

Wuxi Vland Product Catalog

Benefit the Earth by Biotechnology

Food Enzyme-Provide green solutions for food safety

Catagory	Product Name	Applications
Lipase	Immobilized lipase IM - NE100	Chiral resolution of pharmaceutical intermediates, fatty acid glyceride synthesis, alcoholysis and random transesterification. For example, triglyceride-type fish oil,high-content algal oil DHA, conjugated linoleic acid glyceride, MCT/MLCT, diglyceride, etc.
	Lipase NE - 10	Applied in the fatty acid ester hydrolysis preparation
Protease	Acid protease NE05	Used for alcohol raw material grain , wine, soy sauce, vinegar, fermentation feed, food, brewing and other industries
	Dispace (neutral protease)	Used in the hydrolysis of proteins to produce advanced seasonings and food nutrition fortifiers; reduce the mixing time and fermentation time of dough, weaken the gluten strength of dough, and make it have good plasticity and extensibility
	Transglutaminase/TG - T01	Enhance the structure and texture of meat products,Improve the dough stability of bakery products and easier to baking; mprove hardness and elasticity of the flour; Enhance the viscosity and gel strength of yogurt and cheese, Improve quality and structure and damage resistance of bean products
	Formulation of emulsifier/TG - N501	By restructuring, improve the organizational structure of the meat or fish with state
	Formulation of emulsifier/TG - N503	By restructuring, improve the organizational structure of the meat or fish with state. Applied to the product rate is higher
	Flavourzyme	Hydrolysis of various proteins, preparation of peptides for health products
	High temperature resistant of α -amylase	Industrial alcohol, monosodium glutamate and starch sugar industry, enzymatic desizing process
Amylase	Medium temperature amylase	The steamed bread, bread, flour products, such as fermentation like can effectively improve product quality, extend shelf life; Application in the beer, plant-based milk industry
	Fungal amylase	Used in the production of malt syrup, also can be used in the beer industry, baking industry
	Glucoamylase NE-29	Starch sugar, brewing wine, alcohol fermentation products production
	Glucoamylase NE-13	Traditional brewing industry
	Pullulanase 2000	Used together with Glucoamylase to improve the utilization rate of starch raw material
	β -amylase	Production of high maltose syrup; application in beer, plant-based milk and other industries
	Maltogenic amylase	Delay starch aging, improve the softness of bread products; production of maltose live maltose syrup
Glutaminase	Glutaminase	Soy sauce brewing and freshening; modification of vegetable protein and preparation of eHVP; enzymatic freshening of vegetable meat
Protein glutaminase	Protein glutaminase	Modification of vegetable protein (improvement of foaming, emulsification, solubility, etc.); increase protein content in vegetable protein beverages, reduce allergy, improve taste, improve emulsification and dispersibility
Pectinase	Pectinase NE06	Fruit and vegetable juice clarification, enhance the output rate of juice
	Pectinase PL	
	Pectinase PE	
	Polygalacturonase	
Glucanase	β -1, 3 glucanase	Break yeast cell wall
	β - 1,4glucanase	Beer production and sucrose production industry can reduce the wort concentration, speed up the filtration and increase the malt dissolution rate
Cellulase	Cellulase CTS	Combined with pectinase to improve juice yield; soy isoflavones, resveratrol and other plants are extracted and produced
Mannanase	Mannanase	Plant cell wall breaking treatment; espresso liquor increase the filtration speed, reduce the viscosity of the extract, and prevent precipitation; hydrolysis of guar gum
β -glucosidase	β -glucosidase	Resveratrol, soybean isoflavone, gardenia blue and other products production
Lactase	Lactase FD - 12	Food additives, milk powder partner, efficiently reduce lactose intolerance
Tannase	Tannase NE - 100	Prevent tea beverage cold turbid , improve the extraction rate of tea, maintain color, reduce bitter taste
Glucose oxidase	Glucose oxidase NE06	Used in the baking industry to enhance the dough thews
		Milk, eggs, beverage processing, etc, used to remove food and containers of oxygen and prevent the deepening of the color, flavor and metal dissolution
Transglucosidase	Transglucosidase	Production of Isomaltooligosaccharides
Feruloyl esterase	Feruloyl esterase	Cutting off the crosslinks between polysaccharide-polysaccharide and polysaccharide-lignin in the cell wall is beneficial to the degradation of polysaccharide in the cell wall material and the release of lignin

