

# OenoGuide

2021/2022







#### ERBSLÖH - YOUR COMPETENT PARTNER FOR INNOVATIVE AND NATURAL SOLUTIONS IN OENOLOGY

After 125 years as a family-owned company from Geisenheim, Erbslöh is now a global leader in research, development, consulting and technical service. Our customers benefit from our cutting-edge knowledge of beverage processing, which we are constantly expanding through intensive cooperation with experts and selected research institutions in the field of beverage technology.

We think consistently about future developments, anticipate our customers' needs and bring innovative ideas and products to markets around the globe. We want to help our customers realise one hundred percent of the quality of their products every season.

We believe that winemakers need the best tools, products and expert advice to be successful. The challenges range from climate influences and different wine profiles, to the production of wines with reduced or no alcohol - a trend that will continue to grow rapidly.

Our innovative products and technology offerings are at your service, regardless of whether you follow a more traditional or a more modern wine making process. So, while it may be difficult from time to time to keep up with all the recent developments in oenology, one thing is for certain: "If made with passion, respect and high-quality ingredients, a good wine never goes out of fashion".

We know you will find what you need to succeed. Enjoy browsing our new catalogue!

Your team at Erbslöh

FSSC 22000 | KOSHER | HALAL | EU Organic | FDA registration

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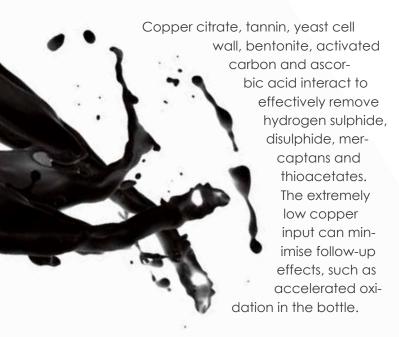
Disclaimer: The application recommendations given herein describe the intended use of the product as a processing aid or additive, as part of good manufacturing practice. The end product's food safety can only be achieved if used exclusively in this way. However, please note: our technical product leaflets are based on our current knowledge and experience. They must be seen as general information about our products only. We cannot accept any liability for use on a case-by-case basis due to the imponderabilities of treating natural products and potential prior treatments. The user must always check for himself compliance with the laws and safety regulations which apply to use of our products. All data is therefore provided without any warranty. All information is subject to change without prior notice. Our General Terms and Conditions of Business also apply (downloadable from <a href="https://www.erbsloeh.com">www.erbsloeh.com</a>.

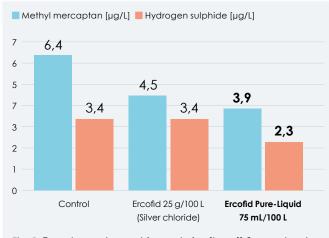
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# Ercofid Pure-Liquid

Sulphurous off-notes are a complex challenge that requires a great deal of sensitivity to solve. As a revolutionary new product for the treatment of even the most stubborn of sulphurous off-flavours, Ercofid Pure-Liquid consists of several active components.





**Fig. 1** Gas chromatographic analysis after off-flavour treatment (filtration after 12 h) of young wine, Riesling 2019

### **Precise targeting**

Ercofid Pure-Liquid is more than a fully-fledged substitute for silver chloride, which is no longer available since 2019. Flexible in use, the treatment can be individually adapted to the needs of each wine, between minimal correction and the complete removal of even the strongest off-notes.

Ercofid Pure-Liquid is suitable for the production of vegan wines.

A further effect on *Brettanomyces* notes is currently under investigation. Please feel free to contact us about your own experiences on this topic.

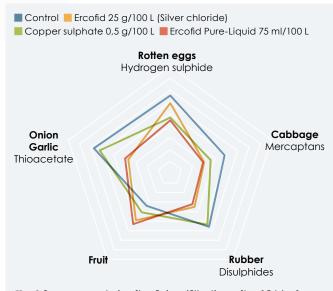


Fig. 2 Sensory analysis after fining (filtration after 12 h) of stored wine, Chardonnay 2018  $\,$ 

## Simple & safe

Its liquid formulation allows Ercofid Pure-Liquid to be distributed very homogeneously in the wine, guaranteeing optimal and easy treatment. Intensive contact and a short reaction time contribute to protection of the wines. Unlike with pure copper preparations, no relevant residues remain in the wine. Timely filtration is the prerequisite for complete separation of all bonded fractions.

## **Application**

- Preliminary tests to determine the dosage
- Contact time between 4 and 12 hours
- For must from white and red grapes and for white wine
- Effect on a wide range of negative components

# Tannivin® Tannins

## Perfect partners for wine aging

Our oak tannins from the Tannivin® family are ideal companions for the elevation and aging of wine. Once in use, wooden barrels quickly lose their original high tannin content, especially ellagitannins.

With Tannivin®, the protective atmosphere of fresh barrels can be regained and a particularly balanced progress of the wines can be achieved.

### Use of tannins

- Protect your wines from oxidation
- Manage redox potential of wines
- Ideal partners for micro-oxygenation
- Reduce astringency
- Supports clarification of wines

The raw materials are gently extracted from the best heartwood of oak trees. Depending on the product, European oak, mostly French, or American oak is used. The quality of the wood is strictly monitored on a continuous basis and meets the same high standards required for barrel staves. Some Tannivin® products are derived from gallnut or quebracho wood.



Fig. 1 Sensory comparison of Tannivin® Superb and Tannivin® Premium

All varieties are suitable for aging white, rosé and red wines, depending on the intended profile and aims. Through careful seasoning and toasting, the raw woods are prepared optimally. The extraction of the tannins is done exclusively with water.

The ideal dosage depends on the character of the specific wines, and should be individually adjusted by preliminary tests. Additional control of oxygen uptake, for example by the choice of vessel, facilitates an optimal development of the wines towards the desired goal.

#### Tannivin® Premium

As a pure oak tannin with a particularly high ellagitannin, Tannivin® Premium is the ideal partner for great wines. The innovative toasting method gives rise to an exceptionally soft and complex tannin. Toasted notes of coffee, caramel, cocoa are subtly supported in the wines, while purely woody aromas are kept in check.

## Tannivin® Superb

A special process removes all tannic or astringent components. Tannivin® Superb promotes varietal typicity and allows for much more finessed, structured wines without dominant tannins. Fruit and wood are equally emphasized without showing overly toasty notes.

## MaloStar® Terra

A building block for top red wines: directly inoculated, this Oenococcus oeni performs at its best in co-fermentation.

The new bacterial strain MaloStar® Terra is ideal for initiating the malolactic fermentation (MLF) in red wine. In particular, the typicity of the flavours is supported, the wine shows the distinct aromatic fruit and range of the grape varieties used. The high level of activity, combined with a simultaneous inoculation, results in a very rapid and complete conversion of malic acid to lactic acid.

MaloStar® Terra, coupled with Oenoferm® Icone and the new yeast nutrition OenoRed®, is a complementary building block for the creation of premium red wine.



- Can be added simultaneously into the fermentation or after its completion
- Low formation of volatile acids
- Low formation of diacetyl
- Strain does not form histamine (biogenic amine)



## Check out our further new products in the current Erbslöh portfolio!

#### Oenoferm® Champ F3 • Bayanus yeast for sparkling wines Page 11 Oenoferm® Rheingau F3 • Selected at the Hochschule Geisenheim University Page 15 Oenoferm® MProtect Natural protection against undesirable, microbiological activities Page 19 e.Staves Innovative addition of our oak alternatives for premium wines Page 42 LittoFresh® Chito-Flot Quick and strong vegan clarification during flotation and sedimentation Page 50 LittoFresh® Impact · Vegan combined product for phenol fining Page 52 **Mannoproteins** MannoFine and MannoPure® for stabilisation of wines Page 54



## List of suitable products for the production of organic wines

Erbslöh has a long tradition of manufacturing organic products. Oenoferm® Bio Selection Klingelberg was the first organically produced yeast on the market. Since July 2012, Regulation (EC) No. 203/2012 has regulated the permitted processes and auxiliary substances in the vinification of organic wine. Certified organic products have been consistently cultivated at Erbslöh since 2008. They meet the highest standards in terms of sustainability, quality, safety and purity.

For more information and the organic certificate (DE-ÖKO-003), please visit www.erbsloeh.com.





