



TECHNICAL DATA SHEET

SOURVISIAE®

Sourvisiae® is a bioengineered ale yeast strain (*Saccharomyces cerevisiae*) capable of producing lactic acid during fermentation to provide brewers with an easy, reproducible, and mono-culture product for sour-style beer production.

Sourvisiae® contains a single genetic modification, a lactate dehydrogenase gene from a food microorganism, which enables the yeast to produce high levels of lactic acid, the main compound that gives sour beers their flavor.

Sourvisiae® allows the brewer to ferment and sour the beer in one simple step, reducing cross-contamination risks, lowering costs, cutting total process time, and allowing brewers to obtain a consistent product. The brewing process is conducted without any modifications; Sourvisiae® is pitched just like conventional yeast and ferments in a normal fermentation time. Sourvisiae® does not produce other flavor compounds associated with *Brettanomyces*, *Lachancea*, or Lactic Acid Bacteria, providing a cleaner and more reproducible souring process, with much shorter fermentation times.

FOR MORE INFORMATION

- www.mascoma.com
- brewing@mascoma.com

QUICK FACTS

BEER STYLES

sour ales

AROMA

tangy, sour, slightly fruity

ATTENUATION

medium - high

FERMENTATION RANGE

10 - 22°C (50 - 72°F)

FLOCCULATION

medium to high

ALCOHOL TOLERANCE

12% ABV

PITCHING RATE

50-100g/hl to achieve at least 2.5 - 5 million viable cells/ml

SOURVISIAE®

Bioengineered
Saccharomyces cerevisiae



MICROBIOLOGICAL PROPERTIES

Classified as a bioengineered *Saccharomyces cerevisiae*, a top fermenting yeast.

Finished product is released to the market only after passing a rigorous series of tests. *According to the ASBC and EBC methods of analysis.

Typical Analysis of Sourvisiae® Yeast:

- **Percent solids** 93% - 96%
- **Living Yeast Cells** $\geq 5 \times 10^9$ CFU per gram of dry yeast
- **Wild Yeast** < 1 per 10^6 yeast cells
- **Bacteria** < 1 per 10^6 yeast cells



BREWING PROPERTIES

In Lallemand's standard conditions, wort at 20°C (68°F), Sourvisiae® yeast exhibits:

- Vigorous fermentation that can be completed in 5 days
- Medium to High Attenuation and Medium to High Flocculation
- Highly acidic and slightly fruity flavor and aroma

The optimal temperature range for Sourvisiae® yeast when producing traditional styles is 15°C (59°F) to 22°C (72°F).

Fermentation rate, fermentation time and degree of attenuation are dependent on inoculation density, yeast handling, fermentation temperature and nutritional quality of the wort.

Attenuation may appear lower due to the formation of lactic acid. Production of lactic acid does not result in a loss of CO₂. When sugar is consumed to produce lactic acid, there is no change in density. Therefore, the amount of residual sugar in the finished beer is lower than the final density would imply.

This yeast produces a very acidic beer, with final beer pHs in the range of 3.0 and lactic acid in the range of 8 – 15g/L. Vigorous fermentation can be completed within 5 days. The resulting flavor and aroma profile of the beer is a slightly fruity acidic beer. Because of the resulting low pH and highly acidic conditions, we do not recommend re-pitching this yeast.



REHYDRATION

Rehydration of Sourvisiae® in sterile water is recommended prior to pitching into wort in order to reduce stress on the cell as it transitions from dry to liquid form. For many fermentations, this stress is not significant enough to affect fermentation performance and flavor, so good results may also be achieved when pitching dry yeast directly into wort. We highly recommend rehydration in harsher fermentation conditions such as high gravity or sour wort where the added stress of dry-pitching is more likely to have a greater impact on the finished beer. Use of a rehydration nutrient such as Go-Ferm Protect Evolution has been shown to improve fermentation performance for difficult fermentations.

Rehydration guidelines are quite simple and present a much lower risk of contamination than a starter, which is unnecessary when using the recommended pitch rate of dried active yeast.

Sprinkle the yeast on the surface of 10 times its weight in clean, sterilized water at 30–35° (86–95F). Do not use wort, or distilled or reverse osmosis water, as loss in viability may result.

Stir gently, leave undisturbed for 15 minutes, then stir to suspend yeast completely. Leave it to rest for 5 more minutes at 30–35°C.

Without delay, adjust the temperature to that of the wort by mixing aliquots of wort with the rehydrated yeast. Wort should be added in 5 minute intervals and taking care not to lower the temperature by more than 10° (at a time. Temperature shock of >10° (will cause formation of petite mutants leading to extended or incomplete fermentation and possible formation of undesirable flavors. Do not allow attemperation to be carried out by natural heat loss. This will take too long and could result in loss of viability or vitality.

Inoculate without delay into cooled wort in the fermenter. Sourvisiae® yeast has been conditioned to survive rehydration. The yeast contains an adequate reserve of carbohydrates and unsaturated fatty acids to achieve active growth. It is unnecessary to aerate wort upon first use.



USAGE

Brew and process your wort as normal. Add Sourvisiae® to fermenter as normal upon heat exchanger knock-out of wort.

Pitching rate may need to be adjusted, reference lallemandbrewing.com for pitching rate calculator.

For the Sourvisiae® yeast a pitching rate of 100 grams of active yeast to inoculate 100 liters of wort is recommended.



STORAGE

The Sourvisiae® yeast should be stored dry below 4°C (39°F) and will rapidly lose activity after exposure to air. Do not use 500g that have lost vacuum. Opened packs must be re-closed, stored in dry conditions below 4°C, and used within 3 days.

If the opened package is re-vacuum sealed immediately after opening, yeast can be stored for up to two weeks below 4°C. Do not use yeast after expiry date printed on the pack.

FOR MORE INFORMATION

 www.mascoma.com  brewing@mascoma.com



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