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Industrial Enzyme

Catagory	Product Name	Applications
Lipase	Immobilized lipase FM - NE04	Chiral separation of pharmaceutical intermediates, decrease acid value of biodiesel
	Lipase FM - 10	Used in biodiesel production, natural VE/ sterol production process
	Lipase FM-100	
Protease	Clean NEKL - 20	Mainly used in washing industry
Amylase	High temperature resistant of α - amylase	Industrial alcohol, monosodium glutamate and starch sugar industry, enzymatic desizing process
		Medium temperature amylase
Cellulase	Cellulase SP08	Mainly used in cellulose raw material hydrolysis, bio- ethanol/alcohol and other related industries
	Cellulase Clean C2000	Mainly used in washing industry
Glucanase	β -1, 3 glucanase	Break yeast cell wall
β -glucosidase		Resveratrol, soybean isoflavone, gardenia blue and other products production
Rhamnosidase		Rutin -- isoquercetin, rutin -- quercetin, naringin -- naringin, Hesperidin -- hesperidin, etc

Feed Enzyme

Catagory	Product Name	Applications
Glucose oxidase	Glucose oxidase GD-10000	Mainly used in feed industry: Eliminate the living environment of intestinal pathogens and maintain the ecological balance of intestinal flora; improve the body's immunity and antioxidant capacity Ability; ensure the quality of raw materials and feed.
Cellulase	Cellulase 10000	Mainly used in feed industry: Supplement the deficiency of homologous enzymes in animals, promote animal digestion and absorption, and improve feed utilization; destroy plant cell walls, promote nutrient absorption, promote animal growth, and improve immune function.
Protease	Alkaline protease 1 million	Mainly used in feed industry: It decomposes the protein in the feed into amino acids, increases the exudation of nutrients, which is conducive to the absorption and utilization of eggs by poultry, and at the same time supplements the lack of endogenous enzymes in animals, improves feed utilization.
Protease	Neutral protease 500000	Mainly used in feed industry: Add into the feed formula or directly mixing it with the mixed feed can improve the utilization rate of protein and reduce the cost of feeding.
Protease	Acid protease for 50000	Used for fermentation feed industry: Supplement the deficiency of animal endogenous protein , reduce the fermentation of harmful microorganisms in the hindgut and reduce the nutritional value Diarrhea incidence, improve animal intestinal health.
α -galactosidase	NE02 α -galactosidase NE02	Mainly used in feed industry: Control intestinal microbial fermentation and enhance immunity; destroy cell wall structure and promote the release of nutrients in cells.
Mannanase		Feed addition, palm, coconut cell wall treatment, oligomonas mannose;Hydrolysis of Guar gum;
Ferulic acid esterase		ood, feed and paper industries

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Transglutaminase(TG)

[Product Introduction]

[Overview]

The amino acids lysine (Lys) and glutamine (Gln) are connected through the formation of covalent bonds by TG to improve physical properties of protein containing food structure and texture.

[Source and Specification of usage]

Transglutaminase is an enzyme widespread in human beings, other animals, plants and microorganisms. Industrial produced Transglutaminase is of microbial origin (MTG), isolated from bacteria *streptomyces mobaraense*, which allows the production of substantial quantities. It can be used as food processing aid in meat products and can be used in all kinds of meat products as required without labeling. It is a natural additive that can meet the requirements of clean labeling.

