beer shelf-life - Protafloc removes substantial quantities of proteinaceous haze-precursor material without affecting head retention
PACKAGING:	
2 and 20 KG	



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 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.

The removal of particles and protein from wort has been demonstrated by microscopic examination of pre-filtered beers and protein assay.

As the levels of kettle finings increase, the fine particle counts decrease. It should be noted that the particles below two microns are mostly responsible for blinding filter pores.

Since Kettle Finings remove both particulate and soluble protein, and soluble protein is a component of chill haze, it is unsurprising that the colloidal stability of kettle fined beers is enhanced.

Guidelines 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

Application and rates of use

Protafloc Tablets should be added to the kettle five minutes prior to the end of the boil or to the whirlpool if this is not possible. This allows the powder 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 Kettle finings.

Kettle finings optimisation procedure

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 half to three tablets per 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. The optimisation procedure is as follows:

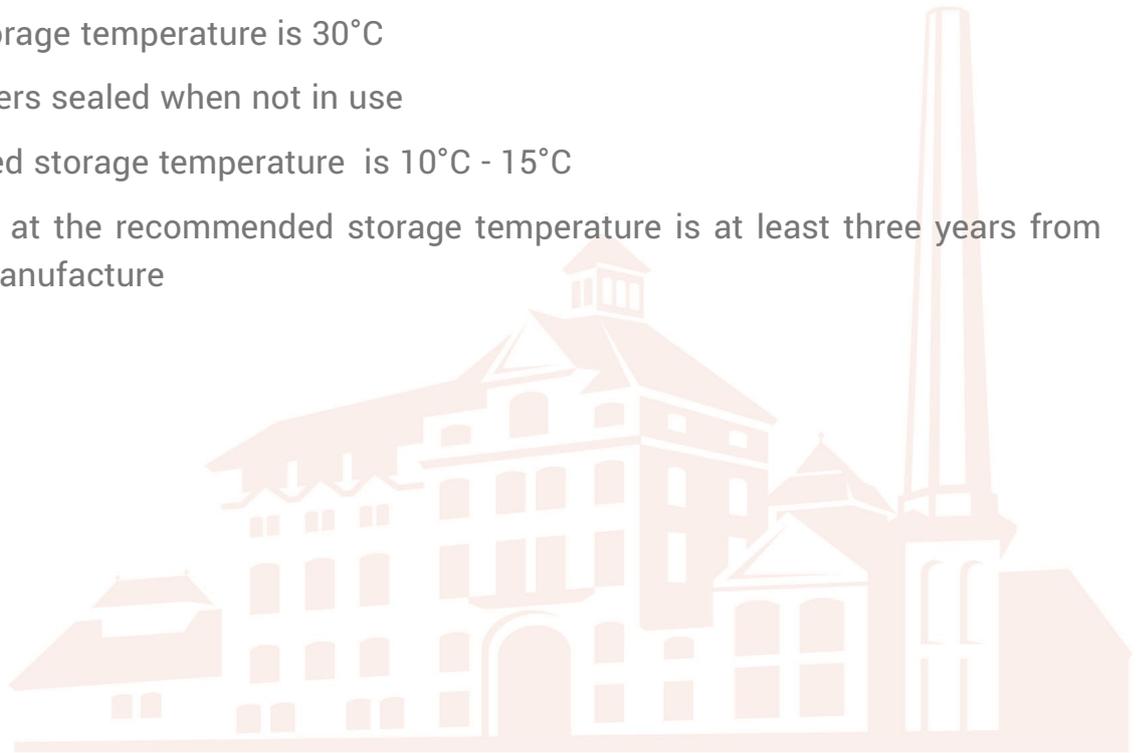
- Make up a solution of kettle finings by dissolving 1g of carrageenan product in a litre of boiling water. (This gives a 0.1% solution)
- Label seven 100 ml measuring cylinders in 5 ppm increments, including a 0ppm control up to 30ppm
- Add a range of finings rates to the 100ml measuring cylinders using a 10ml pipette (0.5 ml of kettle finings solution = 5ppm).
- Take a wort sample (approx. 2L) 15 minutes before the end of the boil and just before the addition of kettle finings.
- Fill the measuring cylinders with 100ml of hot wort.
- Record the wort clarity and appearance of the hot break.
- Cool by immersion in cold water in the bucket for 20 minutes.
- Allow to settle for 2 – 4 hrs and observe the appearance of the cold break, recording the wort clarity and cold break volume.
- Allow to stand for a full 24 hours to get a final result.

- Decide on the optimum rate of kettle finings addition for the beer in question, there should be bright clear wort and compact sediment.