Product	Description	EU Organic (203/2012)	Organic certificate
Oenoferm® Be-Red	Certified organic red wine yeast	•	•
Oenoferm® Bio	Certified organic yeast	•	•
Oenoferm® yeasts	Saccharomycetes	•	
Erbslöh DAP	Diammonium phosphate	•	
OenoRed®	Pure yeast autolysate	•	
PuroCell® O	Certified organic yeast cell wall preparation	•	•
VitaDrive® F3	Nutrient for yeast rehydration	•	
Vita <i>Drive®</i> ProArom	Organic nutrient	•	
VitaFerm® Base	Base nutrient with inactive yeast	•	
VitaFerm® Bio	Certified organic yeast nutrient	•	•
VitaFerm® Ultra F3	Multi-nutrient complex	•	
Vitamon® A, B		•	
Vitamon® CE	Yeast nutrients	•	
Vitamon® Combi		•	
Vitamon® Liquid	Liquid yeast nutrient	•	
Trenolin® 4000 DF	Pectolytic enzyme preparation	•	
Trenolin® Color DF	Finely granulated enzyme	•	
Trenolin® FastFlow DF	Liquid special enzyme	•	
Trenolin® FlotPLUS	Liquid flotation enzyme	•	
Trenolin® Frio DF	Liquid cinnamoyl esterase-free enzyme	•	
Trenolin® Rosé DF	Press enzyme for reduced colour extraction	•	
Trenolin® Rot DF	Liquid, pectolytic enzyme preparation	•	
Trenolin® SuperPLUS	Highly active, liquid pectinase	•	
Trenolin® Xtract	Liquid red wine enzyme	•	



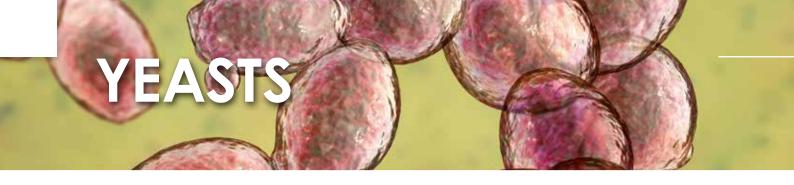


## List of suitable products for the production of organic wines

	Product	Description	EU Organic (203/2012)	Organic certificate
Bentonites	Aktivit	High-quality calcium-sodium bentonite granulate	•	
	Ca-Granulat	Granulated calcium bentonite	•	
	FermoBent® PORE-TEC	Must bentonite	•	
	NaCalit® PORE-TEC	Granulated sodium-calcium bentonite	•	
	MostRein® PORE-TEC	Granulated calcium-sodium bentonite with activated carbon	•	
	Seporit PORE-TEC	Granulated calcium bentonite	•	
	Blancobent UF	Bentonite powder for ultra-filtration	•	
Activated carbon	Ercarbon	Activated carbon powder	•	
	Granucol®	Activated carbon pellets	•	
	CarboTec GE	Special adsorption granulate	•	
Tannins	Tannivin® EH		•	
	Tannivin® Elevage		•	
	Tannivin® Finesse		•	
	Tannivin® Galléol		•	
	Tannivin® Grape	Oenological tannins	•	
	Tannivin® Multi		•	
	Tannivin® Premium NEW		•	
	Tannivin® Superb		•	
	Tannivin® Structure		•	
Oak alternatives	e.Bois® products	Oak chips	•	
	e.Staves products <b>NEW</b>	Oak staves	•	
Fining	Degustin	Fining agent based on silicate materials	•	
	Erbslöh CompactLees	Riddling aid	•	
	ErbiGel® Bio	Certified organic edible gelatin	•	•
	Gerbinol® Super	Combined treatment aid	•	
	IsingClair-Hausenpaste	Isinglass gel	•	
	Kal-Casin Leicht löslich	Casein fining agent	•	
	Klar-Sol 30	Alkaline silica sol	•	
	Klar-Sol Speedfloc	Alkaline special silica sol	•	
	Klar-Sol Super	Special silica sol	•	
	LittoFresh® Impact	Vegan combination product	•	
	LittoFresh® Liquid	Liquid phytoprotein	•	
	LittoFresh® Origin	Pure phytoprotein	•	

## List of suitable products for the production of organic wines

	Product	Description	EU Organic (203/2012)	Organic certificate
	LittoFresh® Sense	Plant-based organoleptic treatment agent	•	
	VinPur® Special	Casein compound	•	
MLF	Bi-Start® Forte SK2		•	
	Bi-Start® Fresh SK55		•	
	Bi-Start® Vitale SK11	Malolactic bacteria	•	
	MaloStar® Cream	Maloidelle baetella	•	
	MaloStar® Fruit		•	
	MaloStar® Terra <b>NEW</b>		•	
Stabilisation	HydroGum Bio	Liquid gum arabic in organic quality	•	•
	MannoComplexeNEW	Pure mannoprotein	•	
	MannoFine <b>NEW</b>	Liquid mannoprotein	•	
	MannoPure® <b>NEW</b>	Liquid mannoprotein	•	
	Metavin® 40	Gentle esterified meta-tartaric acid	•	
	Metavin® Opti	Optimum esterified meta-tartaric acid	•	
	Kali-Contact	Specially prepared, fractionated tartar crystals	•	
	Kupzit®	Copper citrate preparation	•	
SO <sub>2</sub> products	Kadifit	Pure potassium meta-bisulphite	•	
	Oenodose 5	Effervescent sulphur tablets	•	
	Solution sulfureuse P15	Potassium bisulphite solution	•	
	VinProtect	Special product made from potassium meta-bi- sulphite, ascorbic acid and tannin	•	
Acidity management	Boerovin	Biological lactic acid	•	
	Erbslöh Kalk	Calcium carbonate	•	
	Erbslöh Tartaric	Natural tartaric acid	•	
	Ercobin	Ascorbic acid	•	
	Kalinat	Potassium bicarbonate	•	
	Malicid	Mix of tartaric acid an special calcium carbonate	•	
	Neoanticid	Special calcium carbonate	•	
Filtration	CelluFluxx® products	Pure cellulose-based filtration aid	•	
	Dicalite Perlite	Filtration aid	•	
	Dicalite Kieselgur	Filtration aid	•	
	Trub-ex Neu	Special cellulose	•	
	VarioFluxx® P/M/F	Filtration aid mixed product	•	



The use of VitaDrive® F3 during rehydration and VitaFerm® Ultra F3 during fermentation is advisable in order to achieve optimal fermentation results.

## **SACCHAROMYCETES**

## Oenoferm® Be-Red | 0.5 kg pack

Certified organic red wine yeast

#### Treatment aim

Fermenting deep-coloured and structured wines

#### **Product and effect**

Oenoferm® Be-Red is suitable for the production of conventional and certified organic wines and has the following advantages:

- Particularly suitable for fermentation on the skins
- Strong support of fruity notes
- Benefical for the polymerisation of colour during fermentation
- Improvement of malolactic fermentation (MLF)

Recommended fermentation temperature: 23-32 °C Alcohol tolerance: 15,5% by vol.

#### Dosage

20-40 g/100 L

## Oenoferm® Bio | 0.5 kg pack

Certified organic dried yeast

#### Treatment aim

Production of organic still wine and sparkling wine

#### **Product and effect**

Oenoferm® Bio provides the following features:

- First certified organic dried yeast
- Emphasises typical attributes of grape variety and terroir
- Suitable for fermenting white, rosé and red wines
- Excellent tolerance towards alcohol

Recommended fermentation temperature: 16-22 °C (White and rosé)

22-28 °C (Red) 14-20 °C (Sparkling)

Alcohol tolerance: 16,5% by vol.

#### Dosage





DE-ÖKO-003





DE-ÖKO-003

## Oenoferm® Bouquet | 0.5/10 kg pack

Aromatic white wine yeast

#### Treatment aim

High amounts of esters and contribution of varietal aromas

#### **Product and effect**

The following attributes are typical for wines fermented with Oenoferm® Bouquet:

- Steady and regular fermentation
- Supports exotic fruit components, blackcurrant and sweet flower fragrances
- Dense structure

Recommended fermentation temperature: 16-20 °C Alcohol tolerance: 15% by vol.