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【Product Application】

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1.TG is widely used in ham, meatballs and hot dog sausage as a texture improver:

- ① Improve the organization structure of the product and improve the elasticity and hardness;
- ② Improve the slicing and freezing resistance of the product;
- ③ Improve product water holding capacity;
- Recommended Product model: TG-T01
- Recommended usage: 0.1%-0.5%



2.TG is widely used in restructured steak, fat beef/lamb roll, chicken roll and all kinds of restructured meat products. Improve the organization of meat to enhance the added value of meat products

- Recommended Product model: TG-N503
- Recommended usage: 0.6%-1.5%



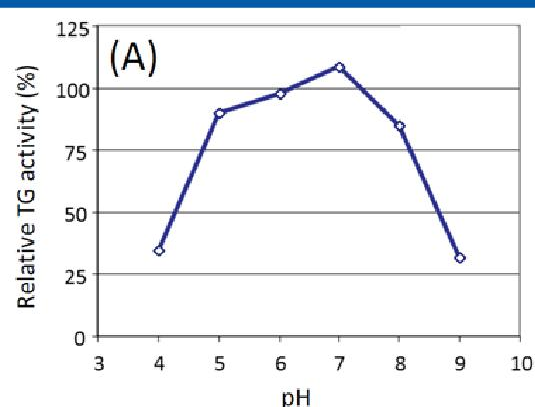
3.TG can be applied to flour products to improve the hardness and elasticity of flour products. TG can also be applied to baking products to improve the dough stability and easier baking and Applied to dairy products (yogurt, cheese, etc.) to improve the viscosity and gel strength of yogurt and cheese

- Recommended Product model: TG-T01
- Recommended usage: 0.1%-0.5%

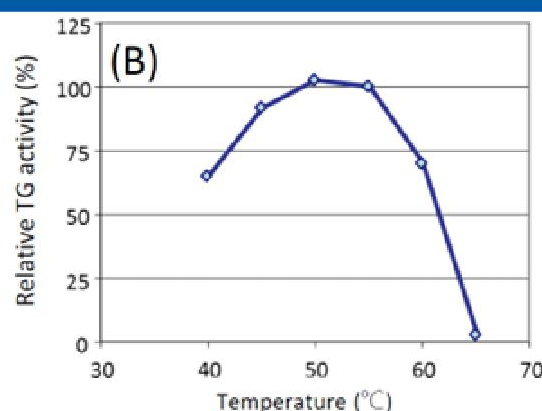


【product properties】

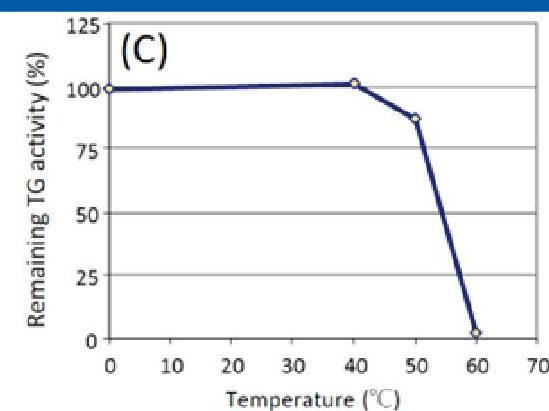
Main influence factors of TG Application:



Optimal pH of TG



optimal temperature of TG



thermal stability of TG

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Lipases Enzyme

[Overview]

Food oils and fats:including but not limited to glyceride fish oil/algal oil, OPO, diglyceride, MLCT and natural VE extraction.

Lipase is a class of enzymes with a variety of catalytic capabilities, which can catalyze the hydrolysis of triglycerides into diglycerides, monoglycerides, glycerol and free fatty acids. It can reverse synthesis reaction under anhydrous conditions, and synthesize new molecules under esterification/alcoholysis/transesterification reactions. At present, lipases are mainly from *Aspergillus oryzae*, *Candida Antarctica*, *Rhizomucor miehei*, *Thermomyces lanuginosus*, etc. Food grade lipases include lipase NE-10 and immobilized lipase IM-NE100.

