

Viniflora® PRELUDE™

Product Information

Version: 2 PI GLOB EN 02-11-2016

Description

Viniflora® PRELUDE™ is a pure strain of *Torulasporea delbrueckii* to be used in combination with your *Saccharomyces cerevisiae* strain (or strains) of choice. The product is delivered as a Dry Active Yeast to re-hydrate before use.

Please note

This specialty wine yeast product is not intended to achieve alcoholic fermentation but to improve wine complexity. To achieve alcoholic fermentation in your must/wine, you will have to inoculate with a product based on *Saccharomyces cerevisiae* strain(s) at a later stage.

Culture composition:

Torulasporea delbrueckii.

Material No:	699118	Color:	Light brown
Size	500 g	Type	Vacuum packed alu-foil pouch
Form:	Powder		

Storage

0 - 8 °C / 32 - 46 °F

Shelf life

Dried yeast stored according to recommendation will have a shelf life of 24 months.

Dosage

It is recommended to use one 500g pouch in 20 hl / 530 US gallons.

Application

PRELUDE™ gives three simultaneous effects to added wines, increasing their complexity:

- A rounder, smoother mouth-feel described as an increased palate weight;
- Associated with a higher flavor complexity and intensity
- A lower volatile acidity.

This non-*Saccharomyces* strain has been especially selected for its enhancement of complexity and mouth-feel in wine. Grape musts inoculated with PRELUDE™ produce wines that have been noted to have a more complex character getting consumers preference, compared to fermentations with pure *Saccharomyces* yeast products.

Chr. Hansen's pure *Torulasporea delbrueckii* strain ensures a safe and reliable start of the alcoholic fermentation in both white, rosé or red wines. However, *Torulasporea delbrueckii* will not persist until the end of the alcoholic fermentation.

PRELUDE™ will be present during the first stage of the alcoholic fermentation in the wine, depending on the wine and application; it is present approximately until the ethanol concentration reaches 9% (V/V). Then the culture dies and the alcoholic fermentation can be completed only by more alcohol tolerant species such as *Saccharomyces cerevisiae*.

Therefore, PRELUDE™ inoculation has to be followed by a second inoculation with a *Saccharomyces cerevisiae* to achieve a safe, smooth and fast alcoholic fermentation in wines.

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Directions for use

1. Rehydration: Add the yeast to unchlorinated tap water (chlorine kills microorganisms such as yeasts) in a ratio 1:10. Water temperature has to be monitored and kept between 20 and 25°C (68-77°F), as *Torulaspota delbrueckii* is more sensitive to high temperature than *Saccharomyces cerevisiae*. Therefore, the water temperature is a critical factor for a successful fermentation, as a water temperature higher than 25°C (77°F) may kill an important part of the yeast population.
2. Activation: Add unsulphured grape must to the yeast suspension (sulphures/sulfites kill microorganisms such as yeasts) in a ratio of 1:3.
 Leave the mixture for approx. 20 minutes.
3. Acclimatization: When small bubbles are visible on the surface of the yeast/must mixture, add it to the must tank and pump over to make sure that the yeast is well suspended. If the must has a low temperature (10-15°C/50-59°F) adjust the temperature of the yeast suspension slowly to approx. 20°C/68°F before adding to the must.

Technical Data

Fermentation characteristics

Flavors	Acidic balance	Mouth-feel	Other
Enhance fruit flavors (thiols, esters) Very low volatile phenols Very low H ₂ S Pastries, caramel like notes Ideal for barrel matured/oak matured wines	Very low volatile acidity Very low acetic acid	Superior production of polysaccharides	Low production of SO ₂ Facilitate MLF Early hydrolysis

Timing for inoculation

Depending the amount of time available for wine production and the desired effect, inoculation can be done following two protocols:

1. Simultaneous inoculation

Together with the *Saccharomyces cerevisiae* strain(s) of choice: this is recommended when time available at crush time is limited and/or the overall fermentation time needs to be kept the same. We recommend to re-hydrate the two yeasts separately and to carefully follow the instructions for re-hydration of both yeasts (especially water temperatures and the use of unchlorinated water). This will secure a mild 'wild effect' associated with a smooth start of the alcoholic fermentation.