#### Dosage

20-40 g/100 L

## NEW Oenoferm® Champ | 0.5/10 kg pack

Bayanus yeast for sparkling wines

#### Treatment aim

Particularly suited to bottle fermentation of high-quality wines

#### **Product and effect**

Oenoferm® Champ was selected in the Champagne area and offers the following characteristics:

- Elegant and fruity components with subtle hints of yeast and nutty notes
- Short lag phase, quick onset of fermentation
- Fast and consistent fermentation
- Very low formation of secondary fermentation products
- Glycerol formation: 5-7 g/L

Recommended fermentation temperature: 14-26 °C Alcohol tolerance: 16% by vol.

#### Dosage

20-40 g/100 L

## Oenoferm® Color | 0.5/10 kg pack

Red wine yeast

#### Treatment aim

Intense red wines with a fruity character

#### **Product and effect**

Oenoferm® Color offers the following attributes:

- Production of intense red wines, with aging potential
- · Perfect balance between fruit and tannin to age the wine in oak barrels
- Supports aroma profile of dark fruits

Recommended fermentation temperature: 18-28 °C Alcohol tolerance: 15% by vol.

#### Dosage













## **YEASTS**

## Oenoferm® Freddo | 0.1/0.5/10 kg pack

White wine yeast

#### Treatment aim

Aroma-promoting cold fermentation

#### **Product and effect**

Oenoferm® Freddo yeast was isolated as a pure culture by constant selection in cold fermenting media and provides the following features:

- Fermentation starts with great power and consistency after a lag phase of two days
- Exhibition of citrus and grapefruit notes, as well as apple and peach aromas
- Perfect to use at low fermentation temperatures
- Inhibiting influence on malolactic fermentation

Recommended fermentation temperature: 13–17 °C Alcohol tolerance: 15% by vol.

#### Dosage

20-40 g/100 L

## Oenoferm® Icone | 0.5 kg pack

Low SO<sub>2</sub> red wine yeast

#### Treatment aim

Alcohol-tolerant yeast with low SO<sub>2</sub> production

#### **Product and effect**

Oenoferm® Icone is a strongly fermenting yeast strain with the following characteristics:

- Selected for the production of premium red wines
- Ideal for wines intended for barrel maturation, due to the low SO<sub>2</sub> production during fermentation
- Supports the aromatic profile
- Improves tannin integration
- Produces rounded, well balanced wines, due to its high production of polysaccharides

Recommended fermentation temperature: 18-33 °C Alcohol tolerance: 16,5% by vol.

#### Dosage

15-30 g/100 L

## Oenoferm® Klosterneuburg | 0.5/15 kg pack

Osmo-tolerant yeast strain

#### Treatment aim

Pure cultivated yeast for full bodied wines

#### **Product and effect**

Oenoferm® Klosterneuburg is a yeast strain selected in Klosterneuburg, Austria, which exhibits the following spectrum of uses:

- For spicy and peppery aromas
- Additional positive effect during sur-lies ageing
- Easy release of mannoproteins, creating a creamy palate

Recommended fermentation temperature: 17-22 °C Alcohol tolerance: 14% by vol.

#### Dosage









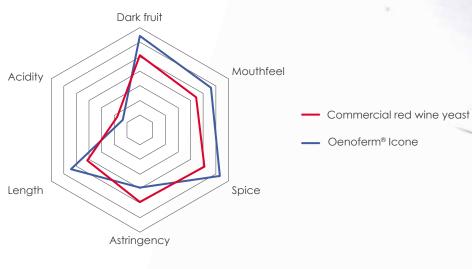


Oenoferm® Icone

Alcohol tolerant yeast with low  $SO_2$  production for premium red wines intended for maturation

Oenoferm® Icone is a yeast for the production of red wines intended for aging. This strain shows safe fermentation even in tough conditions. Characteristic for this yeast are the low  $SO_2$  production and the increased release of polysaccharides.

Oenoferm® Icone produces structured and well-rounded wines of great purity.







#### ·····

Oenoferm® Pink | 0.5 kg pack

Rosé wine yeast

#### Treatment aim

Production of lively, fresh and dry rosé wines

#### **Product and effect**

Wines fermented with Oenoferm® Pink develop the following attributes:

- Trendy pink colour with shades of violet
- Floral aroma with notes of raspberries and red fruits
- Fine, delicate flavour

Recommended fermentation temperature: 13-20 °C Alcohol tolerance: 15% by vol.

#### Dosaae



# Oenoferm® Rheingau



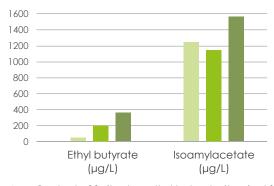
Oenoferm® Rheingau F3 was selected in collaboration with Geisenheim University, from a large number of strains, for its outstanding properties.

Particularly noteworthy is the strong aroma expression. Oenoferm® Rheingau F3 is immensely suitable for the production of premium wines capable of aging.

The wines present themselves as complex in aroma and harmonious on the palate. During elevation and aging they gain sophistication and expressive fruit.

### **Recommended varieties:**

- Riesling
- Chardonnay
- Pinot blanc
- Grüner Veltliner
- Sauvignon blanc
- Müller-Thurgau







**Fig. 2** Content of fruit esters ethyl butyrate (tropical fruits) and isoamyl acetate (banana, pear) at the end of fermentation

## Oenoferm® PinoType | 0.5 kg pack

Yeast for modern Pinot wines

#### Treatment aim

Supports the typical, creamy structure of Pinot wines

#### **Product and effect**

Oenoferm® PinoType was specially selected for fermentation of all Pinot varieties and has the following characteristics:

- Increases amounts of fruit esters and glycerol
- Very suitable for sur-lies aging
- Good preconditions for successful malolactic fermentation

Recommended fermentation temperature: 18-22 °C (White)

20-28 °C (Red)

Alcohol tolerance: 15% by vol.

Dosage





## NEW Oenoferm® Rheingau | 0.5 kg pack

Selected in the Rheingau by Hochschule Geisenheim University

#### Treatment aim

Suitable for production of premium white wines with a powerful expression of fruit

#### **Product and effect**

Oenoferm® Rheingau was selected for its following attributes:

- Pronounced fruit
- Quick start of fermentation
- Constant speed of fermentation for well-defined aroma
- Moderate nutrient requirement

Recommended fermentation temperature: 16-22 °C Alcohol tolerance: 14.5% by vol.

Dosage

20-40 g/100 L

## Oenoferm® Riesling | 0.5 kg pack

Varietal yeast

#### Treatment aim

Yeast selection for a classic Riesling style, with a ripe flavour profile

#### **Product and effect**

Oenoferm® Riesling has been selected from vineyards in the Rheingau, for the following attributes:

- Reliable fermentation behaviour
- Producing harmonious, balanced Riesling wines

Recommended fermentation temperature: 17–22 °C Alcohol tolerance: 13,5% by vol.

Dosage

20-40 g/100 L

## Oenoferm® Rouge | 0.5/10 kg pack

Red wine yeast

#### Treatment aim

Promotion of red berry, cassis and cherry aromas

#### **Product and effect**

Oenoferm® Rouge is a high-quality yeast with the following characteristics:

- Very suitable for red wine types with a pronounced fruit character
- Characterized by reduced ß-glucosidase activity
- Preservation of colour pigments

Recommended fermentation temperature: 18–28 °C Alcohol tolerance: 14,5% by vol.

Dosage













## **YEASTS**

## Oenoferm® Structure | 0.5/10 kg pack

#### Strong yeast

#### Treatment aim

Structure and tannic impact in red wines

#### **Product and effect**

Oenoferm® Structure provides the following positive characteristics:

- Especially suitable for making full-bodied red wines
- Balanced tannin structure which positively affects the structure of red wine
- Emphasis of the typical berry and nutty aromas
- Malolactic fermentation can be performed easily

Recommended fermentation temperature: 18-28 °C Alcohol tolerance: 15% by vol.

#### Dosage

20-40 g/100 L

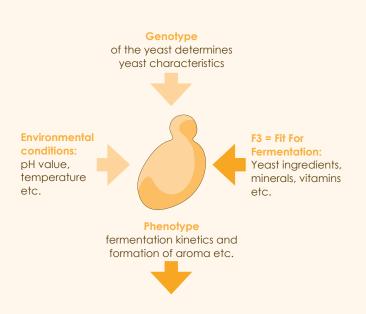
## $\Psi \Psi \Psi$



### F3 = Fit for Fermentation

The valuable and approved Erbslöh Oenoferm® yeast strains readily gain more strength through the F3-Erbslöh manufacturing process. A special propagation medium, which is rich in minerals and strengthening vitamins is used for the cultivation of yeasts.