Product name	Activity	pH	Temperature	Application
Lipase NE-10	100000 u/g	6.0-9.0	40-60 ℃	Chiral drug resolution, hydrolysis of esters to prepare fatty acids.
Immobilized lipase IM-NE100	10000 plu/g	5.0-9.0	30-60 ℃	Chiral drug resolution, fatty acid glycerides synthesis, alcoholysis and random transesterification.

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【Examples】

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Glyceride fish oil / algal oil

High content EPA / DHA glyceride fish oil / algae oil was prepared by lipase catalysis.

Recommended product: lipase NE-10, immobilized lipase IM-NE100

Recommended usage: 0.1-0.4% NE-10, 3-5% IM-NE100



OPO preparation

High purity OPO were prepared by sn-1, 3-specific lipase catalysis.

Recommended product: immobilized lipase IM-NE100

Recommended usage: 3-5% IM-NE100



Diglyceride preparation

High content of diglycerides, especially 1,3 diglycerides were prepared by sn-1,3 specific lipase catalysis.

Recommended product: immobilized lipase IM-NE100

Recommended usage: 3-5% IM-NE100



MLCT preparation

MLCT was prepared by lipase catalyzed transesterification, direct esterification, acidolysis and alcoholysis esterification reactions.

Recommended product: immobilized lipase IM-NE100

Recommended usage: 3-5% IM-NE100

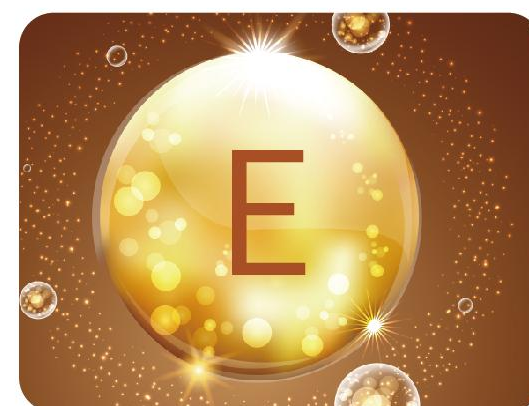


Natural VE extraction

Free fatty acids are removed and the extraction effect of natural VE is greatly improved through lipase hydrolysis and esterification.

Recommended product: lipase NE-10, immobilized lipase IM-NE100

Recommended usage: 0.1-0.4% NE-10, 3-5% IM-NE100



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Beverage Enzyme



[Overview]

Today's consumers have more expectations for beverages. We can help various kinds of manufacturers produce products with richer sensory experience, healthier, more eco-friendly by providing a series of enzymes so as to meet the various needs of consumers. At the same time, our enzyme products can be added as additives without labeling, and it's also a natural additive that can meet the requirements of cleaning labels.

- Plant-based drinks: Liquefaction of starch and create solubility, unlock natural sweetness, increase solubility of the protein, improve mouthfeel and nutritional value;
- Juices: Improve juice yield and clarity;
- Coffee: Improve extraction rate and filtration speed, prevent flocculation, turbidity and sedimentation;
- Tea drinks: Improve extraction rate, prevent turbidity and enrich the flavor of drinks;
- Dairy products: Reduce allergenicity, increase gel strength and quick brewing.

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【Related Products】

Benefit the Earth by Biotechnology / 

Plant-based Drinks

Product name	Function
α -amylase	Liquefaction of starch and create solubility , reduce viscosity
β -amylase	Further hydrolyze starch to produce maltose
Glucoamylase	Further hydrolyze starch to produce glucose
Transglucosidase	Generate isomaltooligosaccharide, adjust sweetness, enrich the flavor
Compound protease	Increase protein content and avoid bitterness
Protein glutaminase	Improve protein content, emulsification/ foaming/ smoothness
Xylanase KDN06	Increase soluble dietary fiber content and reduce filter residues



Juices

Product name	Function
Pectinase	Reduce viscosity , improve juice yield and clarity
Cellulase/Hemicellulase	improve juice yield together with pectinase