2. Sequential inoculation

The yeast should be inoculated first, followed by the inoculation of the *Saccharomyces cerevisiae* strain(s) of choice. The yeast has to be inoculated first, and a lag phase has to be observed that will depend on must temperature. Chr. Hansen recommends to inoculate the standard *Saccharomyces* yeast after a drop of 15-20 points at least in density or 5 °Brix. This leads to the inoculation of the yeast:

- 24 hours before *Saccharomyces cerevisiae* inoculation when temperature is high (red wine production)
- 48 hours before *Saccharomyces cerevisiae* inoculation when temperature is low (white wine production).

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Physiological data

Parameter	Value(s)	Comment
Temperature*		
Tolerance limits	10-28° C (50-82° F)	
Optimum	15-25° C (59-77° F)	
SO ₂ tolerance*	30 ppm at crush	
Alcohol tolerance*	9.0 %	
Nitrogen requirements	medium	Check YAN before inoculation
Sugar to alcohol yield	16.8 g/ % vol	standard
Glycerol yield	5 - 8 g/l	standard

* note that these inhibitory factors are antagonistic towards each other.

The individual tolerances are valid only if other conditions are favourable.

Check level of SO₂ produced by the yeast used for primary fermentation and be aware of level of free SO₂.

Legislation

The product is intended for food use as an oenological product and complies with the current International Oenological Codex. Chr. Hansen's cultures comply with the general requirements on food safety laid down in Regulation 178/2002/EC and with Council Regulation (EC) No 606/2009 of 10 July 2009, as amended.

Product content

Wine yeast products available on the market contain emulsifier used as a processing aid in production. Chr. Hansen wine yeasts products contain less than 1% sorbitane monostearate, a fatty acid from vegetable source. This emulsifier is broadly authorized in food products around the world and has a proven record of safety demonstrated by its E number (E491).

Chr. Hansen wine yeast products content is strictly identical to previous batches delivered before 2010. The only change is the voluntary labelling of the emulsifier used in production as a processing aid.

Food Safety

No guarantee of food safety is implied or inferred should this product be used in applications other than those stated above. Should you wish to use this product in another application, please contact your Chr. Hansen representative for assistance.

Labeling

No labeling required, however please consult local legislation if in doubt.

Trademarks

Product names, names of concepts, logos, brands and other trademarks referred to in this document, whether or not appearing in large print, bold or with the ® or TM symbol are the property of Chr. Hansen A/S or used under license. Trademarks appearing in this document may not be registered in your country, even if they are marked with an ®.

Additional Information

Check the latest news on www.chr-hansen.com/wine

Technical support

Chr. Hansen's Application and Product Development Laboratories and personnel are available if you need further information.

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GMO Information

In accordance with the legislation in the European Union* **Viniflora® PRELUDE™ does not contain GMOs and does not contain GM labeled raw materials****. In accordance with European legislation on labeling of final food products** we can inform that the use of **Viniflora® PRELUDE™ does not trigger a GM labeling** of the final food product. Chr. Hansen's position on GMO can be found on: www.chr-hansen.com/About us/Policies and positions/Quality and product safety.

* Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms with later amendments, and repealing Council Directive 90/220/EEC.

** Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed with later amendments.

Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labeling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms amending Directive 2001/18/EC, and with later amendments.

Allergen Information

List of common allergens in accordance with the US Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) and EU Regulation 1169/2011/EC with later amendments	Present as an ingredient in the product
Cereals containing gluten* and products thereof	No
Crustaceans and products thereof	No
Eggs and products thereof	No
Fish and products thereof	No
Peanuts and products thereof	No
Soybeans and products thereof	No
Milk and products thereof (including lactose)	No
Nuts* and products thereof	No
List of allergens in accordance with EU Regulation 1169/2011/EC only	
Celery and products thereof	No
Mustard and products thereof	No
Sesame seeds and products thereof	No
Lupine and products thereof	No
Mollusks and products thereof	No
Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/litre expressed as SO ₂	No

* Please consult the EU Regulation 1169/2011 Annex II for a legal definition of common allergens, see European Union law at: www.eur-lex.europa.eu