During this process, i.e. from the multiplication phase until the optimal cell density has been reached, the yeasts are supplied with all essential components in order to obtain a complete fermentation later on, also in suboptimal or stress conditions. During the F3 process, the presence of a high amount of ergosterol results in membrane stabilisation. Consequently, Erbslöh F3 Oenoferm® yeasts possess a significantly higher tolerance to alcohol. The optimization of the total manufacturing process has generated the new F3 standard.



## Oenoferm® Terra | 0.5 kg pack

#### Terroir yeast

#### Treatment aim

Terroir-driven white and red wine

#### **Product and effect**

Oenoferm® Terra provides the following characteristics:

- Accentuation of the individual characteristics of white and red wines
- Full expression to the harmonious formation of aromatic components
- · Rapid fermentation onset
- Safe fermentation properties

Recommended fermentation temperature: 17-28 °C Alcohol tolerance: 14% by vol.

#### Dosage





## Oenoferm® Tipico | 0.5 kg pack

White wine yeast

#### **Treatment aim**

Support of typical, ripe-varietal aromas

#### **Product and effect**

Oenoferm® Tipico provides the following positive characteristics:

- Elegant, nuanced wines
- Emphasizing the aroma of ripe exotic fruits and apricots
- Full-bodied wines with a creamy mouthfeel

Recommended fermentation temperature: 18-22 °C Alcohol tolerance: 14% by vol.

#### Dosage

20-40 g/100 L

## Oenoferm® Veltliner | 0.5 kg pack

Varietal yeast

#### Treatment aim

Fruity, peppery and spicy aroma

#### **Product and effect**

Oenoferm® Veltliner is a selected yeast with the following attributes:

- Ideal for inoculation of Grüner Veltliner wines
- Alcohol-tolerant yeast strain
- Complete fermentation, even at low temperatures

Recommended fermentation temperature: 14–17 °C Alcohol tolerance: 15% by vol.

#### Dosage

20-40 g/100 L

## Oenoferm® X-thiol | 0.5/10 kg pack

Alcohol-tolerant hybrid yeast

#### Treatment aim

Intensified fruity thiols and exotic aromas for thiol-driven white wines

#### **Product and effect**

Oenoferm® X-thiol is a powerful hybrid yeast selected by us with the following features:

- High fermentation ability and alcohol tolerance
- Formation of complex fermentation aromas (pink grapefruit and blackcurrant)
- Heightened production of tropical fruit aromas (passion fruit)
- GMO-free

Recommended fermentation temperature: 15-22 °C Alcohol tolerance: 16% by vol.

#### Dosage













## Oenoferm® X-treme | 0.5/10 kg pack

Strongly fermenting hybrid yeast

#### Treatment aim

Wines with an "X-treme" aroma profile and a spicy, fruity character

#### **Product and effect**

Oenoferm® X-treme is a GMO-free hybrid yeast that combines the positive characteristics of two parent strains:

- Extremely high fermentation ability of a Bayanus strain, at low temperatures
- Aroma profile combining mineral notes balanced with fruity, floral & spicy components
- Expression of intense delicate, spicy-fresh notes
- · Perfect for Pinot, Chardonnay, Riesling, and Sauvignon blanc grapes

Recommended fermentation temperature:  $10-17 \,^{\circ}\text{C}$ Alcohol tolerance: 17% by vol.



20-40 g/100 L







#### **Direct inoculation**

New research results and practical trials show that certain yeast strains have excellent fermentation kinetics even without rehydration. In the harvest season the time-consuming work of yeast rehydration is an everyday task which requires a lot of attention. Proper rehydration of dry yeasts is considered a central measure to avoid fermentation difficulties. Taking a closer look, one realizes that there are many potential influencing parameters.



The technique of direct inoculation has its limits, however. Only yeasts that are explicitly recommended for the task should be used. These are usually *Bayanus* strains with strong fermentation properties, low nutrient requirements and a low tendency towards reductive off-flavours.

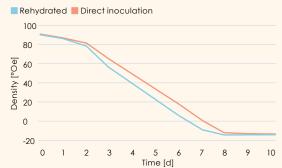


Fig. 1 Oenoferm® X-treme rehydrated vs. direct inoculation. Harvest trial, Geisenheim 2017

#### Please make sure:

- Use a recommended yeast strain in a slightly higher dosage
- Ensure good nutrient supply
- Pay attention to an even distribution
- Check temperature

## Oenoferm® Zweigelt | 0.5 kg pack

Red wine yeast

#### Treatment aim

Typical varietal fermentation of Zweigelt grapes

#### **Product and effect**

Oenoferm® Zweigelt provides the following characteristics

- Range of aromas extends from fruity to complex wines
- Suitable for both lighter wine styles or wines with longer maturation in barrels
- Promotes malolactic fermentation (MLF)

Recommended fermentation temperature: 25-32 °C Alcohol tolerance: 15% by vol.

#### Dosage





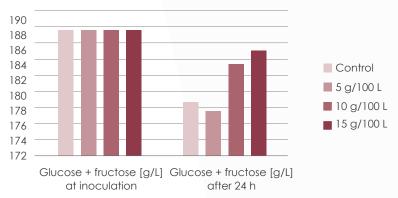
Oenoferm® MProtect

Metschnikowia pulcherrima wild yeast

Metschnikowia pulcherrima is an innovative protection against undesirable microbiological activities. Early application of Oenoferm® MProtect suppresses the reproduction of wild yeasts, fungi and bacteria effectively. At the same time, it replaces the use of  $SO_2$ , thereby lowering the overall amount of  $SO_2$  used in the winemaking process. Defects in wines, like volatile acids or ethyl acetate, are prevented at the harvest stage.

## **Further properties**

- Ideal for cold soaks of grapes or stabilisation of must, 4–10 °C
- Most effective when used from the earliest stage possible, ideal right from picking onwards, in the transport containers
- · Supports a wider range of positive flavours



**Fig. 1** Influence on spontaneous fermentation activity by inoculation of Oenoferm® MProtect at 5 g/100 L, 10 g/100 L and 15 g/100 L. Cold soak of Pinot Noir 2019 from Germany at 5  $^{\circ}$ C

## **BIO-PROTECTION**

## NEW Oenoferm® MProtect | 0.5 kg pack

Metschnikowia pulcherrima yeast strain

#### Treatment aim

Innovative protection against undesirable microbiological activities

#### **Product and effect**

Oenoferm® MProtect is a bio-protection product for grapes and musts:

- Effective suppression of the growth of wild yeasts, fungi and bacteria
- Saves SO<sub>2</sub>
- Prevention of ensuing flavour defects at the grape stage

Recommended fermentation temperature: 5–15 °C

Alcohol tolerance: 6% by vol.

#### Dosage

5-15 g/100 kg





## **NON-SACCHAROMYCETES**

## Oenoferm® wild & pure | 0.5 kg pack

Blend of a wild Torulaspora delbrückii yeast strain and a Saccharomyces yeast

#### Treatment aim

Increased formation of monoterpenes and fruit esters

#### **Product and effect**

Wines fermented with Oenoferm® wild & pure yeast are characterized by the following attributes:

- Heightened fruit
- Creamy texture
- Increased mouthfeel
- Creation of a unique wine style
- Suitable for white and red wines

Recommended fermentation temperature: 16-20 °C (White)

25-33 °C (Red)

Alcohol tolerance: 14% by vol.