Tea drinks

Product name	Function
Tannase	prevent turbidity and avoid bitterness
Cellulase/Hemicellulase	Improve the extraction rate of tea
Protease	Release peptides and amino acids to enhance the flavor of drinks
Glutaminase	enhance the freshness of tea and enrich the flavor with protease



Coffee

Product name	Function
Mannase	Reduce viscosity , prevent turbidity and sedimentation
Hemicellulase	Improve the extraction rate of coffee



Dairy products

Product name	Function
Acid lactase FD-12	Hydrolyze lactose, relieve lactose intolerance effectively
Glucose Oxidase	Improve the anaerobic fermentation speed of yogurt
Transglutaminase	Improve the gel strength and viscosity of yogurt



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Traditional Brewing Enzyme



[Overview]

Traditional brewing has a long history in China. China's wine, soy sauce and vinegar have gone through thousands of years of vicissitudes, and with the rings of history, they have come from the past to the present. Vland Biotech has developed amylase, saccharification enzyme, lipase, clarifying enzyme, pectinase, vinegar freshness and compound enzyme JY-NE01, which has promoted the innovation of the production method of the enterprise and achieved green and high-quality development. VLAND use modern biotechnology to explain and carry forward the traditional brewing process, injecting new vitality into traditional brewing enterprises.

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【Related Products】

Liquor

VLAND Saccharification enzyme products are used to promote starch hydrolysis and increase the yield of liquor. Lipase products can release aroma substances, highlight the style of wine, and improve the quality of wine.

Product Name	Lipase 5000MM	Immobilized lipase	Glycosylase NE-13
State	Solid powder, dextrin carrier, good water solubility	300~900μm immobilized particles	liquid
Enzymatic activity	5000U/g 10000PLU/g	130000U/g	



Beer

VLAND special enzymes for beer series are made from high-efficiency enzyme-producing strains obtained by directional screening through liquid submerged fermentation, ultrafiltration and concentration. It can improve starch conversion rate and maltose content, speed up wort and beer filtration, increase wort yield and improve beer quality.

Product name	Heat-resistant alpha-amylase	Beta-amylase	Glycosylase
Outward	light brown liquid	Brown liquid	light brown liquid
Enzymatic activity	>200,000 U/ml	>700,000 U/ml	>290,000 U/ml



Wine

The application of VLAND acid pectinase can improve the juice yield and shorten the pressing time, which is beneficial to the clarification of juice, improve the flavor of fruit wine, and improve product quality and product stability. VLAND Pectin lyase PL can promote the release of fructose and reduce the use of water, and can also improve the clarifying effect of the exudate juice.

Product name	Acid pectinase		Pectin lyase PL	
Outward	brown liquid	yellow powder	light brown liquid	light brown solid powder
Enzymatic activity	60000U/L	30000 U/g	2000U/ml	2000U/g



Vinegar

Product name	vinegar fresh		
Recipe	Cellulase, Glucoamylase, Starch hydrolase		
pH and Temperature	2.5~6.0; 25~60℃		



Features

- Greatly improve the yield of raw materials to vinegar, the increase range is between 5% and 25%
- Acetic acid and lactic acid have been greatly improved
- Effectively reduce abnormal conditions such as fermentation stickiness
- Enhance product flavor, especially umami

Soy sauce

Product name	Compound enzyme JY-NE01
Recipe	Protease, Raw Starch Hydrolase, Cellulase
pH and Temperature	valid pH 3.0~5.0; the most suitable pH:5.2~8.0 valid temperature :25~70℃; the most suitable temperature :50℃



Features

- Promote the breakdown of protein and starch in raw materials
- Improve the utilization rate of raw materials, promote the formation of flavor substances, improve the flavor of soy sauce,
- Short production cycle, save raw materials, increase yield, low cost and significant effect

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Biofuel Enzyme

[Overview]

Biofuel is an important direction for the development and utilization of renewable energy. Vland Biotech has developed alcohol industrial enzymes and biodiesel enzymes, which has promoted the innovation of the production method of the enterprise and achieved green and high-quality development. Enzymatic method has the advantages of mild reaction, low costs, friendly environment.

