

Polyclar™

beer stabilizers



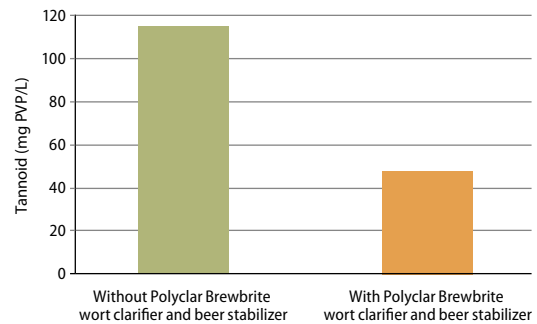
With over 50 years of experience providing wort clarifiers and beer stabilizers to the brewing industry, Ashland's Polyclar™ stabilizers are the leading brand in clarification and stabilization technology for beer. Different grades within our extensive portfolio of Polyclar stabilizers are designed for single use or to be recoverable by filtration. In addition, various grades can be used at different stages of the brewing process. Use of Polyclar stabilizers reduces chill haze and permanent haze and results in a better beer product.

Polyclar Brewbrite wort clarifier and beer stabilizer

Description

Polyclar Brewbrite wort clarifier and beer stabilizer is a highly effective and proprietary brewing product. It is an optimized composite of purified food grade carrageenan and specially modified polyvinylpyrrolidone (PVPP) that delivers the following key benefits:

- Upstream wort clarification and beer stabilization with a single addition of the product to the wort
- Protection against chill haze and permanent haze
- Improved colloidal stability of beer
- Improved fermentation characteristics
- Increased wort collection
- No specialized equipment required (ie. slurry tanks, dosing pumps)
- Easy to use with no pre-slurrying requirements
- Removed with the trub
- Longer filter run lengths
- No labeling required
- Excellent technical service from industry specialists



Polyclar Brewbrite wort clarifier and beer stabilizer reduces haze-producing polyphenols in the wort.

Methods of Use

Polyclar Brewbrite wort clarifier and beer stabilizer is used directly as a powder, or made up as 8% to 12% slurry in de-aerated water.

Polyclar Brewbrite wort clarifier and beer stabilizer is added to wort during boiling, usually 10 minutes before the end of the boil. It may also be added directly to the whirlpool at the cast stage.

The exact amount of Polyclar Brewbrite wort clarifier and beer stabilizer required would depend upon the brewing raw materials used, process conditions and the shelf-life requirement.

The typical addition rate will be between 10 and 25 g/hl (usually 15 g/hl).



Polyclar Brewbrite wort clarifier and beer stabilizer has a dramatic effect on wort clarity.

ASHLAND

With good chemistry great things happen.™

Polyclar 10 single-use beer stabilizer

Description

Polyclar 10 single-use beer stabilizer is a highly effective, 100% polyvinylpolypyrrolidone (PVPP) stabilizer. It is optimized for single use and offers the following key benefits:

- Single-use PVPP stabilizer
- Effective and highly selective removal of haze-producing polyphenols
- Protects against chill haze and permanent haze development
- Prevents oxidation of flavonoids, which contributes to harsh, astringent and stale flavors in beer
- No negative impact on foam, flavor or other quality parameters
- Compatible with all filter technologies, including cross-flow
- Completely insoluble in all types of beer
- No labeling required—completely removed by filtration
- Excellent technical service from industry specialists

Methods of Use

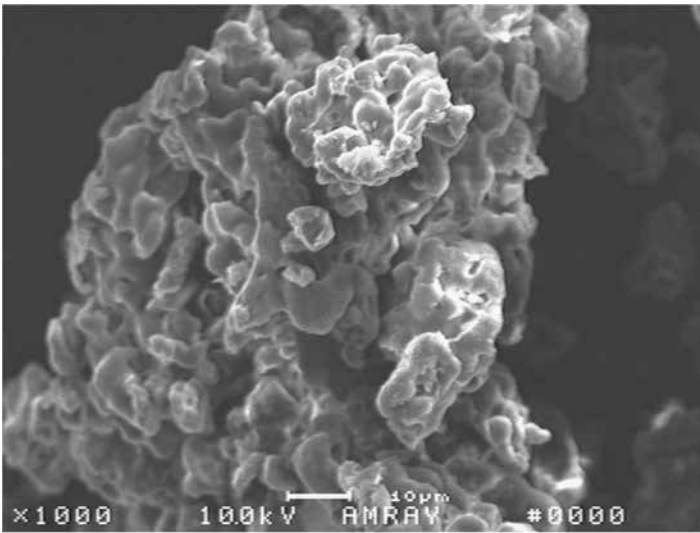
Make up as an 8% to 12% slurry in de-aerated water and hydrate for 1 hour before use.

