

ENZYMES FOR BREWERIES

S. NO.	PRODUCT NAME	NATURE	ADVANTAGES	DOSAGE	POINT OF DOSING
1	ENZIMAS-MALT	POWDER FORM BLEND OF ENZYMES	Hydrolysis of starch and non starch material such as proteins and cellulose.Reduction in viscosity and better filtration.	2.0-2.5 kg/per ton of grist	Mashing tank Mash mixer
2	ENZIMAS-P	POWDER FORM BLEND OF ENZYMES FORMULATED PRODUCT OF PROTEOLYTIC	Hydrolyzed proteins & peptides in the grist into peptides and amino acid required for yeast healthy growth. Viscosity falls rapidly due to hydrolysis of proteins-NSP complex resulting into better sugar availability for beer formation. It increases filtration efficiency for hydrolysis of proteins.	0.2-0.4 kg/per ton of grist during mashing 0.5-2.0 gm/HL in fermenter	Wart cooling Fermentation & before filtration
3	ENZIMAS- BG	POWDER FORM BLEND OF ENZYMES	Hydrolysis of beta-glucan, cellulose, hemicellulose which increases higher viscosity and create problems in filtration.	0.5-1.0 kg/per ton of solids	Mashing tank Mash mixer
4	ENZIMAS-ALDC	LIQUID FORM BLEND OF ENZYMES	To avoid unpleasant taste of alpha-diacetyl from alpha-acetolactate during fermentation. It can also be used where diacetyl is otherwise formed and requires a maturation step before filtration.	1.0-1.5 kg/100HL of worts	Fermentation Maturation
5	ENZIMAS-AA-HT	LIQUID FORM BLEND OF ENZYMES	Use for hydrolysis of starch and converts into oligosaccharides and monosaccharides. Liquefaction during malting process.	Ask	Mashing tank Mash mixer
6	ENZIMAS-GA	LIQUID FORM BLEND OF ENZYMES	Used for hydrolysis of Disaccharides and converts into monosaccharides	ask	Fermentation

ENZYMES FOR DISTILLERIES

1	ENZIMAS-MOL Molasses distilleries	FREE FLOW POWDER Combination of microelements & enzymes	<p>Improve natural spirit quality.</p> <p>Reduction in the fermentation hold up time.</p> <p>Low down by-products in mash.</p> <p>Inhibit bacterial contamination.</p> <p>Reduction in volatile acid contents.</p> <p>Increase alcohol concentration in mash hence reduce spent wash quantity.</p> <p>Increase alcohol yield by 7 to 10 liters/MT of molasses.</p> <p>Possibilities spent wash recycle in fermentation.</p>	65.0 gms/KL of distil. cap.	Ask
2	ENZIMAS-ST Starch distilleries	FREE FLOW POWDER Combination of microelements & enzymes	<p>Improve natural spirit quality.</p> <p>Reduction in the fermentation hold up time.</p> <p>Low down by-products in mash.</p>	65.0 gms/KL of distil. Cap.	Ask

Inhibit bacterial contamination.
 Reduction in volatile acid contents.
 Increase alcohol concentration in mash hence reduce spent wash quantity.
 Increase alcohol yield by 7 to 10 liters/MT of molasses.
 Possibilities spent wash recycle in fermentation.

ENZYME FOR WINE

1	ENZIMAS-W	FREE FLOW GRANULAR POWDER	<p>Multi enzymes complex with pectinase, hemicellulase, xylanase, cellulase, beta-glucanase and other extra additives.</p> <p>Pectinase are added for better clarification & viscosity reduction so that desired filtration could be achieved.</p> <p>Specially designed for rose wine and red wines.</p> <p>Pectinase primarily break down the soluble pectin and thus improve preliminary juice extraction.</p> <p>Improve over all quality of the wine.</p>
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25-50gms/per ton of grapes

Ask

ENZYME FOR SUGAR (Process enhancer for sugar)

1	ENZIMAS-A	<p>LIGHT TO DARK BROWN COLOR LIQUID</p> <p>High performance blend of starch and Dextrin hydrolyzing enzymes.</p>	<p>Hydrolyzed polysaccharide & oligosaccharides like starch and dextrin.</p> <p>Reduces viscosity of syrup.</p> <p>Improvement in boiling rate.</p> <p>Improvement of purging ability during centrifugation.</p> <p>Increase in liquor clarity and filterability .</p> <p>Reduction in boiling house losses and total loss.</p> <p>Improvement of quality of sugar</p>
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5-7 ppm on cane in mixed Juice.
 1-2 ppm in syrup
 20-25 ppm on raw sugar in refinery

Mix Juice tank
 Filtrate
 Clarifier
 Syrup
 For more appropriate point ask to us.