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【Related Products】

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Alcohol industry

VLAND heat-resistant α -amylase is a thermostable starch hydrolase, which is produced by deep fermentation and refining of an excellent strain. It is suitable for enterprises producing alcohol from potato, cassava, corn and other raw materials.

Features:

- It can quickly reduce the viscosity of the powder slurry and improve the fluidity
- Excellent acid and temperature resistance, thereby reducing the use of chemical acid and alkali products, reducing production costs and environmental pressure
- The production water already contains enough calcium ions, no need to add calcium ions

Glucoamylase

VLAND glucoamylase is a saccharification enzyme with high glucose production rate, which is produced by submerged fermentation and refining of an excellent strain, It can catalyze the hydrolysis of starch to produce beer and rice wine, and can also be used for the production of glucose and dextrin.

Features:

- Strong ability to hydrolyze starch, reduce the consumption of raw materials
- The saccharification speed is fast, the overall process time is shortened, and the risk of bacterial contamination is reduced
- It can improve fermentation intensity, increase alcohol yield and improve fermentation index

Product name	Heat-resistant alpha-amylase	Glucoamylase
Outward	light brown liquid	light brown liquid
Enzymatic activity	>200,000 U/ml	>290,000 U/ml
pH	5.5~7.0	3.0~5.0

Run Jiu sheng

VLAND Run Jiu sheng is a new generation of special compound enzymes for liquid alcohol fermentation, which is independently developed by Vland Biotech Inc.

Features:

- 2% increase in alcohol production with significant economic benefits;
- Lower BOD, which can reduce the costs of wastewater treatment;
- Beneficial to high-concentration fermentation, and at the same time, it has lower mash viscosity and reduces energy consumption.

Cellulase SP08

VLAND cellulase SP08 is produced by submerged fermentation and refining of an high-yielding strains selected by nature. It is suitable for alcohol production enterprises of bellflower, corn, bagasse and other raw materials.

Features:

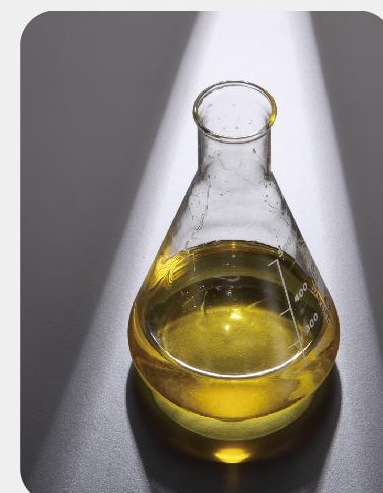
- The enzymatic hydrolysis has high efficiency and speed, and the reaction conditions are mild, no toxic degradation products are produced, the pressure of environmental protection is relieved.



Biodiesel-lipase

VLAND biodiesel-lipase is a special enzyme in the biodiesel field developed by the R&D team of Vland Biotech aiming at the pain points of the biodiesel industry. It can simultaneously catalyze three reactions of hydrolysis, esterification and transesterification, and has wide substrate adaptability. For different sources and different types of feedstock oils, the unique enzymatic catalysis process of Vland Biotech can reduce the acid value of the feedstocks to below 0.5mgKOH/g, which meets the requirements of biodiesel quality indicators.

Product name	lipase FM-10	lipase FM-100	Immobilized lipase FM-NE04
Optimum temperature	40-60°C	40-60°C	30-70°C
Optimum suitable pH	6-9	6-9	5-9



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Cleaning Enzyme



[Overview]

Sustainable development has become the main key trends of the household industry. Relying on the company's international innovation platform, strong core technology R&D team and intelligent production equipment, Vland Biotech has developed a series of products such as protease and cellulase, promoting the green production and realizing green and low-carbon development of the industry.