Kettle Optimisation Kits can be purchased from Murphy and Son Ltd

Storage and shelf life

- Store in cool conditions away from direct sunlight
- Keep in original container
- Maximum storage temperature is 30°C
- Keep containers sealed when not in use
- Recommended storage temperature is 10°C - 15°C
- The shelf life at the recommended storage temperature is at least three years from the date of manufacture



PRODUCT	PROTAFLOC TABLETS	PRODUCT CODE	PFT
ISSUE No.	6	DATE	23/11/21
WRITTEN BY	I Kenny	AUTHORISED BY	RJ Haywood



Technical Data Sheet

Brand Calsil
Market Food Processing
Product name Calsil FGA 20 (K)

1. Product Description

A 20% active qualified food grade antifoam emulsion, based on activated silica in polydimethylsiloxane, ideal in applications where a food grade certification is a prerequisite, it is also certified in applications in direct contact with food during processing.

2. Key Properties

- Stable Food grade anti-foam emulsion
- Easy to dilute, even with tap water

3. Benefits

- Has no adverse effect on most micro organisms
- Marginal influence on gaz transfer (Kla)
- High performance at low or high temperatures
- Excellent dilution stability, can be used as is and diluted down to 5%
- Contains no ingredients from animal origin

4. Applications

- Foam control agent to eliminate foam during fermentation processes involving sugar or molasses and starch based nutriment
- Foam control food applications, such as drinks, foodstuff preparations, and others

5. Typical Properties (not for sales specifications)

Properties	Units	Values
Appearance		Emulsion
Active Matter	%	20
Dry Matter	%	25-29
pH		4,0-6,0
Viscosity	mPa.s	600 to 1.500
Specific Gravity		1,00

6. How to Use

Calsil FGA 20(K) can be used “as supplied” or diluted with tapwater.

7. Certifications

In line with food regulation, all ingredients comply with the following :

- FDA 21 CFR 173.340 : Secondary Direct Food Additives Permitted in Food for Human – Defoaming Agents
- Bundesinstitut für Gesundheitlichen Verbraucherschutz und Veterinärmedizin
 - All silicone ingredients are listed in Recommendation XV.
 - All silica ingredients are listed in Recommendation LII
- European Directive: all ingredients used are listed in the European Directive 1333/2008 and fulfil the purity criteria listed in European Directive 231/2012, as additives for food. However, the reacted substances contained in this product are not listed. Therefore, this product may only be used as a food processing aid subject to user's assessment of suitability and compliance for its particular use.
- Kosher Certification: Chicago Rabbinical Council

8. Handling

This document does not contain safety precautions. Before handling this material, please read the Material Safety Data Sheet, check the label on the container, and conform to the safety, physical and hazard guidelines and precautions. The Material Safety Data Sheet is available from your nearest CALDIC office.

9. Storage and Shelf Life

This product should be stored in its original unopened containers at a temperature above 5°C and below 35°C. It can be used within the 12 months following its production date.

10. Packaging

Available in 1.000 kg IBC, 200 kg Drums and 25 kg Pails.

11. Restrictions

This ingredient is solely proposed in the above listed applications, in food-contact and as food ingredient. It is not suitable to be used in medical, human injection or pharmaceutical applications.

12. Limited Warranty PLEASE READ CAREFULLY

- The information herein is offered in good faith. It is believed to be accurate at the time of shipment.
- It should not be used as a substitute for the customer's test, the customer bears the responsibility to ensure that the product matches the intended application is safe and achieves the desired benefits.
- The product warranty is limited to the refund value of the purchase or the replacement only when it is demonstrated that the product is out of the agreed sales specifications.
- Calsil is a registered trademark of CALDIC BV. All rights reserved.

For more information, please contact our nearest office

Caldic B.V.	Phone +31 (0)10 413 64 20
Westerlaan 1	info@caldic.com
3016 CK Rotterdam	www.caldic.com
The Netherlands	 Follow our latest updates on LinkedIn

TECHNICAL INFORMATION SHEET:

ReFoam

PRODUCT NAME:
ReFoam

PRODUCT CODE:
REFOAM

COMMODITY CODE:
39100000

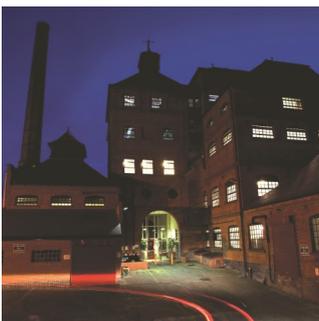
PACKAGING:
5, 25, 200 and 1000 KG

Description

ReFoam (E900) is a silicone based emulsion which has been developed for brewing, food processing and other applications where a quick knockdown of foam is required. It can be added to the kettle, still or fermentation vessel.