The Polyclar 10 single-use beer stabilizer slurry may be added to beer in the maturation vessel.

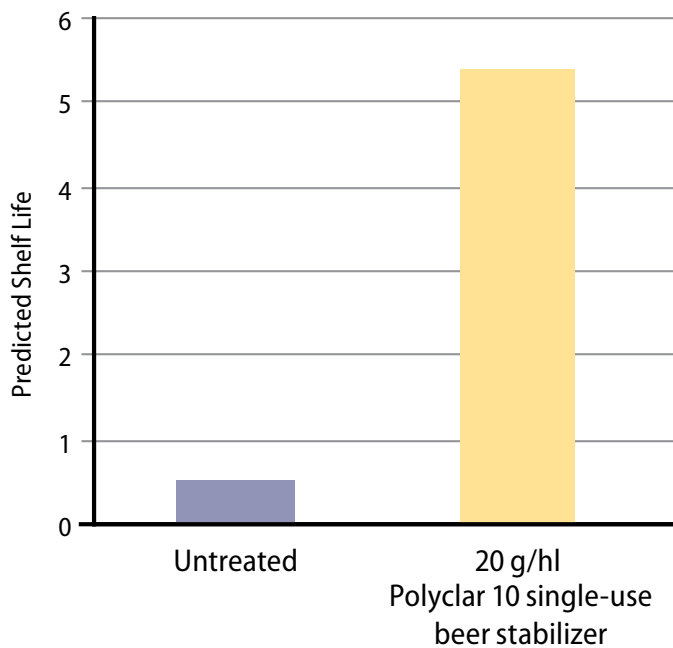
It is usually added to the beer stream en-route to filtration, via a separate stabilizer-dosing tank, or by addition to diatomaceous earth (DE)/Kieselguhr slurry tank.

Polyclar 10 single-use beer stabilizer is effective with a contact time of a few minutes. However, for maximum benefit a contact time of 10 minutes is recommended.

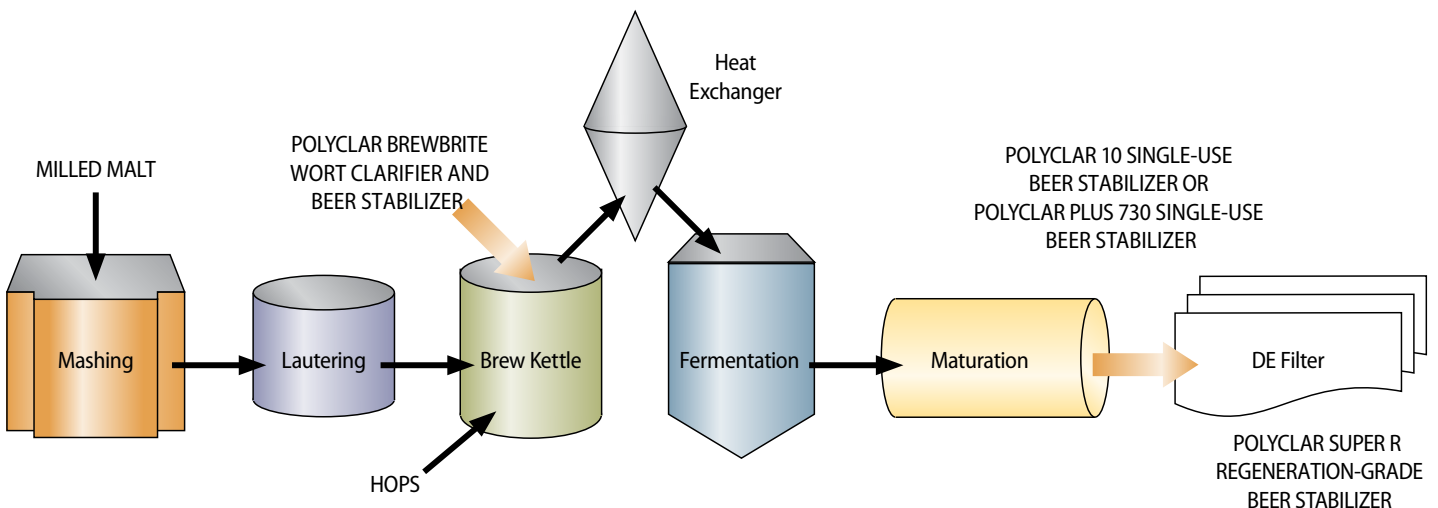
Typical addition rates are in the range of 10 to 40 g/hl used alone, or 5 to 25 g/hl in combination with silica gel.



Polyclar 10 single-use beer stabilizer has a very large surface area for polyphenol absorption.



