

YEAST

One of the most important requirements a yeast must possess is the ability to ensure a healthy and complete fermentation, as this is the first step to create quality wine. The knowledge and understanding of microbial characteristics, in addition to the practical experience gained over many years, has allowed Enartis to understand the needs of the market and suggest the application of each yeast to achieve the best quality wine, meeting winemakers' expectations.



enartis

Inspiring innovation.

ENARTIS CALIFORNIA PREMIUM VINEYARDS COLLECTION

Continuing the tradition of isolating, characterizing and preserving indigenous microflora from selected vineyards, Enartis USA provides the industry with selected microbiological cultures either as exclusive, proprietary cultures or as commercial strains, available in active dry form.



EnartisFerm WS: MORE THAN 30 YEARS OF EXCELLENCE

With more than 30 years of history, EnartisFerm WS is a cult yeast, highly appreciated around the world for many varieties and wine styles.

EnartisFerm D20: FAST SUCCESS FOR OBVIOUS QUALITY STRAIN

In 2013, Daniel Daou approached Enartis to isolate a yeast resistant to high fermentation temperatures and leading to stable color and balanced tannins. The isolation started with Cabernet Sauvignon grapes coming from the top block on DAOU Mountain in Paso Robles, in the Adelaida Appellation. In 2015, after many trials and selections of isolates, EnartisFerm D20 in active dry form was produced and its success is already recognized around the world.

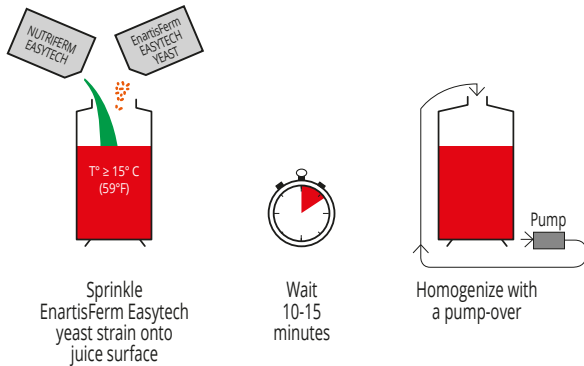
EASYTECH YEAST APPLICATION

No rehydration required! Easytech is a certified range of Enartis yeasts and nutrients that can be added directly to juice rather than requiring typical rehydration and acclimatization steps. This innovative range simplifies cellar operations and reduces the risk of making mistakes at inoculation, saving wineries time and money. The Enartis Easytech range was developed to make winery operations **more sustainable** by reducing resources needed to adequately prepare inoculations, including equipment, energy, water, and staff. The use of Easytech nutrients in the application of these yeasts maximizes their adaptation under stress conditions. Enartis offers the following **three yeasts** that have been selected to ensure optimal fermentation performance in juices with temperatures above 15°C:



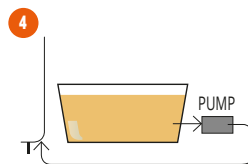
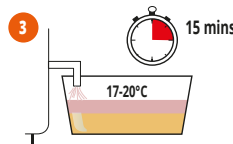
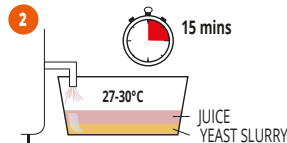
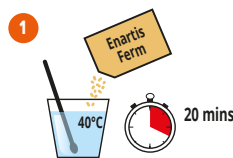
- EnartisFerm WS
- EnartisFerm AROMA WHITE
- EnartisFerm VINTAGE RED

Simply sprinkle the product in before a pump-over or punch down:



Enartis Easytech range is also suitable for traditional yeast rehydration.

PROTOCOL FOR YEAST REHYDRATION



This protocol applies to all EnartisFerm yeast strains in Active Dry Yeast (ADY) form, with the exception of EnartisFerm ES U42 and EnartisFerm Q RHO.