#### Dosage





## Our yeasts at a glance

	Alcohol folerance [% by vol.]	Relative nitrogen needs	Temperature range [°C]	Fermentation speed	Foaming behaviour	Killer factor	Influence on MLF	Sensory effect
	White and	rosé wines						
Oenoferm® Bio	16,5	Medium	16-22	Moderate	Moderate	•	Neutral	Esters, terpenes
Oenoferm® Bouquet 🚱	15	High	16-20	Moderate	Low	•	Neutral	Esters, terpenes
Oenoferm® Champ 🔞	16	Medium	14-26	Moderate	Moderate	•	Inhibiting	Esters, terpenes, mouthfeel
Oenoferm® Freddo 🔞	15	Low	13-17	Fast	Moderate	•	Inhibiting	Esters, terpenes
Oenoferm® Klosternbg.	14	High	17-22	Moderate	Moderate	•	Promoting	Esters, terpenes, mouthfeel
Oenoferm® MProtect	6	Medium	5-15	Moderate	Low		Neutral	Aroma protection
Oenoferm® Pink 🔞	15	Low	13-20	Fast	Low	•	Inhibiting	Esters, mouthfeel
Oenoferm® PinoType	15	High	18-22	Slow	Moderate	•	Promoting	Esters, terpenes, mouthfeel
Oenoferm® Rheingau 🚱	14,5	Medium	16-22	Moderate	Low	•	Neutral	Esters, terpenes
Oenoferm® Riesling 🚱	13,5	Medium	17-22	Moderate	High	•	Neutral	Esters, terpenes
Oenoferm® Terra	14	High	17-22	Moderate	High	•	Neutral	Esters, terpenes
Oenoferm® Tipico 🔞	14	Medium	18-22	Moderate	Moderate		Neutral	Esters, terpenes
Oenoferm® Veltliner	15	Medium	14-17	Fast	Moderate	•	Inhibiting	Esters, terpenes
Oenoferm® wild & pure ®	14	Low	16-20	Moderate	Moderate		Promoting	Esters, terpenes, mouthfeel
Oenoferm® X-thiol	16	Medium	15-22	Moderate	Moderate	•	Neutral	Thiols, terpenes
Oenoferm® X-treme 🚱 👄	17	Low	10-17	Fast	Moderate	•	Inhibiting	Esters, terpenes

## Our yeasts at a glance

	Alcohol folerance [% by vol.]	Relative nitrogen needs	Temperature range [°C]	Fermentation speed	Foaming behaviour	Killer factor	Influence on MLF	Sensory effect
	Red wine							
Oenoferm® Be-Red	15,5	Medium	22-32	Moderate	Low	•	Promoting	Colour, neutral
Oenoferm® Bio	16,5	Medium	22-28	Moderate	Moderate	•	Neutral	Structure, typicity
Oenoferm® Color	16	Medium	18-28	Moderate	Moderate	•	Neutral	Colour, Neutral
Oenoferm® Icone	16,5	Medium	18-33	Moderate	Moderate	•	Promoting	Esters, structure, mouthfeel
Oenoferm® MProtect	6	Medium	5-15	Moderate	Low		Neutral	Aroma protection
Oenoferm® PinoType 🚱	16	High	18-28	Slow	Moderate	•	Promoting	Esters, mouthfeel
Oenoferm® Rouge	14,5	Medium	18-28	Moderate	Low	•	Promoting	Esters, mouthfeel
Oenoferm® Structure ®	15	Medium	18-28	Moderate	Moderate	•	Promoting	Structure, mouthfeel
Oenoferm® Terra	14	High	22-28	Fast	Low	•	Inhibiting	Neutral
Oenoferm® wild & pure 🚱	14	Medium	25-33	Moderate	Moderate		Promoting	Esters, mouthfeel
Oenoferm® Zweigelt	15	Medium	25-32	Moderate	Moderate		Promoting	Esters, structure



## Oenoferm® CHA has a new name - but the yeast remains the same!

From CHA to Champ: our champion for sparkling wines is bigger than ever! Originally selected in the Champagne region, it is just the perfect yeast for high-quality sparkling wines. It encourages delicate fruity notes with hints of Crisp nutty flavours. Its origin in the bayanus family ensures **Tannins** Fruitiness complete fermentation Lively without any residual sugar. Residual 9 month Due to a short lag phase, Base wine: suaar elevation cool fast and consistent fermentafermentation tion, it is the top choice for sparkling wine production. At Oenoferm® Light Single Cuvée Aromatic the same time Oenoferm® Champ bodied variety Champ is ideal to use to get stuck fer-Zero Mannoproteins dosage mentations back on track, or if the condition of the material is less Skin Oaked 18 month+ contact base wine elevation than optimal. Oenoferm® Champ provides a positive killer factor, which Minerality No/minimal texture quickly establishes the yeast as dom-SO, inant, thereby guaranteeing a clean and perfect product. Matured

## Sparkling concept

To meet the distinct challenges of making sparkling wines, this concept includes oenological products combined for the special needs of bottle fermentation. Among other Erbslöh products, Oenoferm® Champ, VitaDrive® F3 and Erbslöh CompactLees will support a modern style of sparkling wine.

#### VitaDrive® F3

VitaDrive® F3 contains essential nutrients. It protects and stimulates the yeast during rehydration and increases yeast's fitness for second fermentation.

#### **Erbslöh CompactLees**

The yeast sediments quickly and completely after fermentation using Erbslöh CompactLees. Adhesion is avoided and riddling of the lees is made much easier.

# NUTRIENTS



## **REHYDRATION**

## VitaDrive® F3 | 1/10 kg pack

Nutrient for yeast rehydration

#### Treatment aim

Mobilization of dry selected wine yeast leading to a quick fermentation onset and clean aroma profile

#### **Product and effect**

VitaDrive® F3 offers the following benefits:

- Mobilization of yeast when applied during rehydration
- Resistance towards stress factors such as permanent alcohol increase, low temperatures, yeast toxins and pesticide residues
- End of fermentation is assured

#### Dosage

Add 1 kg of VitaDrive® F3 per 1 kg of dry yeast to the rehydration feedstock

## VitaDrive® ProArom | 1 kg pack

Organic nutrient

#### Treatment aim

Stress protection during propagation and aroma conservation

#### **Product and effect**

VitaDrive® ProArom is a preparation of inactivated yeasts and yeast cell walls with a natural content of reducing peptides and essential nutrients, such as minerals, vitamins, amino acids and yeast's own natural glutathione. The following applications are possible:

- Redox buffer in the event of oxidative stress
- Maintains and stabilizes cell structure in the event of stress caused by temperature and ethanol
- Promotes typical varietal aromas

Dosage during alcoholic fermentation is not recommended!

#### Dosage

20-30 g/100 L (Addition during yeast rehydration)



## **FERMENTATION**

### OenoRed® | 1 kg pack

Pure yeast autolysate

#### Treatment aim

Refinement and colour stabilisation in red wines

#### **Product and effect**

OenoRed® contains a high proportion of complex cell wall polysaccharides, consisting of mannose and glucose, due to a special refining process. The application offers the following benefits:

- Stabilisation of anthocyanins and tannins released from the grape skin
- Binding of astringent tannins by polyphenol-reactive mannoprotein

#### Dosage

30-40 g /100 L or kg

## OenoRed® – pure yeast autolysate

OenoRed® is a natural yeast derivative which is used to soften red wines and increase colour stability. It contains a high proportion of complex cell wall polysaccharides rich in mannose and glucose. Especially the polyphenol-reactive mannoprotein can bind astringent tannins. The results are red wines with increased refinement.

OenoRed® is best used with must or during the mashing process to promote early protection and complexation. When used at the end of alcoholic fermentation, it can bind hard tannins; the wines appear softer on the palate.

In addition, OenoRed® is a fermentation nutrient. It can be used to supplement yeast nutrition with DAP and other nutrients. This leads to a further significant improvement in wine quality.

### Yeast polysaccharides

stabilise anthocyans and tannins released from the grape skins



Improvement Increase of of mouthfeel colour stability and finish



Rounding off hard edges and astringent tannins



Red wines with increased refinement, more intense colour, rounded finish and harmonious structure

## PuroCell® O | 0.5 kg pack

Organic certified yeast cell wall preparation

#### Treatment aim

Promotion of yeast activity during primary fermentation

#### **Product and effect**

The following applications are possible with PuroCell® O:

- Adsorption of inhibiting substances, particularly medium-chain fatty acids
- Improved CO<sub>2</sub> release during primary fermentation
- Reduction of phenolic compounds to improve taste, flavour and aroma profile
- Reactivation of stuck/sluggish fermentation

PuroCell® O is produced through a natural and innovative process and is certified according to Regulation (EC) No. 834/2007. It complies with the criteria of Regulation (EC) No. 203/2012 for organic wine, and all corresponding organic requirements in the U.S.

