Technical Data Sheet

CLARIZYME® K

Clarizyme® K is a food-grade liquid enzyme preparation designed to enable brewers to produce bright, haze-stable beer without the need for additional stabilization steps.

Conventional stabilization strategies (silica hydrogel/xerogel or PVPP) involving removal of haze precursors require additional process steps, energy demand (cooling to ~0 °C), and potential constraints on tank capacity and throughput. Clarizyme® K provides a process-integrated enzymatic solution that improves efficiency, reduces energy demand, and maintains consistent product quality.

Clarizyme® K hydrolyses haze-active proteins in wort and beer, preventing chill haze formation at the start of the process rather than relying on downstream stabilization alternatives.

Clarizyme® K actively contributes to reducing gluten levels in the finished beer, supporting gluten-reduction strategies.

PRINCIPLE

Chill haze formation is caused by the interaction of haze-active, proline-rich proteins with polyphenols, forming complexes that can become permanently insoluble through oxidation. This results in reduced colloidal stability and visible haze in finished beer.

Clarizyme® K selectively cleaves proline-rich, haze-active precursors, reducing protein molecular weight and preventing interaction with polyphenols. This improves colloidal stability and reduces haze formation. The enzyme also breaks down gluten peptides into smaller fragments allowing for beer to be sold as gluten-free or gluten-reduced. Please check regulations for your area.

BENEFITS

- Prevents colloidal chill haze formation
- Extends shelf-life though improved stability
- Reduces reliance on stabilization aids (e.g. silica, PVPP)
- Reduces process and tank residency time and cost
- Enables gluten reduction products
- No negative impact on foam potential

APPLICATION

Available in an easy-to-use liquid format, add to cooled wort at the start of fermentation to ensure full contact time and optimal activity.

QUICK FACTS

TREATMENT RATES

Chill haze prevention:

- All malt: 1–3 g/hL
- Up to 40% adjunct: 1–2 g/hL

Gluten reduction:

- All malt: 2–3 g/hL (up to 3.9 g/hL for high gravity)
- With adjuncts: 1.5–2 g/hL

PHYSICAL PROPERTIES

Transparent brown liquid (colour may vary naturally from batch to batch)

SPECIFIC GRAVITY	~1.1
PH	4.0–5.0

COMPOSITION

Water, glycerol, prolyl endopeptidase, sodium acetate, potassium sorbate, sodium benzoate

ACTIVITY

Minimum activity: 5 PPU/g (proline endopeptidase units; method available on request)

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Dose rate should be optimized based on protein load, gravity, and target shelf-life.

CONFORMITY TO STANDARDS

Complies with JECFA and FCC food-grade enzyme specifications. Gluten reduction performance should be verified analytically, and local regulations must be followed.

Clarizyme® K is not a GMO. It is manufactured by fermentation of a microorganism that is improved using modern biotechnology. The fermentation micro-organism is removed by filtration so is not present in the enzyme product.

The product is not included in the scope of Regulation (EC) No 1829/2003 on genetically modified food and feed. Beer produced using Clarizyme® K does not make the beer subject to GMO labelling requirements.

Legislation varies from country to country. Local regulations should be consulted.

MICROBIOLOGICAL ANALYSIS

COMPOSITION:
Water, glycerol, prolyl endopeptidase, sodium acetate, potassium sorbate, sodium benzoate

TOTAL VIABLE COUNT	< 500 CFU/g
COLIFORMS	< 30 CFU/g
E.COLI	absent
SALMONELLA	absent

HEAVY METAL ANALYSIS

ARSENIC	< 3 mg/kg
LEAD	< 5 mg/kg
MERCURY	< 0.5 mg/kg
CADMIUM	< 0.5 mg/kg

PACKAGING & STORAGE

Clarizyme® K should be stored cool, dry (max 10°C / 50°F, do not freeze), and sheltered from direct sunlight. Activity will be maintained for 24 months from date of manufacture when stored under ideal conditions in original unopened containers.

Available in 20kg, 5kg, 1kg HDPE containers.

BREWERS CORNER

For more information on our yeasts including:
- Technical Documents
- Best Practices Documents
- Recipes
- Pitch Rate Calculator and other brewing tools

Scan this QR code to visit the Brewers Corner on our website.

CONTACT US

If you have questions, do not hesitate to contact us at **brewing@lallemand.com**. We have a team of technical representatives happy to help and guide you in your fermentation journey.

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