

LIQUOR TREATMENTS

PHOSPHORIC ACID 75%

TECHNICAL DATA SHEET

Description

Phosphoric Acid 75% (E338) is a clear solution made from food grade phosphoric acid. It is used in the brewing industry for acid washing yeast and reducing alkalinity in brewing liquor.

Benefits

- Eliminates bacterial contaminants from Yeast slurries
- Reduces alkalinity in brewing liquor without affecting Chloride/Sulphate ratio

Principle

The objective of liquor treatment is to convert incoming water supply into acceptable brewing liquor. When applied correctly all the steps throughout the brewing process will be at the optimum pH.

Application and Rates of Use

Phosphoric acid can be added to either the cold or hot liquor tank and should be thoroughly mixed. Time should be allowed to release the carbon dioxide produced by the neutralisation of excess carbonate. Please take into account any residual treated liquor when topping up your tank as this will affect alkalinity levels.

Addition rates for Phosphoric Acid are dependent on the levels of alkalinity in the untreated liquor and the target profile / beer style being produced.

5 mL of Phosphoric Acid 75% per hL of water reduces the alkalinity by 30.2 mg/L (ppm).

Note: Phosphoric acid can react with calcium and form precipitate leading to calcium levels in the mash being lower than expected.

Phosphoric Acid for Acid Washing.

Acid washing is a tool that brewers use to eliminate contaminant bacteria from pitching yeast. Acid washing kills bacteria with minimal harm to the brewing yeast, providing that the process is carried out correctly. The effectiveness of the process relates to the time and temperature it is carried out at and the pH achieved. NOTE: Acid Washing will not remove wild yeast.

PRODUCT CODE

PHOSA75

COMMODITY CODE

280092000

PACKAGING (kg)

7.5, 25, & 1500 kg

STORAGE

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

Temperature

Recommended storage temperature is 10°C - 20°C.

Location

Store in cool conditions away from direct sunlight.

Shelf Life

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

Instructions for Acid Washing Yeast

- Cool yeast and diluted (1:10) food-grade phosphoric acid 75% to 2-5°C and maintain temperature throughout the process
- Determine how much yeast is needed for brewing and place in sanitised container
- About 60-90 minutes prior to pitching, start acid washing process by thoroughly mixing the diluted food-grade phosphoric acid into the slurry until a pH of 2.0-2.3 is reached
- Hold the yeast at this pH for maximum 60-90 minutes, while stirring continuously
- Pitch entire mixture into the fermenter with wort

Do not be tempted to wash yeast on a quiet day when you are not brewing. Viability of washed yeast will fall markedly as storage time increases

DONT'S of acid washing:

- Don't deviate from temperature, time and pH limits indicated above
- Don't store washed yeast
- Don't wash "unhealthy" yeast (yeast which has been stored for long periods, heavily contaminated yeast, yeast from slow fermentations)
- Don't (or at least try to avoid) washing yeast from very high gravity fermentation (>8% v/v ethanol)

Common faults when acid washing and their solutions

- Temperature of yeast slurry too high: Reduce the contact time between acid and yeast
- pH of yeast slurry too low: Reduce the contact time between acid and yeast or add more yeast
- Temperature of yeast slurry too high: Reduce the contact time between acid and yeast

Guideline for use


- Ensure suitability for the intended application
- In case of contact with skin and eyes wash immediately with plenty of water
- Wash away spillages with plenty of water
- 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 : Phosphoric Acid 75%
	Product code: PHOSA75
	Doc Ref: TDS058
For Health & Safety Information refer to the Safety Data Sheet.	Issue Date: 28/03/2025
	Issue Number: V01
	Written by: Celina Dugulin
	Authorised by: Iain Kenny