WHITE AND ROSÉ WINE FERMENTATION

EnartisFerm Q4

- Moderate speed fermenter.
- High nutrient requirements.
- Enhances vegetal characteristics of thiolic varieties (mainly 4-MMP).
- Homozygote strain for the complete, long version of the IRC7 gene. This gene codifies the synthesis of a β -lyase enzyme, uniquely involved in the liberation of thiols (mainly 4-MMP) bound to cysteine.
- Expresses the varietal aroma and enhances the notes of box tree, gooseberries, tomato leaf, citrus and blackcurrant associated with 4-MMP.

Application: thiolic varieties; grassy style Sauvignon Blanc

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-075-0500)

EnartisFerm AROMA WHITE

- Moderate speed fermenter.
- Medium/high nutrient requirements.
- Expresses thiols (β -lyase activity).
- Fermentation at 14-16°C favors fresh citrus and mineral notes; 17-20°C favors tropical and sweet white fruit aromas.
- Low producer of riboflavin: reduced risk of light-struck defect.

Application: thiol production; ester and acetate production; direct inoculation

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-110-0500)

10 kg (Item #45-110-0010)

EnartisFerm VINTAGE WHITE

- Moderate speed fermenter.
- Low nutrient requirements.
- Releases large quantities of polysaccharides.
- Forms lightly-compacted lees reducing the number of *bâtonnage* and pump-overs needed for *sur lie* effect.
- Preserves varietal fruit, produces delicate wines with round and complex mouthfeel.



Application: varietal expression; barrel fermentation; lees ageing; large volume on the palate

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-115-0500)

10 kg (Item #45-115-0010)



 We trialed EnartisFerm VINTAGE WHITE on our Unwooded Chardonnay and Grenache Blanc during our 2020 harvest. We were delighted by the resulting wines. The yeast lived up to its promise of increased varietal aromas and increased weight on the pallet. Although fermentation takes place at a moderate speed it is well worth the wait! **Craig Christians, Winemaker at Rustenberg Wines - Stellenbosch, South Africa** 



 I have been using EnartisFerm ES181 for more than 10 years. Without fail it has been a reliable companion helping me produce quality white wines my clients have become accustomed to. **Henri Swiegers, Production Manager & Winemaker at Badsberg Wine Cellar - South Africa** 

EnartisFerm ES181

- Fast fermenter.
- Low nutrient requirements.
- Low VA, H₂S and SO₂ production.
- Expresses thiols (β -lyase activity).
- Produce white and tropical fruit aromas, increasing the aromatic complexity without overshadowing the primary aromas.
- Excellent for fermentations at low temperatures and in hyper-reductive conditions.

Application: intense aromas; thiol production; varietal expression; ester and acetate production

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-120-0500)

10 kg (Item #45-120-0010)

EnartisFerm ES123

- Medium speed fermenter.
- Medium/high nutrients requirements.
- Produces fresh and long-lasting aromas of green apple, pear, flowers and citrus fruits.
- Excellent for neutral and aromatic varietals.

Application: fresh and easy-to-drink wines; fruity white wines obtained from neutral grapes; ester and acetate production; fresh sparkling wines; sweet wines

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-105-0500)

10 kg (Item #45-105-0010)

EnartisFerm Q9

- Fast fermenter.
- Medium/high nutrient requirements.
- Low VA, SO₂ and H₂S production.
- Expresses thiols (β-lyase activity).
- Fermentation at low temperature favors mineral notes (flint, gunpowder, smoke, roasted coffee).
- Fermentation at high temperature produces high amounts of esters and acetates.

Application: thiol production (minerality); varietal expression; ester and acetate production; intense aromas

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-047-0500)

EnartisFerm Q CITRUS

- Fast fermenter.
- Medium nutrient requirements.
- Low VA and H₂S production.
- Expresses terpenes and norisoprenoids (β-glucosidase activity).
- Produces complex wines with intense zesty, citrus notes (grapefruit), tropical fruit (guava, passion fruit, pineapple) and flowers (jasmine, lime blossom).

