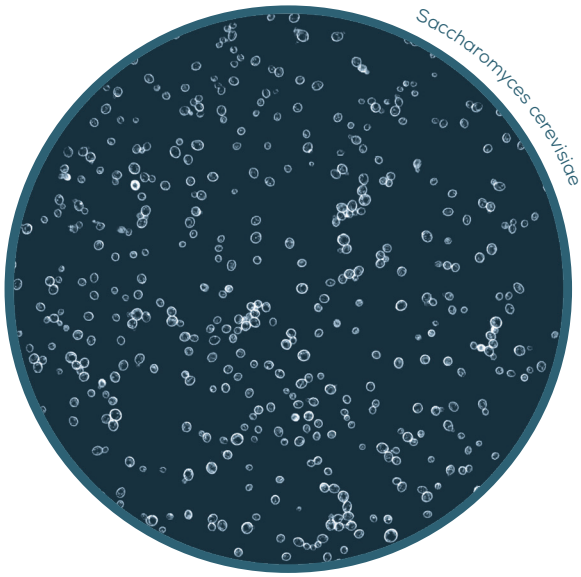
Premium Liquid Yeast *for* Professional Cidermaking

Wyeast Laboratories, Inc. Technical Data Sheet

PRODUCTS

Premium Liquid Yeast

› *Saccharomyces cerevisiae*



DESCRIPTION

A liquid suspension of yeast grown in a sterile, nutrient-rich medium.

CERTIFICATION

Every yeast strain is certified Kosher by the Orthodox Union.

PACKAGING

Available in 0.5 and 1.0 liter increments in any volume or split.

INOCULATION RATE

Suggested volumes for preferred processes. Inoculation rate can be increased when °Brix increases. Liquid yeast inoculated at 0.42 liters per hectoliter provides 5.00 x 10^6 viable cells/mL.

Yeast Per Hectoliter

26 GALLONS · 100 LITERS

Juice	Liters of Yeast
1 hL	0.5 liter
2 hL	1.0 liter
3 hL	1.5 liters
4 hL	1.5-2.0 liters
5 hL	2.0 liters

Yeast Per Tote

265 GALLONS · 1000 LITERS

Juice	Liters of Yeast
1 Tote	4.0 liters
2 Totes	8.5 liters
3 Totes	12.5 liters
4 Totes	17.0 liters
5 Totes	21 liters

PRODUCTION DETAILS	EXAMPLE
JUICE VOLUME	**1.0 HL**
INOCULATION RATE	**5 X 10^6 CELLS/ML**
LITERS YEAST/HL	**0.42 L/HL**
JUICE VOL **X** YEAST L/HL	**= 0.42 L**
ORDER VOLUME *	**= 0.5 L**

* round to nearest half or whole liter increment

PRODUCTION DETAILS	EXAMPLE
JUICE VOLUME	**1 TOTE** (10 HL)
INOCULATION RATE	**5 X 10^6 CELLS/ML**
LITERS YEAST PER TOTE	**4.2 L/TOTE**
JUICE VOL **X** YEAST L/TOTE	**= 4.2 L**
ORDER VOLUME *	**= 4.0 L**

* round to nearest half or whole liter increment

Yeast Per Barrel | 31 GALLONS · 117 LITERS

Starting Gravity °Plato (Specific Gravity)	**Million Cells/mL**	**Liters per Barrel**
≤ 12.0 (≤ 1.048)	6	0.5
12.0–14.0 (1.048–1.056)	6–7	0.5–0.75
14.0–16.0 (1.056–1.065)	7–12	0.75–1.0
16.0–18.0 (1.065–1.074)	12–18	1.0–1.75
18.0–20.0 (1.074–1.082)	18–20	1.75–2.0

PRODUCTION DETAILS	EXAMPLE
STARTING GRAVITY	**15.0 °P** (1.061)
TARGET CELLS PER ML	**7 MILLION** (for SG)
LITERS/BBL (HL)	**0.75 L/BBL**
FERMENTATION SIZE	**10 BARRELS**
LITERS YEAST PER BBL	**0.75 L/BBL**
MULTIPLY BBLS **X** L/BBL	**= 7.5 L**
ORDER VOLUME *	**= 7.5 L**

STABILITY

Store at 34-40 °F (1-4 °C) immediately upon arrival. Best when used fresh. Use within 14 days.

INSTRUCTIONS FOR USE

Allow to come to ambient temperature just prior to use. Sanitize package before opening. Homogenize contents and pour the contents into well-aerated or oxygenated juice.

PRODUCTION

All *Saccharomyces* strains are produced in Wyeast's licensed food manufacturing facility from an archival -80 °F (-62 °C) ultra-low temperature bank in order to maintain genomic stability and assure that cultures have consistent fermentation kinetics, flavor profiles, and flocculation characteristics.

Minimal processing is required once propagation is complete, and therefore has no detectable effect on the integrity of the culture and significantly limits the possibility of contamination.

INTEGRITY

- Yeast cultures are packaged at 1.2 billion viable cells/mL, resulting in > 99.9% viability of your pitch rate.
- All cultures meet or exceed strict quality standards and specifications prior to shipment. A combination of traditional and innovative technologies are used to prove product purity for every phase of propagation to the finished product.
- Quality assurance samples are archived and routinely tested for ongoing confirmation of product integrity.
- Yeast cultures are guaranteed by our Product Warranty to produce a healthy and complete fermentation under typical conditions.

PROFESSIONAL SPECIFICATIONS

Saccharomyces Cider Strains

** request a Certificate of Analysis for exact specification and conformity*

ANALYSIS	METHOD	SPECIFICATION
Viable yeast cell concentration	Image Cytometry with Propidium Iodide stain	1.2 x 10^9 cells per mL
Colony Morphology	ASBC Microbial Control - 2 (WLN)	single morphology
Anerobic Bacteria	ASBC Microbial Control - 5 (UBA with Cycloheximide)	< 1 CFU / 7.5 x 10^7 yeast cells
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Non-*Saccharomyces* Wild Yeast	ASBC Microbial Control - 5 (LCSM)	varies by strain *
Saccharomyces Wild Yeast	ASBC Microbial Control - 5 (LWYM)	varies by strain *
S. cerevisiae var. *diastaticus* (STA1+)	qPCR GEN-IAL QuickGEN P1 and *Diastaticus*	not detected
Megasphera/Pectinatus spp.	qPCR GEN-IAL QuickGEN P1 and *Diastaticus*	not detected
Lactobacillus/Pediococcus spp.	qPCR GEN-IAL QuickGEN P1 and *Diastaticus*	not detected