#### Dosage





DE-ÖKO-003

## **NUTRIENTS**

## VitaFerm® Base | 5/10 kg pack

Base nutrient with inactive yeast

#### Treatment aim

Yeast nutrition during alcoholic fermentation

#### **Product and effect**

The application of VitaFerm® Base offers the following benefits:

- Compensation of deficiencies in the must and ensuring secure fermentation
- Increased nitrogen content
- Adsorption of fermentation-inhibiting substances
- Prevents off-flavours
- Reduction of SO<sub>2</sub> bonding partners, reducing needs of SO<sub>2</sub>

In addition to nutrients diammonium hydrogen phosphate and thiamine hydrochloride (vitamin B1), it also supplies other valuable ingredients from the inactive yeast.

#### Dosaae

3 x 30 g/100 L

## VitaFerm® Bio | 1/10 kg pack

Certified organic yeast nutrient

#### Treatment aim

Mobilizing effect on yeast activity, preventing off-flavours

#### **Product and effect**

VitaFerm® Bio is ideal for supporting alcoholic fermentations with the following benefits:

- Balanced nutrient supply until the end of fermentation
- Quick fermentation onset
- Promotion of fermentation in a sustainable way
- Avoidance of temperature peaks after nutrient addition
- Advantage of higher resistance of the fermenting yeast towards stress factors VitaFerm® Bio does not contain ammonium salt. It is certified organic by Lacon GmbH (DE-ÖKO-003).

#### Dosage

30-40 g/100 L

## VitaFerm® Ultra F3 | 1/10 kg pack

Multi-nutrient complex

#### Treatment aim

Powerful nutrient with multiple advantages for fermentation under difficult conditions

#### Product and effect

VitaFerm® Ultra F3 promotes the following benefits:

- Very efficient yeast growth
- Improved metabolic activity
- Quickened fermentation onset
- Secure completion of fermentation
- Clean wine flavours

A vital yeast results in an attractive aroma profile and reduced SO<sub>2</sub> requirement.

#### Dosage

3 x 30 g/100 L







DE-ÖKO-003

## Vitamon® Liquid | 10/600/1.000 kg pack

Liquid yeast nutrient

#### Treatment aim

Quick assimilation and compensation of a lack of vitamins and nitrogen in juice

#### **Product and effect**

Vitamon® Liquid is a liquid nutrient based on diammonium phosphate and thiamine (vitamin B1) which offers the following advantages:

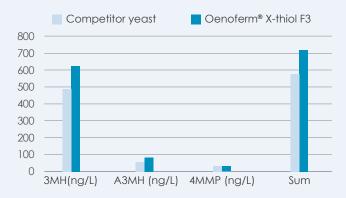
- Easy handling and continuous dosing in the course of fermentation
- Equal distribution due to the fermenting juice's natural movement
- No release of CO<sub>2</sub>, foaming during fermentation can be avoided due to the liquid formulation
- Vitamin B1 and nitrogen can be assimilated very quickly

#### Dosage

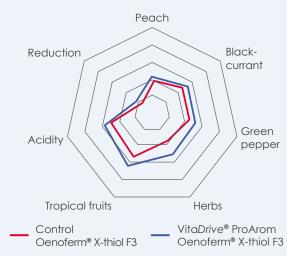
200 mL/100 L

## Maximize thiol yield - VitaDrive® ProArom and Oenoferm® X-thiol F3

Oenoferm® X-thiol F3 is a GMO-free hybrid yeast selected by Erbslöh Geisenheim. Protoplast fusion was used to combine the positive properties of two different Saccharomyces cerevisiae strains. It is a powerfully fermenting hybrid yeast with high tolerance of alcohol to enhance fruity thiols and exotic aromas. Oenoferm® X-thiol F3 requires little nitrogen, it forms low amounts of SO<sub>2</sub> and does not tend to produce H<sub>2</sub>S. To promote fruity thiol aromas Oenoferm® X-thiol F3 has proven to be particularly suitable at temperatures of 18-22 °C.



**Fig. 1** Comparison of Oenoferm® X-thiol and a thiol producing competitor yeast in Sauvignon Blanc, France 2016.



**Fig. 2** Trial in France, 2017: Sauvignon Blanc fermented with Oenoferm® X-thiol F3 and comparing the aromatic potential with and without Vita*Drive®* ProArom.

The innovative nutrient formulation of VitaDrive® ProArom derived from glutathione-rich yeast has been selected for its high natural concentration of reductive peptides and mannoproteins, essential nutrients, minerals, vitamins and amino acids. It has a high glutathione content in its active form, GSH, and is responsible for protecting yeast from the stress of spreading and preventing premature oxidation of varietal aromas during winemaking.

## **NUTRIENTS**

## Our nutrients at a glance

	Inactivated yeast	Yeast cell walls	Yeast autolysate	Cellulose	DAP	Thiamine	Application
VitaDrive® F3	•	•				•	Yeast rehydration
VitaDrive® ProArom	•	•				•	Yeast rehydration and aroma protection by increased GHS content
Vitamon® A					•		Base supply of nitrogen
Vitamon® B-Sticks						•	Targeted dose of thiamine for botrytis
Vitamon® Combi					•	•	Enhanced base supply in case of botrytis
Vitamon® CE	•			•	•	•	Strongly pre-clarified musts
VitaFerm® Base	•				•	•	Base supply of nitrogen
VitaFerm® Ultra F3	•	•			•	•	Complex nutrient for optimum fermentation
VitaFerm® Bio	•	•					Purely organic nutrient for optimum fermentation
PuroCell® O		•					General support of fermentation, reactivation of stuck fermentation.  Purely organic
OenoRed®			•				Pure yeast autolysate to support fermentation, roundness and colour stabilisation in red wines
Vitamon® Liquid					•	•	Continuous dosage during fermentation, without releasing CO <sub>2</sub>
Bi-Start® Nutri	•	•					Support of MLF

## **ENZYMES**

## Trenolin® BouquetPLUS | 0.1/1 kg pack

Liquid pectolytic enzyme

#### Treatment aim

Liberation of aroma precursors and terpenes

#### **Product and effect**

Trenolin® BouquetPLUS supports the varietal character of wines:

- The typical grape variety bouquet becomes more pronounced
- Aroma substances which are bound to glycosides can be released during and after fermentation

#### Dosage

7-15 mL/100 L or kg

## Aroma enhancement in white wines due to $\beta$ -glycosidase enzyme activities

A major portion of primary wine aroma compounds belong to the terpenes group. They are primarily located in the grape skin as sugar-bound monoterpene precursors. In this glycosidically bound form, they are neutral in smell. By enzymatic cleavage of the sugars, the corresponding monoterpene alcohol is liberated and becomes organoleptically ascertainable. Monoterpene alcohol and sugar residues are linked by a glycosidic bond, thus the enzymatic liberation is carried out by  $\beta$ -glycosidases.

Unlike other aroma enzymes with ß-glycosidase activity, Trenolin® Bouquet<sup>PLUS</sup> is not inhibited by high glucose concentration. Therefore it promotes a significant increase in aroma release already during alcoholic fermentation, or in white wines with residual sugar.

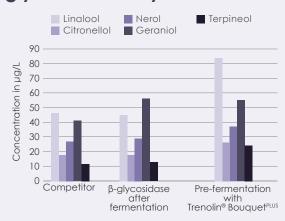


Fig. 1 Terpene content of Gewürztraminer in relation to the addition of  $\beta$ -glycosidase enzymes (Federal Research Institute, Freiburg)

## Trenolin® FastFlow DF | 0.1/1 kg pack

Liquid multi-pectinase formulation

#### Treatment aim

Targeted breakdown of the branch points for more effective pectin hydrolysis in grape juice

#### **Product and effect**

Grape pectin is particularly rich in arabinogalactan-II side chains. This is the reason why, compared to other fruit pectins, grape pectin is harder to break down and a larger portion of branched pectin residues remain in the must, juice and wine. The application of Trenolin® FastFlow DF offers the following benefits:

- Pectin loses its water-binding capacity and viscosity is reduced
- Application at low temperatures is possible
- Increased filtration rates in white and red wines

#### Dosage

3-10 mL/100 L or kg



## Trenolin® Filtro DF | 1 kg pack

Liquid betaglucanase for filtration

#### Treatment aim

Clarification and filtration with a broad activity spectrum

#### **Product and effect**

Musts and wines from fungus-affected grapes are often problematic to filter due to the formation of mucous substances and the change in the colloidal structure caused by rot fungi, especially *botrytis*. The application of Trenolin<sup>®</sup> Filtro DF offers the following benefits:

- Foreseeable filtration difficulties can be prevented at the must stage
- Elimination of filtration problems at the wine stage
- Enzymatic breakdown of all mucilaginous substances in must and young wine
- Free from negative cinnamoyl esterase and oxidase side activity
- Enhancement of the freshness of the varietal character

#### Dosage

10-20 mL/100 L

### Trenolin® FlotPLUS | 1/10 kg pack

Liquid flotation enzyme

#### Treatment aim

Flotation of white and rosé musts

#### Product and effect

The composition of Trenolin® Flot<sup>PLUS</sup> is focused on pectin esterase activity, which offers the following benefits:

- Very quick flocculation and facilitation of effective flotation process
- Free of cinnamoyl esterase activity
- No formation of undesirable volatile phenols

#### Dosage

1-8 mL/100 L

## Trenolin® Frio DF | 0.1/1 kg pack

Liquid cold-temperature-acting pectinase

#### Treatment aim

Rapid, effective pectin hydrolysis in white and red must during cold maceration processes down to 5 °C.