Application: varietal expression; fresh and citrus aromas; thiol production; ester and acetate production

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-302-0500)

10 kg (Item #45-302-0010)



EnartisFerm Q CITRUS gave my wines incredible aromatics and massive sensory expression. We frequently perceive distinct notes of pineapple, orange and guava. EnartisFerm Q CITRUS reminds me of landing in Hawaii! **Lucas Meeker, Winemaker at The Meeker Vineyards - California, USA**

EnartisFerm ES FLORAL

- Blend of *S. cerevisiae* and *S. bayanus*.
- Moderate speed fermenter.
- Medium nutrient requirements.
- Produces intense fresh aromas of peach, pear, apricot, white flowers, violet and roses.

Application: fruity and floral aromas; ester and acetate production

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-160-0500)

RED WINE FERMENTATION

EnartisFerm ES454

- Moderate speed fermenter.
- Medium nutrient requirements.
- Low VA, SO₂ and H₂S production.
- Produces elegant, complex, varietal wines with spicy and red fruit aromas and balanced structure.
- Excellent for terroir expression and high-quality grapes.

Application: varietal expression; esters production; medium to long ageing; premium red wines; intense and stable color; structure and roundness

Dosage: 200-400 g/ton

0.5 kg (Item #45-170-0500)

10 kg (Item #45-170-0010)

EnartisFerm ES488

- Moderate speed fermenter.
- High nutrient requirements.
- Low VA, SO₂ and H₂S production.
- Expresses thiols (β-lyase activity).
- Produces floral, spicy and black berry aromas.
- Reduces herbaceous notes in unripe grapes.

Application: thiol production; reduce herbaceous note; unripe grapes; medium to long ageing

Dosage: 200-400 g/ton

0.5 kg (Item #45-185-0500)

10 kg (Item #45-185-0010)

EnartisFerm Q5

- Moderate speed fermenter.
- Medium nutrient requirements.
- High production of glycerol.
- Expresses terpenes and norisoprenoids (β-glycosylase activity).
- Produces intense red fruit (strawberry, raspberry, black cherry) and floral notes with soft structure.

Application: varietal expression; esters production; extended barrel ageing

Dosage: 200-400 g/ton

0.5 kg (Item #45-301-0500)

EnartisFerm Q7

- Alcohol tolerant (up to 16.5%).
- Medium nutrient requirements.
- High production of fresh fruit, plum, dark cherry, ripe berry and spicy aromas.
- Excellent to refresh the overripe and jammy fruit notes.

Application: hot climate area; freshen overripe grapes; high °Brix grapes; medium-long ageing

Dosage: 200-400 g/ton

0.5 kg (Item #45-054-0500)

EnartisFerm RED FRUIT

- Fast fermenter.
- High nutrient requirements.
- Expresses terpenes and norisoprenoids (β -glucosidase activity).
- Produces intense red fruit and floral aromas.

Application: rosé wines; fruity, young or moderately aged red wines; esters production

Dosage: 200-400 g/ton

0.5 kg (Item #45-140-0500)
10 kg (Item #45-140-0010)

EnartisFerm VINTAGE RED



- Medium nutrient requirements.
- Wide fermentation temperature range (18-35°C).
- High production of glycerol and mannoproteins.
- Produces elegant, complex wines with ripe red fruit and spicy aromas and round, full-bodied mouthfeel.

Application: varietal expression; medium to long ageing; premium red wines; oak ageing; structure and roundness; direct inoculation

Dosage: 200-400 g/ton

0.5 kg (Item #45-125-0500)
10 kg (Item #45-125-0010)

EnartisFerm D20



CABERNET SAUVIGNON ISOLATE FROM DAOU VINEYARDS & WINERY, CALIFORNIA

- Moderate speed fermenter.
- High alcohol tolerant (up to 17%) and resistant to high temperatures (up to 38°C).
- Medium nutrient requirements.
- Produces powerful, complex and structured wines with long ageing potential.