Benefits

- Easy-to-use emulsion form
- Controls over-foaming at wort boiling and fermentation.
- Enables higher rates of evaporation while wort boiling.
- Provides better control of spirit distillation.
- Prevents loss of hop bittering substances.
- Improves Alpha-acid utilisation.
- Prevents expensive wort losses and unhygienic spillages.



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)**

- Maximises CO₂ recovery.
- Increases fermentation capacity.
- Can be used in CIP applications.
- Easily extracted from beer by normal processing.
- Improves foam in final product.
- Low addition rate.

Guidelines for use

- Check that the product is within its shelf life before use.
- Experiment with additions to determine the minimum effective rate.
- Read the Safety Data Sheet prior to use.

Principle

ReFoam is an effective silicone based surface agent which prevents foam formation by reducing surface tension. It is classed as a processing aid because of its feature of being completely removed from beer by normal processing. It is absorbed onto the surface of the yeast and filter media.

Application and rates of use

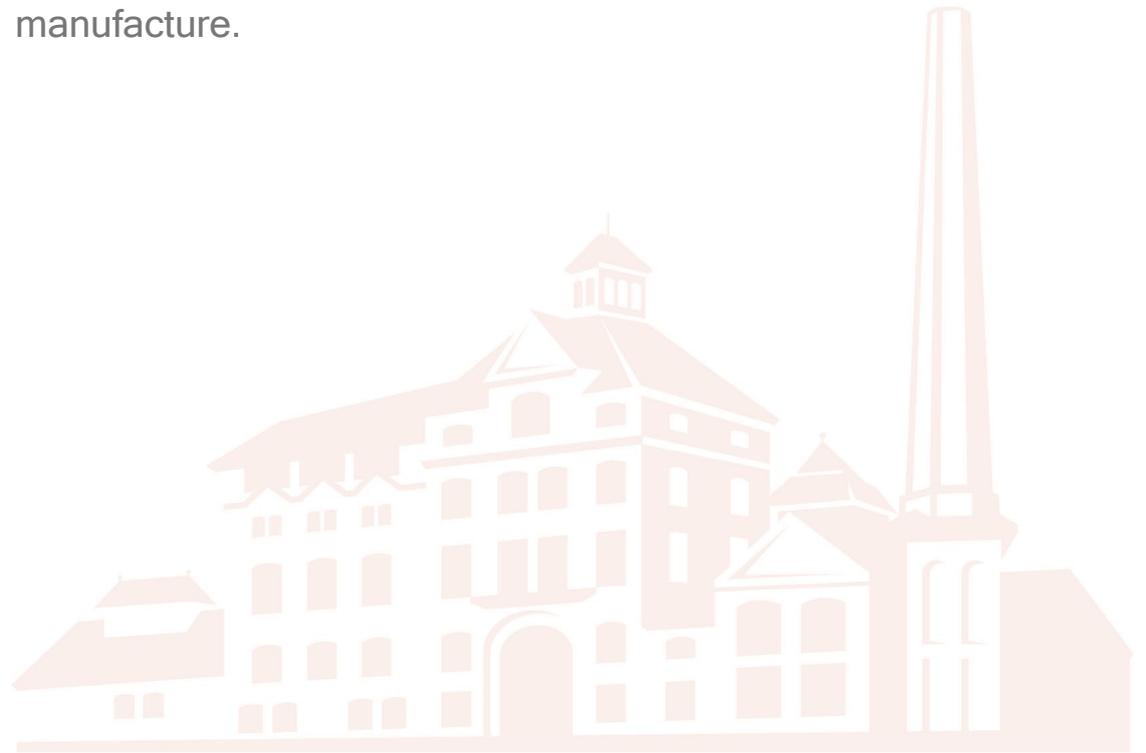
0.1 - 5ml ReFoam/HL to the liquid you wish to treat.

Efficiency and mixing is greatly improved by predilution. Mix 1 part antifoam to 9 parts water.

Evidence has shown it is best to start with lower rates and work up until the desired foam control is achieved.

Storage and shelf life

- Store in cool conditions, away from direct sunlight.
- Keep containers sealed when not in use.
- Storage temperature should be below 32°C—do not allow to freeze.
- The shelf life at the recommended storage conditions is 2 years from the date of manufacture.



PRODUCT	ReFoam	PRODUCT CODE	REFOAM
Version	1	DATE	6/2/24
WRITTEN BY	F Maud	AUTHORISED BY	I Kenny