#### **Product and effect**

Trenolin® Frio DF application is highly economic and offers the following benefits:

- Excellent performance at short contact times and also at very low temperatures
- Release of aroma precursor during cold maceration of grapes and must
- Pectins with high water-binding ability are hydrolysed
- Improvement of juice fining
- Improved juice run-off at low pressing pressures

#### Dosage

2-10 mL/100 L or kg







## Trenolin® Mash DF | 0.1/1 kg pack

Innovative enzyme complex

#### Treatment aim

Maceration of crushed grapes during cold soaks

#### **Product and effect**

The application of Trenolin® Mash DF offers the following benefits:

- Accelerated maceration of grape material
- Liberation of aroma precursors and increased typical varietal characteristics
- The percentage of free run juice during pressing will increase

Its effectiveness depends on the addition rate, temperature and reaction time. This can be extended by early addition to the crushed grapes.

#### Dosage

1-4 mL/100 L or kg

## Trenolin® Opti DF | 0.1/1 kg pack

Fine granulate pectinase

#### Treatment aim

Rapid and complete pectin degradation

#### **Product and effect**

Trenolin® Opti DF is a purified enzyme preparation with a well-balanced composition of enzyme activities which offers the following benefits:

- Rapid and complete pectin degradation
- Better pressability, shorter pressing times, increased press capacity
- Increased free-run juice, reduced extraction of tannins and of bitter substances
- · Superior clarifying effect in young wine and increased filter performance
- Free from cinnamoyl esterase and oxidase side activities

#### Dosage

1-3 g/100 L or kg

#### Trenolin® PEXX DF | 10 kg pack

Liquid enzyme

#### Treatment aim

Excellent conditioning of the must to promote subsequent separation processes

#### **Product and effect**

Due to its high concentration of activities, Trenolin® PEXX DF provides the following benefits:

- Drastic viscosity reduction in a short time
- Optimization of prerequisites for flotation, reverse osmosis, grape must concentration
- Ideal for large-scale producers
- Improved buoyancy of sediment particles and good preparation for cross-flow filtration
- Troublesome pectic substances are hydrolysed within a very short time
- Very reactive at pH values around 3.0

#### Dosage

0.5-1.5 mL/100 L





## Trenolin® Rosé DF

Perfect colour for modern rosé wines

Rosé wines are in great demand, with the trend moving towards paler wines worldwide. This corresponds to a colour sum (420 nm + 520 nm + 620 nm) of less than 1 in the finished wine. The increased colour extraction of Blanc de noir and Pinot gris wines during pressing is a particular problem. These wines are often treated with activated carbon to reduce colour. Loss of quality is the result. Trenolin® Rosé DF has very low macerating properties and therefore lower colour

Rosé concept

extraction at higher pressing pressures.

The rosé concept includes oenological products optimized for the special needs of rosé wine production. Trenolin® Rosé DF, LittoFresh® Rosé and Oenoferm® Pink support the modern rosé wine style characterized by a clear fruit and a pale colour.

#### LittoFresh® Rosé

LittoFresh® Rosé is specifically developed product based on phytoproteins and PVPP. It is used for treating musts during rosé wine production, to remove oxidisable phenols and decrease colour, especially the yellow shade.

#### Oenoferm® Pink

Oenoferm® Pink is a yeast that supports the style of modern, international rosé wine styles – crisp, dry, with pronounced fruit. It introduces a floral aroma, plus raspberry, red fruit and subtle spice to the wines.

## Trenolin® Rosé DF | 0.1/1 kg pack

Low colour extracting enzyme

#### Treatment aim

Mash processing in rosé, blanc de noir and blanc de gris winemaking.

#### **Product and effect**

Trenolin® Rosé DF is a liquid enzyme formulation which offers the following benefits:

- Very low macerating properties
- Ideal choice for grapes rich in anthocyans, for warm harvest conditions and high pH values
- Higher percentage of free run juice
- Higher yield with lower pressing
- · Reduced polyphenol extraction and cinnamoyl esterase free

#### Dosage

2-3 mL/100 L or kg



## Trenolin® Rouge DF | 0.1/1 kg pack

Liquid red wine enzyme

#### Treatment aim

Vinification of full-bodied red wines, with a balanced tannin structure

#### **Product and effect**

The application of Trenolin® Rouge DF shows the following results:

- Optimization of the colour yield during fermentation on the skins, thermal juice treatment
- Must yield increases by 5-8% as a result of application of the enzyme
- Enhanced release of colour pigments during must extraction
- Extraction of tannins which give the finished wine its typical full-bodied character

#### Dosage

3-10 mL/100 L or kg

## Trenolin® SuperPLUS | 1 kg pack

Highly active liquid pectinase

#### Treatment aim

Quick pectin degradation

#### **Product and effect**

Treatment with Trenolin® SuperPLUS offers the following benefits:

- Increased free-run juice
- Filtration is improved
- Pressing time is reduced and press capacity increased
- Quick and compact sedimentation of lees in the juice is achieved
- Undesirable side activities are eliminated and the grape's freshness and varietal character are preserved due to a purification process

#### Dosage

3-10 mL/100 L

## Trenolin® Sur-Lies DF | 0.1/1 kg pack

Betaglucanase for improved mouthfeel

#### Treatment aim

Improved structure, greater density and optimized yeast lysis

#### **Product and effect**

Trenolin® Sur-Lies DF promotes the following benefits:

- Degradation of fine lees by cell wall perforation
- Liberation of mannoproteins from the cell wall is accelerated
- Yeast mannans and amino acids are released in the further enzymatic process
- Mannoproteins and yeast mannans lead to a more intensive, longer-lasting mouthfeel and to a creamier, mellower taste
- The structure and density are enhanced and filterability is improved

#### Dosage

2-5 mL/100 L







## Trenolin® Thermo-Stab DF | 1 kg pack

Thermostable pectolytic enzyme

#### Treatment aim

Accelerated maceration of red must for improved extraction of pigments and soft tannins

#### **Product and effect**

The application of Trenolin® Thermo-Stab DF offers the following benefits:

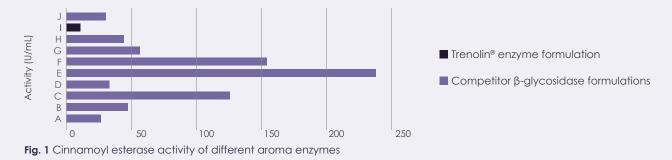
- The pumpability, pressability and passage of the must through the heater are improved
- Accelerated extraction of catechins
- Reduced foaming

#### Dosage

2-4 mL/100 L or kg

### Cinnamoyl esterase

Cinnamoyl esterase is an ester-cleaving activity that may naturally occur in enzyme preparations as a side activity. The presence of cinnamoyl esterase encourages the formation of volatile phenol substrates responsible for aromatic deviation. The formation of volatile phenolics depends on the concentration of free phenolic acids, like caffeic acid or coumaric acid. In the process of fermentation these acids can be converted into volatile phenolic derivatives by the yeast's decarboxylase activity. Depending on the concentration of volatile phenolic substances, like 4-vinyl guaiacol and 4-vinyl phenol, they are perceived as spicy and contribute positively to the bouquet or can cause off-flavour that are often described as medicinal. In contrast to all commercial wine aroma enzymes tested, the Trenolin® enzymes are free from cinnamoyl esterase activity.