Application: high °Brix grapes; varietal expression; high temperature fermentation; white, rosé and red wines; fruity aromas; ester and acetate production

Dosage: 200-400 g/ton

0.5 kg (Item #45-060-0500)
10 kg (Item #45-060-0010)



EnartisFerm D20 has improved the mouthfeel of our wines while delivering a more balanced wine that had increased phenolics.
Daniel Daou, Co-Proprietor & Winemaker of Daou Vineyards & Winery - California, USA



EnartisFerm WS



ZINFANDEL ISOLATE FROM WILLIAMS SELYEM WINERY, CALIFORNIA

- Fast fermenter.
- High alcohol tolerance (up to 18%).
- Low nutrients requirements.
- Produces elegant, clean, fresh, fruity and spicy wines with round and smooth mouthfeel.

Application: wide spectrum of red varietals; high °Brix grapes; restart stuck fermentations; direct inoculation

Dosage: 200-400 g/ton

0.5 kg (Item #45-053-0500)
10 kg (Item #45-052-0010)



I love the fruity and clean aromas that EnartisFerm WS gives to the wine.
Heather Perkin, Associate Winemaker at Elk Cove Vineyards - Oregon, USA



I use EnartisFerm WS on my late harvest wines; it ferments up to 18% alcohol with no problem.
Ken Wright, Winemaker at Ken Wright Cellar - Oregon, USA



In 2017, I used EnartisFerm WS on our 2017 Zinfandel and 25% of our Cabernet Sauvignon to produce intense color, rich mouthfeel and balanced tannin structure and was very happy with the results.
David Bradley, Owner & Winemaker of Vindemia Vineyards - California, USA



Technical Strains

EnartisFerm Q ET



- EnartisFerm Q ET is a multipurpose yeast that does not require rehydration.
- Direct inoculation (**Easytech**) saves time and labor and facilitates yeast preparation, but above all, it reduces the risk of mistakes that can compromise a good fermentation process.
- EnartisFerm Q ET is a varietal strain, good fermenter in a wide temperature range that is well suited to the fermentation of quality white, red and rosé wines.

Application: direct inoculation; white, red and rose wines

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

10 kg (Item #45-520-0010)

EnartisFerm EZFERM 44

- Fast speed fermenter.
- *Saccharomyces cerevisiae* and *bayanus*.
- Wide fermentation temperature range (12-34°C).
- Alcohol tolerant (up to 17.5%).
- Fructophilic.
- Low nutrient requirements.
- Low VA, H₂S and SO₂ production.
- Ideal to prevent or restart sluggish/stuck fermentations.

Application: restart stuck fermentations; hot climate grapes and drought areas

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-175-0500)

10 kg (Item #45-175-0010)

EnartisFerm PERLAGE

- Fast fermenter.
- Alcohol tolerant (up to 17%), resistant to SO₂ and low pH.
- Wide range of fermentation temperatures (10-30°C).
- Low nutrient requirements.
- Low VA, H₂S and SO₂ production.
- Produces clean, elegant, delicate and complex wines with round and balanced mouthfeel.

Application: high quality sparkling base wines; traditional method; Charmat method; white and rosé wines

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-180-0500)

EnartisFerm PERLAGE FRUITY

- Fast fermenter.
- Low VA, H₂S and SO₂ production.
- Produce clean, "modern" style base wines with intense fresh fruit aromas.
- Releases high quantity of mannoproteins during *sur lie* ageing.
- Improves mouthfeel, *perlage* quality and color stability of red and rosé sparkling wines.

Application: high quality sparkling base wines; traditional method; Charmat method; white and rosé wines

Dosage: 10-40 g/hL

0.5 kg (Item #45-181-0500)

NON-*Saccharomyces cerevisiae* YEAST

EnartisFerm Q RHO

- *Saccharomyces uvarum* strain.
- Low temperature tolerance.
- Preserves and increases total acidity.
- Low alcohol yield.
- Low production of volatile acidity.
- Produces high amounts of glycerol and phenylethanol (rose aroma).

