



Product Information Sheet

Protease ST-4L

An Enzyme Supplies alkaline liquid protease for laundry detergents

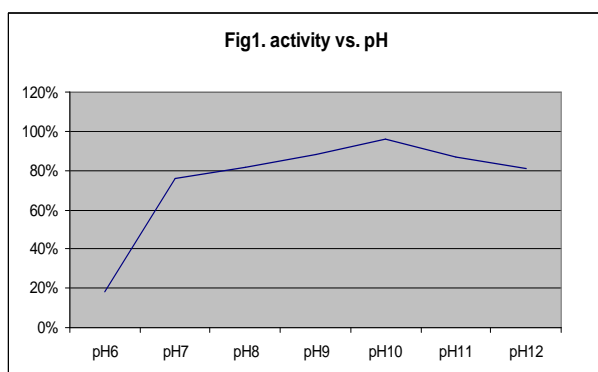
INTRODUCTION

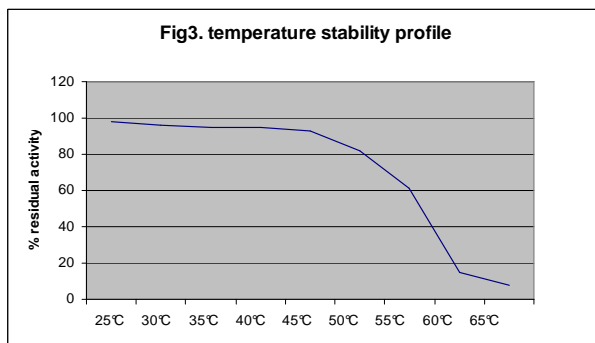
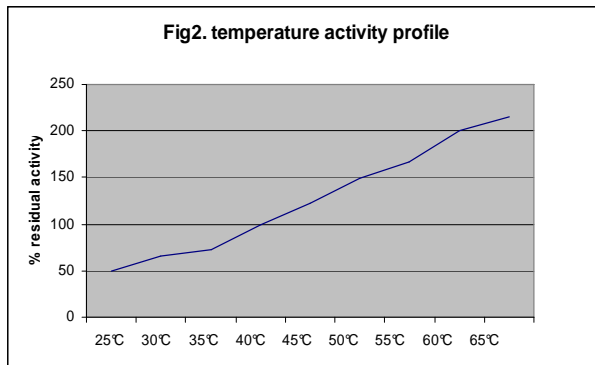
Protease ST-4L is an alkaline liquid protease for use in biological detergent products (both laundry and dishwashing). The product acts by hydrolyzing insoluble protein soiling into soluble peptides and amino acids which can then be readily removed from clothing fabric or dishes. Protease ST-4L is particularly effective at removing common household soiling such as blood, grass, milk, gravy and blood.

Protease ST-4L is a particularly high strength enzyme derived from a genetically modified strain of *Bacillus subtilis*, and works in conjunction with the other laundry and dishwashing chemicals to remove most protein based stains under a broad range of conditions.

ENZYME PROPERTIES

Protease ST-4L is active over a broad range of pH values from 7 – 12, with an optimum of pH 10. The enzyme is also active over a broad temperature range from 25 degrees C to 60 degrees C, with an optimum performance at 40 degrees C.





TYPICAL CHARACTERISTICS

Activity minimum 38,000 GSU/g

Appearance – brown liquid

Bulk density 1.2g/ml

USE IN DETERGENT FORMULATIONS

Recommended dose rate in detergent formulations is 0.1 – 0.5 GSU/litre of wash liquor, but determination of optimum dose should be based upon wash conditions, detergent formulation, detergent dose/wash & level of cleaning performance desired.

PACKAGING

Protease ST-4L is available in bulk and in 200Kg or 25Kg jerry cans

STORAGE STABILITY

Protease ST-4L has excellent long-term storage properties. To maintain optimum activity, store at moderate temperatures (below 25 deg C), in the original containers and with the lid closed.

SAFETY AND ENZYME HANDLING

Inhalation of aerosols from liquid enzymes should be avoided. Open in a well-ventilated environment. In case of accidental spillage or contact with skin/eyes, promptly rinse with water for at least 15 minutes. For more detailed information please refer to the Material Safety Data Sheet for this product

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