Lysozyme is a food grade enzyme derived from chicken eggs that is used for destroying bacterial cell walls by the hydrolysis of polysaccharide cell wall components. Lysozyme hydrolyzes the β-1,4-glycosidic bonds between N-acetylmuramic acid and N-acetylglucosamine in peptidoglycans that occur naturally in gram-positive bacterial cell walls. Gram-negative bacteria have an outer membrane that requires the addition of EDTA to enhance cell lysis.

**PHYSICAL CHARACTERISTICS**
Lysozyme is supplied as a white to off-white powder that is soluble in water.

Lysozyme is active in a pH range of 3.5-7.0 with an optimum at pH 6.6. The exact pH optimum depends on process variables such as temperature, time, and the nature of the substrate.

Lysozyme is active in a temperature range of 30°C (85°F) to 90°C (195°F) with an optimum at 55°C (130°F). The exact temperature optimum depends on process variables such as pH, time, and the nature of the substrate.

Lysozyme is activated by chelating agents (EDTA, phytate), amino acids (glycine), ascorbic acid, and hydrogen peroxide.

Lysozyme is inactivated by surfactants (such as sodium dodecyl sulfate), alcohols, imidazole, indole derivatives, and N-acetylglucosamine.

Lysozyme can be inactivated by holding for two minutes at an alkaline pH (above 7.5).

**ACTIVITY RANGE**
Lysozyme contains not less than 950 MCG/mg.

**USAGE RECOMMENDATIONS**
Lysozyme is used in food processing to prevent microbial spoilage by gram-positive bacteria. It is effective in cleaning applications where bacterial contamination is difficult to remove. The use level will vary depending on the application and the conditions of use, such as substrate concentration, pH, temperature, reaction time, and the presence of other materials that could influence its activity.

**PACKAGING**
Please ask us about our available packaging options.

**SHELF LIFE AND STORAGE**
Lysozyme is stable for 18 months when stored in a cool, dry place.

**SAFETY AND HANDLING**
Inhalation and direct contact with enzyme preparations may cause allergic reaction or irritation. To minimize the risk around these preparations, it is important to prevent inhalation and direct contact with any part of the body. Please refer to the Safety Data Sheet and the Enzyme Technical Association publication – *Working Safely with Enzymes*.

**TECHNICAL SERVICE**
Information covering specific applications of this product is available. BIO-CAT will work with you to enhance processes and solve problems. Let us know what you need and we will assist you.

**MARKET APPLICATIONS**
Food and Beverage
Fruit Juice and Wine
Cleaning

CAS # 9001-63-2
IUB # 3.2.1.17

Nothing disclosed is to be construed as a recommendation to use our product in violation of patents or in an unsafe manner. The information presented is believed to be accurate. However, said information and products are offered without warranty or guarantee except as to the composition and purity stated herein since the ultimate conditions of use and the variability of the materials treated are beyond our control.