Application: white, red and rosé wines for blending or wine adjustments; increase acidity; reduce sugar/alcohol yield; increase aroma complexity and softness

Dosage: 20-40 g/hL (1.7-3.4 lb/1,000 gal)

0.5 kg (Item #45-077-0500)

EnartisFerm Q TAU FD

- Freeze-dried strain of *Torulasporea delbrueckii*.
- Slow fermenter.
- Low nutrient requirements.
- Very low VA, H₂S and SO₂ production.
- Produces ciders with high levels of esters and terpenes for increased aromatic intensity and complexity.
- Can be used as a single yeast in the fermentation of ciders up to 12% alcohol or in sequential inoculation with *Saccharomyces* strains.

Application: fruity wines; wine produced from dried grapes; base wine for sparkling; reduce volatile acidity

Dosage: 20-30 g/hL (1.7-2.5 lb/1,000 gal)

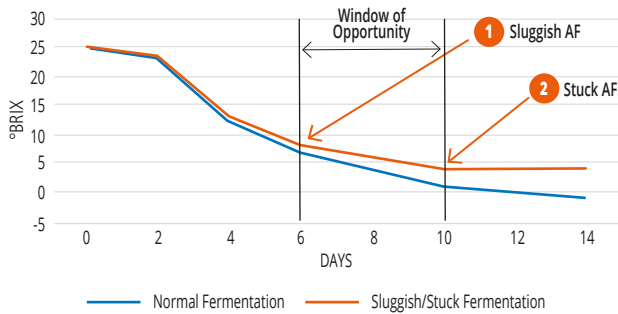
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ENARTIS YEAST CHARACTERISTICS

	Varietal expression	Thiol expression	Ester and Acetate Production	High aromatic impact	Young whites	Aged whites	Rosés	Young reds	Reserve reds	Late harvest	Sparkling base wines	Stuck fermentations
EnartisFerm AROMA WHITE	•	•	•	•	•	•	•					
EnartisFerm D20	•		•	•		•		•	•			
EnartisFerm ES123			•		•		•					
EnartisFerm ES181	•	•	•		•	•	•				•	
EnartisFerm ES454	•								•			
EnartisFerm ES488	•	•					•	•	•			
EnartisFerm ES FLORAL	•		•	•	•		•					
EnartisFerm EZFERM 44	•									•		•
EnartisFerm PERLAGE	•				•	•	•				•	
EnartisFerm Q4	•	•		•	•		•					
EnartisFerm Q5	•		•						•			
EnartisFerm Q7	•							•	•			
EnartisFerm Q9	•	•	•	•	•	•	•					
EnartisFerm Q CITRUS	•				•		•					
EnartisFerm Q ET	•				•	•	•	•	•	•		
EnartisFerm Q RHO			•	•	•		•	•		•		
EnartisFerm Q TAU FD			•	•	•	•	•	•	•			
EnartisFerm RED FRUIT	•		•	•			•	•				
EnartisFerm VINTAGE RED	•								•			
EnartisFerm VINTAGE WHITE	•				•	•	•					
EnartisFerm WS	•						•	•	•		•	•

PROTOCOLS TO RESTART AND COMPLETE SLUGGISH OR STUCK FERMENTATIONS

The successful restart of a sluggish or stuck fermentation depends on an accurate diagnosis and fast intervention with the correct treatment.



PROTOCOL 1 : Sluggish Fermentation

The moment a fermentation becomes sluggish, seize the 'window of opportunity'. Quick intervention may help restore yeast vitality and avoid a full restart later.

1. Maintain temperature >20°C (68°F).
2. Press off skins or rack off lees (recommended).
3. Treat must or juice with 10-15 g/hL of EnartisStab MICRO M. Keep EnartisStab MICRO M in suspension for 30-60 minutes by mixing the must.
4. Rack off lees 24 hours after treatment (recommended).
5. Treat with 30 g/hL of NUTRIFERM NO STOP.
6. Track fermentation rate ($\Delta^\circ\text{Brix}/\text{day}$) and volatile acidity for the next few days.
7. If fermentation rate increases, monitor until desired dryness is achieved.

