



Aum Enzymes
India's #1 Speciality Enzyme Products

CLEAN-MULTIZYME SUPER

Amylase + cellulase + protease +lipase+ Mannanase+ Pectinase

BENEFITS

Enzymes are ecofriendly and biodegradable
Enzyme based detergents are more efficient
Enzyme based detergents are non corrosives, safe, cost effective.
High activity and stability in alkaline pH range
Broad substrate specificity
Compatibility with oxidizing agents
Compatibility with chelating agents
Compatibility with surfactant

DESCRIPTION

Clean-multizyme Super is a mixture of various enzymes preparation produced by a selected strain of *Bacillus spp.* to be used in household laundry, dishwashing, industrial and institutional laundry detergent industry. Clean-multizyme Super is high performance mixture of enzymes for detergent industry.

It removes starch based foods like potatoes, spaghetti, custards, gravies, and chocolates. Amylase present in Clean-multizyme super will randomly hydrolyse starch derivatives into soluble dextrin and oligosaccharide which are easily dispersed or dissolve in the washing liquor.

When garments made of cotton or cotton blends have been washed several times, they tend to get a 'fluffy' look and the colours become duller as which are dissolve & disperse in washing liquor. Cellulase enzyme present in Clean-multizyme super, restoring a smooth surface to the fiber and restoring the garment to its original colour brightness. It also, removes dirt particles are trapped in the network of microfibrils of garments and are released in washing liquor.

It removes protein stains such as grass, blood, mucus, faeces and various foods such as egg and gravy. These substances are almost insoluble and tend to adhere to the surface of textiles and other surfaces. Clean-multizyme super contain alkaline protease will hydrolyze proteins producing soluble peptides and amino acids which are readily dissolve and disperse in the washing liquor.

Due to hydrophobic nature of fatty stain are difficult to remove by washing. Lipase present in Clean-multizyme super capable of removing fatty stains such as fats, butter, salad oil, sauces cosmetic and the tough stains on collars and cuffs. The enzymes has broad substrate specificity promoting the hydrolysis of a wide range of various fats and oils and producing free fatty acids and glycerol which are easily dispersed or dissolve in the washing liquor.

Cleanmultizyme super contain Mannanase detergent enzyme that does what other enzymes cannot do: it removes stubborn stains containing mannan gums and also contain Pectinase that hydrolyzes the alpha-1,4 glycosidic bonds between galacturonic acid residues. Polygalacturonan, whose major component is galacturonic acid, is a significant carbohydrate component of the pectin network that comprises plant cell walls materials.

PRODUCT SPECIFICATION:

Parameters	Optimal range	Operational range
Temperature	30°C to 65°C	30°C to 70°C
pH	8.0 to 11.0	7.00 to 12.00
Physical form	Liquid & Granule	
Enzymes types	Alkaline Protease Alkaline Amylase Alkaline Lipase Alkaline Cellulase Alkaline Mannanase Alkaline Pectinase	
Enzymes activity	Trade secret	
Microbial source	<i>Bacillus species</i>	

PACKAGING:

Enzymes products are available in 25 kilogram in jerry can for liquid products & HDPE fiber drum for Granule products. Special packaging is also available on request.

SAFETY:

The product is produced under hygienic condition and is subject to stringent quality control.

Toxicology

The product produced by GRAS microorganism and is classified as non toxic.

Biodegradability

Product is Biodegradable.

Handling precaution

Enzymes are proteins and inhalation of dust or aerosols may induce sensitization and may cause allergic reactions in sensitized individuals. Some enzymes may irritate the skin, eyes and mucous membranes upon prolonged contact.

Liquid enzyme products may create inhalable aerosols if splashed or vigorously stirred. Spilled product material should therefore be flushed away with water.

STORAGE:

Enzyme products should be stored in a cool dry place. When stored below 35°C products will maintain its declared activity for at least 24 months. The enzyme preparation should not be left in direct sunlight for extended periods. Liquid preparation should not be frozen.

REGULATORY INFORMATION:

EEC Classification

In concentration form, the liquid enzymes products are classified as “sensitizers by inhalation” under the terms of EEC directive 88/379.

**TECHNICAL DATASHEET
[FOR CLEAN-MULTIZYME SUPER]**

There are many factors that influence activity of Clean-multizyme Super

- # Types of detergents and dosage
- # pH of detergent solution
- # Ionic strength of the detergent solution
- # washing temperature
- # Mechanical Handling
- # Water hardness
- # Level of soiling
- # Type of textile

Below mention general guideline for dosage of Clean-multizyme Super

Product	Dosage[%]
House hold detergent	0.2-0.5
Liquid detergent	0.2-0.5 %
Heavy duty detergent	0.8-1.0 %
Dishwashing detergent	2.5 %
Industrial detergent	3-5 %

TECHNICAL SERVICE:

AumEnzymes technical service laboratory shall be pleased to provide more information covering specific applications for all products or discuss any practical problem which many occur in the industry.

Technical datasheet given with each product are only given as usage guidelines, but tests should be carried out under local conditions to fix the optimum dosage for the machine type and conditions.

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