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TY-PURE

TURBO YEAST

A high purity active dried yeast formulated with optimized nutrition for fermentation of neutral flavour washes from refined sugar up to 14 % ABV.

PRODUCT DESCRIPTION & FUNCTION

TY-Pure is based on a low-congener, non-diastatic active dried yeast producing minimal fusel oils, esters and other fermentation by-products, minimizing flavour and aroma contribution in the end product – formulated with a complete, chemically-defined nutrient complex, TY-Pure is optimised for neutral character sugar wash fermentations up to approx. 14 % ABV.

Although designed for use with highly refined sugar substrates such as glucose, sucrose, and invert sugar syrup, TY-Pure can be used with any fermentable sugar substrate for production of high purity alcohol wash up to ~14 % ABV.

The nutrient complex in TY-Pure contains all essential macro and micro-nutrients required for healthy fermentation, including nitrogen (urea-free source), phosphate, magnesium, B vitamins and trace minerals. TY-Pure does not contain yeast extract or other non-chemically defined materials which can taint the quality of alcohol used for clean flavour applications.

Recommended For

Fermentation of clean and neutral character alcohol base for use in hard seltzers and FMB/CMB hard soda production; fermentation of alcohol wash for spirit alcohol distillation.

Organoleptic Qualities

Wash fermented with TY-Pure typically presents moderate levels of fruity and green apple notes along with lower levels of citrus and yeast notes.

Note: for use in making ultra-clean seltzer bases, it is optional but beneficial to further clean and polish flavour and aroma by utilising post-fermentation processing techniques such as carbon filtration or use of other adsorbents.

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TECHNICAL CHARACTERISTICS

Yeast Classification	Saccharomyces bayanus
Temperature Tolerance	10-30°C / 50-86°F (optimum 20-25°C / 68-77°F)
Killer Factor	Positive
Alcohol Tolerance	Approx. 14% ABV
SO_2 production	Low
Viable Yeast Cells	> 1.6 x 10^9 cfu/g
Total bacteria	< 2 x 10^4 cfu/g
Wild Yeast	< 2 x 10^4 cfu/g
Mould	< 2 x 10^2 cfu/g
Coliforms	< 20 cfu/g
Pathogens (Salmonella, E. coli etc)	Absent in 25 g
Lead	< 3 mg/kg
Arsenic	< 2.5 mg/kg
Heavy Metals (as Pb)	< 10 mg/kg
GMO Status	GMO Free

DOSAGE & APPLICATION

Pitch rates: suggested rates are as follows (optimisation through bench trials is recommended):

Target ABV for fermentation:	5%	8%	10%	12%	14%
TY-Pure Tubro Yeast dosage:	1.8 g/L	2.5 g/L	3.0 g/L	3.6 g/L	4.0 g/L

Pitching Method

TY-Pure requires agitation to dissolve nutrient salts so cannot be pitched directly without mixing facility. For indirect pitching, pre-mix with 10x times its weight of water at 25-30°C (77- 86°f) and mix for 5 minutes before pitching. Note that TY-Pure is not suitable for propagation or post-fermentation recovery for re-use due to nutrient depletion during fermentation.

This product contains granular materials of different particle sizes that can settle out during transportation. To ensure an even distribution, it is recommended that a full pack is used for your fermentation. If a part bag is used, product consistency can be improved by thorough agitation of the pack prior to use. An even distribution of ingredients cannot be guaranteed if part bags are used.

Note: rehydration is only required for pre-dissolving nutrients rather than yeast activation. It is important to minimise contact-time (ideally < 15 minutes) to avoid high nutrient concentrations harming the yeast. Trials may be required to determine impacts of longer contact periods on yeast viability and fermentation kinetics.

Fermentation Temperature

TY-Pure can tolerate up to 30°C (86°F) but alcohol quality is compromised at this temperature. For optimum performance and quality, it is recommended to ferment at 20-25°C (68-77°F), although it may be possible to minimise SO2 levels by fermenting at the upper end of this range, i.e. 23-25°C (73-77°F).

Oxygenation

Oxygenation will help to minimise SO_2 production; as a guide we suggest oxygenation rates starting from 15-20 ppm for ABVs around 5%, up to 40-45 ppm for higher ABVs of up to 14%. Oxygenation rates can be optimised through trials to meet the specific requirements of the application.

pH Tolerance

TY-Pure ferments optimally at pH 4-6 but can still operate outside of this range (e.g. pH 3-7). It is best practice to monitor pH as it is likely to drop as fermentation progresses. If possible, avoid levels below pH 3.5 to avoid prolonged fermentation times.

Clarification & Filtration

TY-Pure is a relatively low flocculator so use of high rates of finings agents and/or centrifugation may be required to achieve a clear base. If finings and/or centrifugation are not sufficient, filtration can be used for a fine polish. The average cell diameter of the yeast is > 10 micron – however, due to presence of smaller daughter cells a filter pore size of < 5 micron (absolute rated) may be required for fine filtration.

PACK SIZES

1000g bags and 25kg poly-lined paper sacks.

SAFETY

This material is non-hazardous when used as directed. SDS available on request.

STORAGE

25kg sacks: Store in original, sealed packaging away from direct sunlight. If stored below 10°C / 50°F this product will have a shelf life of up to 24 months. At 20°C / 68°F storage temperature, shelf life will be reduced to 12 months. After opening, re-seal tightly and keep refrigerated below 10°C for 6 weeks.

1000g bags: Store in a cool, dry place away from direct sunlight for a shelf life of 18 months. After opening re-seal tightly and keep refrigerated below 10°C for 2 weeks.