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【Related Products】

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NEKL-20

NEKL-20 is a serine-type endo-alkaline protease, which is fermented, extracted and refined by an excellent strain. It can identify various insoluble protein macromolecular dirt, cut its internal peptide bonds, and decompose it into soluble polypeptides and amino acids that are dispersed and washed by surfactants. Therefore, the dirt can be easily removed.

Features

- Greatly improve the washing and decontamination ability, and it has a unique washing effect for protein-based dirt such as blood stains, sweat stains, oil stains.
- It has better compatibility with detergents and can greatly improve the dissolution rate.
- The product adopts a green solution, which is durable, stable, non-toxic, and has good cost-effectiveness.

Product name	NEKL-20
Outward	Off-white to gray granular preparation
Enzymatic activity	200,000 U/g



Clear Clean C2000

VLAND Clear Clean C2000 is a new generation of genetically modified cellulase, which is independently developed by Vland Biotech. The detergent have an obvious effect to whiten and protect the fabric, improve the feel of the clothes, remove the hair ball, and improve the clarity of the texture.

Features

- Dispersibility: Granular enzyme with good fluency and uniform particle size
- Stability: Treated with encapsulation technology can protect the enzyme preparation from external adverse factors and has excellent stability performance.
- Adaptability: The bulk density is closer to the apparent specific gravity of washing powder, which can avoid the stratification during transportation and storage.
- Solubility: Dissolves quickly, ensuring the active ingredients work quickly.

Product name	Clear Clean C2000
Appearance	Grey-white uniform particles
Particle size distribution	20-60 mesh (0.25-0.83mm) ≥85%
Disintegration time	≤60S (30℃)
Bulk density	0.7-1.1 g/ml
Storage and shelf Life	Store in a dry and ventilated place at 0-25℃, avoid direct sunlight. Shelf life in original packaging is 12 months.



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Feed Enzyme



[Overview]

VLAND feed enzyme is a new generation of feed enzyme developed and produced according to the physiological characteristics and microbial characteristics of animal intestines, using modern molecular biology, high-throughput screening, enzyme engineering, fermentation engineering and other technologies. Feed enzymes are fermented by specific enzyme-rich microorganisms (such as *Aspergillus Oryza*, *Aspergillus Niger*, *Bacillus subtilis*, and *Saccharomyces cerevisiae*, etc.), and are processed into highly catalytically active substances through extraction, concentration and other processes. aged animals. The synergistic effect of multiple enzymes reduces feed costs and improves production performance.

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【Product Introduction】

Benefit the Earth by Biotechnology / 

Alpha-galactosidase

【Introduction】

- Alpha-Galactosidase is a molecular structure of different lengths composed of a sucrose unit and multiple galactose units connected by α -1,6 glycosidic bonds, mainly including raffinose, stachyose, etc.
- The main protein raw material in animal feed is soybean meal, which contains up to 5%-7% α -galactoside, which is the most important anti-nutritional factor in animal (poultry and pig) diets. Studies have shown that α -galactoside in soybean has good stability and still exists after high temperature, high pressure and high humidity processing. Cerulean α -galactosidase can hydrolyze α -galactosidase in feed, reduce the viscosity of chyme, improve the digestibility of nutrients, and reduce flatulence and diarrhea caused by α -galactosidase.

【Product Features】

- Effectively decompose α -galactoside bonds, eliminate α -galactoside anti-nutritional factors, improve feed utilization, and at the same time improve the digestibility of α -galactoside-rich raw materials;
- It works synergistically with a variety of enzymes to destroy the cell wall structure and promote the release of intracellular nutrients;
- Degradation produces oligosaccharides and their derivatives, which participate in the immune regulation of the body and enhance immunity.