2	ENZIMAS-D	<p>LIGHT TO DARK BROWN COLOR LIQUID</p> <p>High performance of dextrin hydrolyzing enzymes</p>	<p>Hydrolyzed polysaccharide & oligosaccharides like starch and dextrin.</p> <p>Reduce crystal elongation</p> <p>Reduce viscosity of syrup</p> <p>Improvement in boiling rate.</p> <p>Improvement of purging ability during centrifugation.</p> <p>Increase in liquor clarity and filterability .</p> <p>Reduction in boiling house losses and total loss.</p> <p>Improvement of quality of sugar</p>
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4-6 ppm on cane in mixed juice
 1-2 ppm in syrup
 10-15 ppm on raw sugar in refinery

Mix Juice tank
 Filtrate
 Clarifier
 Syrup
 For more appropriate point ask to us.

STARCH PROCESSING ENZYME

CONCEPT: A process is explored for continuous enzymatic liquefaction of corn starch at high concentration and its subsequent saccharification to glucose. The process appears to be quite efficient and should be readily adaptable to industrial fermentation processes. The process is found to be suitable for the conversion of milled corn or other cereal grains also.

1	ENZIMAS-AA -HT	BROWN COLOR LIQUID	<p>APPLICATION: It is used in starch industries for the production of low dextrose starch syrups. In the ethanol industry, it is used for liquefaction of starch containing grain mashes for production of neutral spirit at high temperature.</p> <p>TEMPERATURE & pH Required for ENZIMAS-AA-HT 80-90 °C 5.3-5.8</p> <p>ADVANTAGES: Excellent thermal stability for liquefaction of steam jet cooker starch. Produce less viscous liquid dextrose syrup in 90 min. at 80-90 °C Whole corn or grain liquefaction at pH 5.3-5.8 at 80-90 °C Increase wort yield and grain adjunct cooking capacity It is highly heat stable and pH tolerant and requires low calcium.</p>	<p>Optimum Dosage of ENZIMAS-AA-HT depends on:</p> <ol style="list-style-type: none"> 1. Nature of substrate 2. Percentage of dry solids present in substrate 3. Duration of liquefaction. 4. Starch syrup dextrose equivalent required. <p>* Final dosage is optimized at the plant itself.</p>
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CONCEPT: Glucoamylase is one of the oldest and widely used biocatalyst in food industries. The process involved incorporation of a thermostable alpha-amylase for liquefaction are glucoamylase into a continuous under conditions conducive to rapid enzyme hydrolyses. ENZIMAS-GA an exo alpha-amylase, hydrolyses 1-4 alpha glucosidic bonds of liquefied starch. The prolonged action of ENZIMAS-GA produce large amount of glucose.

2	ENZIMAS-GA	BROWN COLOR LIQUID	<p>APPLICATIONS: Saccharification of partially processed starch/dextrin into glucose, which is an essential substrate for various fermentation processes and for range of food and beverages industries. It is used in distilleries and fuel ethanol industries for saccharification, simultaneously for saccharification & fermentation of whole grain mashes also.</p> <p>TEMPERATURE & pH REQUIRED FOR ENZIMAS-GA 62-68 °C 4.5-5.2</p> <p>ADVANTAGES: Excellent thermal and pH stability. Produce high dextrose equivalent. Produce fermentation of non-GMO. All natural and non-synthetic ingredients.</p>	<p>Optimum dosage of ENZIMAS-GA depends on:</p> <ol style="list-style-type: none"> 1. Nature of substrate 2. Percentage of dry solids present in substrate 3. Duration of saccharification with temperature 4. Starch syrup dextrose equivalent required <p>* Final dosage is optimized at the plant itself.</p>
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CONCEPT: The source of beta amylase has been limited to edible plants such as barley, wheat and soyabean. Considering the world wide demand of alternative source of stable enzyme, such as microbial beta enzymes are introduced. CATAZYME-BA is a perfect enzyme used for production of maltose syrup. It prevents retrogradation of rice cake and confectionary.

3	ENZIMAS-BA	BROWN COLOR LIQUID	<p>APPLICATIONS: It is used in starch processing unit and has a broad range of applications. It is used in the production of maltose syrup. Maltose is used as a sweetener in candy, confectionary, ice-cream and other food processing industries. Maltose is compared to glucose, has a full bodied taste and low reaction rate. Maltose is resistant to crystal formation.</p> <p>ADVANTAGES: Produce maltose syrup in good amount. It prevents contamination. It is produced by fermentation of non-GMO. It contains all natural and non synthetic ingredients. It has an excellent thermal stability.</p>	<p>Optimum dosage of ENZIMAS-BA depends on:</p> <ol style="list-style-type: none"> 1. Nature of substrate. 2. Percentage of dry solids present in substrate. 3. Duration of saccharification with temperature. Duration (30-120 minutes). 4. Starch syrup maltose equivalent required. <p>* Final dosage is optimized at the plant itself.</p>
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