Polyclar 10 single-use beer stabilizer significantly improves beer shelf life.



Polyclar Plus 730 single-use balanced beer stabilizer

Description

Polyclar Plus 730 single-use balanced beer stabilizer is an optimized blend of polyvinylpolypyrrolidone (PVPP) and silica xerogel. It is a single-use product that offers the following key benefits:

- Single-use stabilizer
- Simultaneous removal of proteins, tannoids and polyphenols
- Optimized ratio for preventing chill and permanent haze
- Enables flocculation of hydrated xerogel particles
- Improved material dispersion and transfer
- No settling of slurry at the bottom of tanks
- High adsorptive capacity for haze-forming precursors
- No negative impact on foam, flavor or other quality parameters
- Longer filter run lengths compared to silica alone
- Completely insoluble in beer
- No labeling required
- Excellent technical service from industry specialists

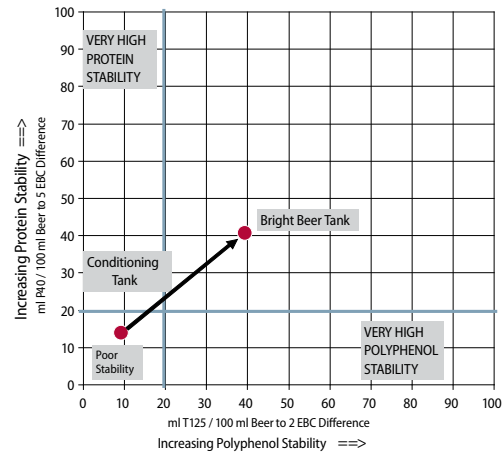
Methods of Use

Polyclar Plus 730 single-use balanced beer stabilizer is made up and used in exactly the same way as Polyclar 10 single-use balanced beer stabilizer.

The exact dosing rate for Polyclar Plus 730 single-use balanced beer stabilizer is dependent upon the brewing raw materials used, process conditions and the shelf life requirement.

The usual dosage level range for Polyclar Plus 730 single-use beer stabilizer is 15 to 100 g/hl (4 to 26 lbs/100 US bbls). Typical examples are shown in the table:

Beer Type	Addition Rate (g/hl)
Strong beers > 7% alcohol	20 - 100
All malt lagers	20 - 50
All malt ales	20 - 80
Malt/adjunct lagers	15 - 50
Keg beers	10 - 40



Balanced polyphenol and protein stabilization with Polyclar Plus 730 single-use balanced beer stabilizer.

Polyclar Super R regeneration-grade beer stabilizer

Description

Polyclar Super R regeneration-grade beer stabilizer is 100% PVPP. It is optimized for regeneration use, either on its own or in conjunction with other stabilizers, offering the following key benefits:

- Regeneration-grade PVPP, requiring a dedicated secondary regeneration filter
- Effective and highly selective removal of haze-producing polyphenols
- Protection against chill haze and permanent haze development
- Prevents oxidation of flavonoids, which contributes to harsh, astringent and stale flavors in beer
- No negative impact on foam, flavor or other quality parameters
- Applicable in most PVPP regeneration systems
- No labeling required
- Excellent technical service from industry specialists

Methods of Use

Make up as an 8% to 12% slurry in de-aerated water and hydrate for 1 hour before first use.

A PVPP pre-coat (300 to 500 g/m²) is recommended for good initial polyphenol adsorption and beer filtration.

Polyclar Super R regeneration-grade beer stabilizer is added to beer after the diatomaceous earth (DE) filter, using a separate PVPP filter. The optimized particle size allows PVPP filtration/stabilization without other filtration aids. The use of a trap filter after the DE filter is recommended. Polyclar Super R regeneration-grade beer stabilizer is effective with a contact time of a few minutes. However, for maximum benefit, a contact time of 5 to 10 minutes is recommended.

Typical addition rates are in the range of 20 to 50 g/hl.

It is regenerated using caustic and acid washes; refer to filter manufacturers' instructions.

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Quality, Safety and Service

Quality

Polyclear stabilizer products are manufactured to internationally recognized quality standards. Details are available upon request.

Regulatory

PVPP is permitted for use in beverages in all countries with regulations covering the use of additives and process aids. Always seek guidance from your local regulatory authorities.

Safety

Material Safety Data Sheets are available upon request.

Technical Support

Technical support for Ashland's beverage product portfolio is provided by a team of dedicated industry specialists, from locations in Europe, the U.S. and Asia. For further information on the use of our products, please contact your local Ashland representative or authorized distributor.

Ashland also supplies products and services to the wine, beverage and wider food industries. We are constantly introducing innovative new products to better serve our increasing number of customers in these markets.

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