【Product parameters】Enzyme activity:2000U/g、20000U/g、40000U/g;optimum pH range:3.0-6.5;optimum temperature range:45℃-60℃

A new generation of high enzyme activity phytase

- It is refined from Aspergillus Niger through liquid submerged fermentation, ultrafiltration and other processes. Phytase can degrade phytate phosphorus in plant protein into inositol and phosphoric acid, and relieve anti-nutritional factors;
- Release substances such as proteins, lipids and amino acids chelated by phytic acid to improve the digestibility of nutrients by animals.

【Product parameters】Enzyme activity:300000U/g ;optimum pH range:4.5-5.5;optimum temperature range:50℃-65℃

Cellulase

- Cellulase is a general term for a group of enzymes that can degrade cellulose, mainly composed of endoglucanases, exoglycanases, and glucosidases. For stereotyped cellulose, exoglycanase hydrolyzes amorphous cellulose into cello oligosaccharides, and glucosidase hydrolyzes cello oligosaccharides into monosaccharides.
- Cellulase also has the function of maintaining the integrity of the villi in the small intestine and promoting the absorption of nutrients

【Product parameters】Enzyme activity:10000U/g、20000U/g;optimum pH range:3.0-7.0;optimum temperature range:30℃-65℃

Mannanase

- Break the cell wall, release nutrients, improve the contact between nutrients and digestive enzymes, and improve the nutritional value of feed;
- Degrades non-starch polysaccharides such as mannan, reduces the viscosity of chyme, and increases the digestion and absorption of nutrients

【Product parameters】Enzyme activity:5000U/g、5000U/mL ; optimum pH range:3.0-6.5;optimum temperature range:55-80℃

Xylanase

- Xylanase is made from excellent strains of yeast/Trichoderma after submerged fermentation, purification and extraction. This product is resistant to low pH environment, ensuring that most of the xylanase starts enzymatic hydrolysis in the stomach, and prolongs the action time of the enzyme in the small intestine.
- Improve production performance, degradation product oligosaccharide can regulate intestinal flora, promote the growth of beneficial bacteria, inhibit the growth of harmful bacteria, reduce the occurrence of diarrhea, and improve production performance.

【Product parameters】Enzyme activity:100000U/g、200000U/g ; optimum pH range:4.8-5.5;The activity is stable in the range of pH 3.0-8.0;optimum temperature range:30-65℃

Glucose oxidase

- Glucose oxidase is a high-efficiency enzyme preparation developed by applying modern bioengineering technology;
- The product can regulate the intestinal environment of livestock and poultry, improve the intestinal microecological balance, and inhibit the growth and reproduction of harmful bacteria;
- Relieve mycotoxin poisoning and drug poisoning.

【Product parameters】Enzyme activity:10000U/g、60000U/g ; optimum pH range:3.0-7.0;optimum temperature range:30-65℃

Acid protease

- Acid protease is a kind of fermented and cultured Aspergillus Niger and refined by advanced extraction technology.
- Acid protease can decompose animal or plant protein into small peptides and amino acids in a slightly acidic environment, which cannot supplement the deficiency of homologous enzymes in animals, and promote animal digestion and absorption and animal development;

【Product parameters】Enzyme activity:50000U/g、100000U/g;optimum pH range:2.0-3.5;optimum temperature range:30-65℃

Neutral protease

- Decompose feed protein, improve protein utilization rate and animal digestion and absorption rate of feed, and reduce costs
- Promote the growth and weight gain of livestock and poultry, and enhance disease resistance

【Product parameters】Enzyme activity:50000U/g、500000U/g;optimum pH range:5.5-8.5;optimum temperature range:30-65℃

Alkaline protease

- Alkaline protease is a kind of protease which is fermented and cultured by Bacillus spp. and refined by advanced extraction technology.
- It decomposes the protein in the feed into amino acids, increases the exudation of nutrients, which is beneficial to the absorption and utilization of eggs by poultry, and at the same time supplements the lack of endogenous enzymes in animals, improves feed utilization, reduces feed costs, and enhances appetite.

【Product parameters】Enzyme activity:200000U/g、1000000U/g;optimum pH range:9.5-10.5;optimum temperature range:30-65℃

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