



# PATHFINDER

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## YN-RUM

S P I R I T F E R M E N T

Highly robust distillers' yeast and nutrient with high tolerance to temperature and osmotic pressure – optimised for sugarcane or molasses wash fermentations up to approx. 15 % ABV.

### PRODUCT DESCRIPTION & FUNCTION

YN-Rum is based on a non-diatatic, highly robust distillers' yeast with high tolerance to temperature and osmotic pressure – formulated with a complete, chemically-defined nutrient complex, YN- Rum is optimised for sugarcane or molasses wash fermentations up to approx. 15 % ABV.

Although primarily intended for use molasses or sugarcane juice, YN-Rum can be used with any fermentable sugar substrate for production of alcohol wash for up to approx. 15 % ABV. For optimum results, YN-Rum should be used to ferment sugarcane juice up to 15% ABV or molasses solution with a gravity of up to 1.150 (34.2 °Plato) to achieve a maximum ABV approx. 12%.

The nutrient complex in YN-Rum contains all essential macro and micro-nutrients required for healthy fermentation, including nitrogen (urea-free source), phosphate, magnesium, B vitamins and trace minerals.

**Recommended for:** Fermentation of wash to produce rum or cachaça spirit.

**Organoleptic qualities:** Wash fermented with YN-Rum has high levels of esters and yields a rum spirit with a rich and complex, well-rounded flavour and aroma profile.

**Note:** Due to the osmotic pressure, maximum alcohol from pure molasses solutions is approx. 12% ABV.

### TECHNICAL CHARACTERISTICS

|                                     |                                                   |
|-------------------------------------|---------------------------------------------------|
| Yeast Classification                | Saccharomyces cerevisiae                          |
| Temperature tolerance               | 20-37 °C (68-99 °F) (optimum 30-37 °C / 86-99 °F) |
| Killer factor                       | Neutral                                           |
| Alcohol Tolerance                   | Approx. 15% ABV                                   |
| Viable Yeast Cells                  | > 1.8 x 10 <sup>9</sup> cfu/g                     |
| Total Bacteria                      | < 3 x 10 <sup>3</sup> cfu/g                       |
| Wild Yeast                          | < 3 x 10 <sup>2</sup> cfu/g                       |
| Moulds                              | < 3 x 10 <sup>2</sup> cfu/g                       |
| Coliforms                           | < 30 cfu/g                                        |
| Pathogens (salmonella, E. coli etc) | Absent in 25g                                     |
| Lead                                | < 6 mg/kg                                         |
| Arsenic                             | < 2mg/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:**

8 %

10 %

12 %

14 %

**YN-Rum Dosage:**

2.5 g/L

3.0 g/L

3.6 g/L

4.0 g/L

**Pitching method:** YN-Rum 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 YN-Rum is not suitable for propagation or post-fermentation recovery for re-use due to nutrient depletion during fermentation.

**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:** YN-Rum can tolerate up to 37 °C (98.6 °F) and performs optimally in the 30-37 °C (86-99 °F) range.

**pH Tolerance:** YN-Rum ferments optimally at pH 4-5 but can still operate outside of this range (e.g. pH 3.5-6). 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.

## PACK SIZES

1000g bags, or 25kg poly-lined paper sacks.

## SAFETY

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

## STORAGE

**25 kg 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 / 50 °F for up to 6 weeks.

**1000 g 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 / 50 °F for up to 2 weeks.