In some circumstances, low viability and difficult conditions can prevent a sluggish fermentation from completing. In this scenario, proceed to Protocol 2.

PROTOCOL 2 : Stuck Fermentation

The yeast population is no longer viable. It is necessary to acclimatize and add a new population of yeast to the wine.

STEP 1: Prepare starter

Tip: Use a sanitized tank able to hold the entire volume of stuck wine.

- Take 2.5 % of stuck wine.
- Add the same amount of water (2.5% of total volume).
- Add 10 g/hL of NUTRIFERM ULTRA (calculated on the volume of stuck wine).
- Adjust sugar level to 50 g/L (5° Brix).
- Maintain temperature at 20-23°C (68-73°F).

STEP 2: Yeast rehydration

Rehydrate 30 g/hL (calculated on the volume of stuck wine) of EnartisFerm EZFERM 44 in 10 times its weight of chlorine-free water at 40°C (104°F) and wait 20 minutes.

STEP 3: Acclimate yeast and start fermentation

- Add rehydrated yeast to STEP 1 and monitor °Brix and temperature.
- At 1/2 °Brix depletion, add 20% of stuck wine + 5 g/hL of NUTRIFERM ADVANCE (calculated on volume of stuck wine).
- At 1/2 °Brix depletion, add another 20% of stuck wine.
- At 1/2 °Brix depletion, add the remaining stuck wine.

Why use NUTRIFERM NO STOP?

NUTRIFERM NO STOP acts as a protector by improving yeast membrane integrity. Additionally, it eliminates medium chain fatty acids and pesticide residues which may inhibit fermentation.

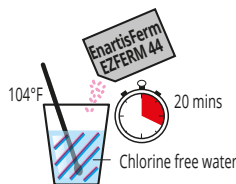
Why use NUTRIFERM ULTRA?

Nutrient content in stuck wine cannot support yeast growth. Complex yeast nutrients improve yeast activity and facilitate their acclimation to difficult wine conditions. NUTRIFERM ULTRA provides essential elements for yeast development.

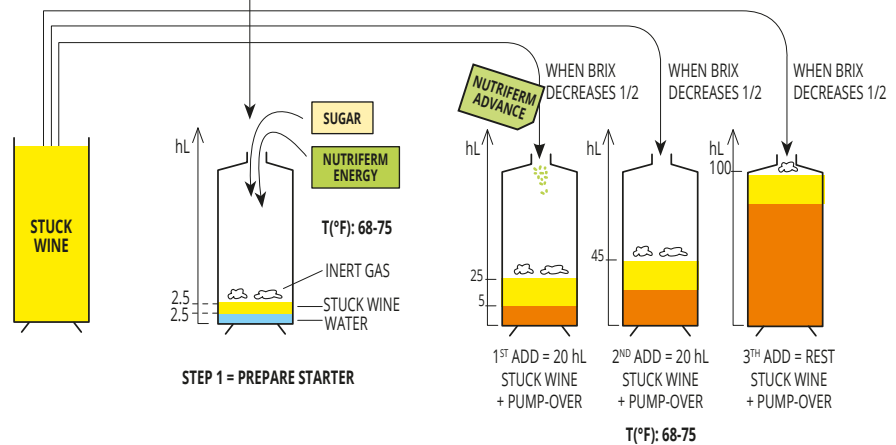
Why use EnartisFerm EZFERM 44?

It is fructophilic, vigorous fermenter with low nutrition needs. It has high viability rate and strong resistance to alcohol and VA.

STEP 2 = YEAST REHYDRATION



STEP 3 = YEAST ACCLIMATION



PRODUCT NEEDS FOR 100 hL:

WINEMAKING PRODUCT	QUANTITY (kg)
EnartisStab MICRO M	1.5
NUTRIFERM NO STOP	3
EnartisFerm EZFERM 44	3
NUTRIFERM ULTRA	1
NUTRIFERM ADVANCE	1