

## Technical Data Sheet



# SOURVISIAE

## FOR SOURING DURING PRIMARY FERMENTATION

Sourvisiae is a *bioengineered* ale yeast strain (*Saccharomyces cerevisiae*) capable of producing lactic acid during fermentation. 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 during fermentation.

Sourvisiae allows the brewer to ferment and sour the beer in one simple step, reducing cross-contamination risks, lowering costs and cutting total process time. 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 consistent and reproducible souring process.

Sourvisiae is safe, non-hazardous and Generally Recognized as Safe (GRAS) by the US Food and Drug Administration.



## MICROBIOLOGICAL PROPERTIES

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

Typical Analysis of Sourvisiae Yeast:

<b>Percent solids</b>	93% - 97%
<b>Viability</b>	$\geq 5 \times 10^9$ CFU per gram of dry yeast
<b>Wild Yeast</b>	< 1 per $10^6$ yeast cells
<b>Diastaticus</b>	Absent
<b>Bacteria</b>	< 1 per $10^6$ yeast cells

Finished product is released to the market only after passing a rigorous series of tests

\*See specifications sheet for details



## BREWING PROPERTIES (1/2)

In Lallemand's Standard Sonditions Wort at 20°C (68°F), Sourvisiae yeast exhibits:

Vigorous fermentation that can be completed in 4-7 days

Medium to High Attenuation and High Flocculation

Highly acidic and slightly fruity flavor and aroma

Final pH of 3.0-3.2 and lactic acid concentrations of 8-15g/L

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



## QUICK FACTS

### BEER STYLES

Sour ales

### AROMA

Tangy, Sour, slightly fruity

### ATTENUATION

Med-High (see Brewing Properties)

### FERMENTATION RANGE

10 - 22°C (50 - 72°F)

### FLOCCULATION

High

### ALCOHOL TOLERANCE

12% ABV

### PITCHING RATE

50 - 100g/hL to achieve a minimum of 2.5 - 5 million cells/mL

### PATENT INFORMATION

Patent pending

PCT/IB2019/051682

Product replication and/or modifications are strictly prohibited.



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## BREWING PROPERTIES (2/2)

Attenuation may appear lower due to the formation of lactic acid. Production of lactic acid does not result in a loss of CO<sub>2</sub>. 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.

Lag phase, total fermentation time, attenuation and flavor are dependent on pitch rate, yeast handling, fermentation temperature and nutritional quality of the wort. *If you have questions please do not hesitate to contact us at [brewing@lallemand.com](mailto:brewing@lallemand.com)*



## USAGE

Brew as normal and inoculate Sourvisiae into cooled wort just as you would for a standard beer fermentation. For Sourvisiae, a pitch rate of 50 – 10g per hL is sufficient to achieve optimal results for most fermentations.

*Because of the resulting low pH and highly acidic conditions, we do not recommend re-pitching this yeast.*



## STORAGE

The Sourvisiae yeast should be stored in a vacuum sealed package in dry conditions below 4°C (39°F). Sourvisiae will rapidly lose activity after exposure to air.

Do not use 500g packs that have lost vacuum. Opened packs must be re-sealed, stored in dry conditions below 4°C (39°F), and used within 3 days. If the opened package is re-sealed under vacuum immediately after opening, yeast can be stored below 4°C (39°F) until the indicated expiry date printed on the pack. Do not use yeast after expiry date printed on the pack.

Performance is guaranteed when stored correctly and before the expiry date. However, Lallemand dry brewing yeast is very robust and some strains can tolerate brief periods under sub-optimal conditions.



## 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 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°C (86-95°F). 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°C at a time. Temperature shock of >10°C 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. Nottingham 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.

### CONTACT US

For more information, please visit us online at [www.lallemandbrewing.com](http://www.lallemandbrewing.com)

For any questions, you can also reach us via email at [brewing@lallemand.com](mailto:brewing@lallemand.com)