## Trenolin® Xtract | 0.1/1 kg pack

Liquid red wine enzyme

#### Treatment aim

Complete pectin hydrolysis, as well as colour pigment and catechin extraction

#### **Product and effect**

The application of Trenolin® Xtract offers the following benefits:

- Highly active, liquid enzyme for treating red wines during fermentation on the skins
- Acts to stabilise maturation of deep red wines
- Cinnamoyl esterase free

#### Dosage

1-5 mL/100 L

## Our enzymes at a glance

	Extraction	Press yield	Clarification	Flotation	Aroma	Red wine production	Thermo vinification	Filtration	Sur lies aging
Trenolin® Bouquef <sup>PLUS</sup>					•				
Trenolin® FastFlow DF	•••	000	000	•		•		000	
Trenolin® Filtro DF								000	
Trenolin® Flot <sup>PLUS</sup>				•					
Trenolin® Frio DF	•	000	000	•		•			
Trenolin® Mash DF		•						•	
Trenolin® Opti DF		0	•					0	
Trenolin® PEXX DF	•••	000	000						
Trenolin® Rosé DF		•	•	•					
Trenolin® Rouge DF	•	•	•			•			
Trenolin® SuperPlus		000	000			•		0 • •	
Trenolin® Sur-Lies DF									000
Trenolin® Thermo-Stab DF	•	•	•				•	•	
Trenolin® Xtract	•	••	••		••	•	•		

# Climate change

The global climate crisis is also changing our craft, often in unpredictable ways. Drought, heat, changing vegetation periods, even the new opportunities present us with challenges. At Erbslöh Geisenheim we offer you a variety of solutions in our portfolio to creatively deal with this. Here are our most prolific options - many more are still under development.



#### **Tannins**

Individual functions of sulphur can also be taken over by other substances. This extended protection is becoming increasingly important due to rising pH levels of the wines, in order to

be able to continue to work adequately with the permitted amounts of sulphur. Especially for the protection against oxidation, the sulphur alternative Tannivin® Galléol comes to mind. This specially selected gall nut tannin is capable of intercepting oxygen before an oxidative connection with aromas and other ingredients of the wine has formed. Our grape-skin tannin, Tannivin® Grape, protects wines from ageing too rapidly in the bottle.



The right enzyme can significantly increase production capacity and sustainability. Pressing and pre-clarification volumes are the greatest challenge of every vintage.



However, rapidly changing weather extremes can make it necessary to harvest as quickly as possible. This is the only way to preserve the necessary quality of the grapes and minimise the threat of yield loss. Sufficient cooling, energy, water and labour are neither available at all times, nor is tank capacity. Speed drastically reduces costs, ensures quality and quantity and has a positive effect on the overall result. The wines are produced at lower costs, more environmentally friendly, sustainable and competitive.



#### **Staves**



e.Staves are new to the Erbslöh portfolio. Made of French oak, they are required to meet the same high standards as a conventional barrel stave. e.Staves is the sustainable choice many points of view

compared to a barrel. e.Staves require less wood for a comparable amount of wine and the process uses only a fraction of the water and energy compared to cleaning and preserving a barrel.



# Vegan

The vegan treatment of must and wine is visibly developing into the state of the art technique and at the same time it is being demanded as a matter of course by more and more partners and consumers.

Our LittoFresh® products are based on highly effective pea proteins.

Depending on the formulation and combination, options are available for clarification, flotation, phenol correction or gentle polishing. Available in powder and liquid form, the handling leaves nothing to be desired. Pea protein consistently reduces the CO<sub>2</sub> footprint in cellar management and ensures the flawless quality of the wines.

**Bio-Protection** 

The use of non-saccharomycetes in combination with classic wine yeasts is widespread in oenology. Now we also have the possibility to protect the grapes as well. The multifaceted properties of wild



yeasts expand the spectrum of applications, for

example by suppressing the accompanying flora of the grapes. In this way, they make it possible to reduce the use of  $\mathrm{SO}_2$ , improve the aroma, lower the resulting alcohol content or stabilise the wine colour. Yeast species of the genus  $\mathsf{Metschnikowia}$  have proved particularly suitable for this purpose. The aim here is not alcoholic fermentation, but the control of the existing microbiological flora. Oenoferm® MProtect makes it possible to dispense with the protection of the grapes by  $\mathrm{SO}_2$  and thus also protects the sulphur balance of the resulting wines. Under cool conditions, the grapes, the mash and the must can be effectively protected from negative microbiological activity. The formation of off-flavours is consistently prevented.

# **Acidity Management**

Harvest dates have become more unpredictable in every way. At the same time, acidity levels and pH levels develop very differently - even within an



individual region. Each vintage brings with it a multitude of individual situations, acidification or de-acidification is no longer the only question. The precise handling of each vintage, each grape variety and each wine has more

than ever become a necessity. With a wide range of specific products, Erbslöh gives you all the necessary options for your individual challenges.

Traditionally carried out in red and rosé wines, malolactic fermentation as a subtle, style-enhancing variant of acid reduction has been established for white wines as well. We offer a wide range of specialised bacteria to cover all possibilites. Boerovin and Erbslöh Tartaric ensure the stability of must and wine by a quick correction of the pH value. For the reducing correction of acidity, Erbslöh Kalk, Kalinat and Neoanticid provide options in every step of winemaking.

Meet the challenges of climate change today - with Erbslöh as a strong partner at your side!

# BENTONITES

# Blancobent UF | 20 kg pack

Bentonite powder

#### Treatment aim

Inline stabilisation of protein and colloidal cloudiness during crossflow filtration

#### **Product and effect**

Blancobent UF has a specific granulometry (absence of particles  $> 100 \, \mu m$ ) which offers the following benefits:

- No abrasive wear to crossflow membranes
- Direct dosing into hollow fibre membranes due to the defined particle size
- Clarification and stabilisation in one process step and with reduced dosage

#### Dosage

20-200 g/100 L

# FermoBent® PORE-TEC | 5/20 kg pack

Juice bentonite

#### Treatment aim

Early and lasting protein stabilisation during alcoholic fermentation

#### **Product and effect**

FermoBent@ PORE-TEC is a bentonite for time-saving co-fermentation with the following attributes:

- Intensive and selective adsorption of proteins and inhibiting substances due to its specific porous structure
- · Can be dosed directly
- Can remain in the fermenting medium, due to its extremely low iron solubility
- Improved CO<sub>2</sub> release during fermentation
- Will be racked off together with the lees

#### Dosage

100-200 g/100 L grape juice

#### MostRein® PORE-TEC | 20 kg pack

Granules of bentonite and activated carbon

#### Treatment aim

Intense and selective adsorption of fermentation-inhibiting components

#### **Product and effect**

The application of MostRein® PORE-TEC offers the following benefits:

- Decisive for the production of clean wines in the event of botrytis-affected grapes
- Based on selected montmorillonite clays
- Uses a specific, high-purity, plant-based activated carbon

#### Dosage

50-250 g/100 L







# NaCalit® PORE-TEC | 1/5/20 kg pack

#### Granulated Na-Ca bentonite

#### Treatment aim

Excellent flocculation, adsorption and clarification

#### **Product and effect**

Application with NaCalit® PORE-TEC offers the following benefits:

- Easily wettable and suspendable due to PORE-TEC granulation
- Intense and selective adsorption of proteins and colloids
- Strong clarifying effect takes place, even with high pH values
- Low sediment volume due to the precise mineral selection
- Very efficient in problematic cases

#### Dosage

50-200 a/100 L

# Seporit PORE-TEC | 20 kg pack

#### Granulated calcium bentonite

#### Treatment aim

Clean fermentation and careful protein stabilisation in juice

#### **Product and effect**

The use of Seporit PORE-TEC offers the following benefits:

- Early removal of fermentation-inhibiting components
- Intense and selective adsorption of proteins
- Easy wetting and suspension due to specific porous surface structure
- Efficient juice clarification owing to selected minerals

#### Dosage

50-250 g/100 L juice

# Our bentonites at a glance







# **BENTONITES**

# Inline stabilisation

Modern cross-flow technology allows bentonite and activated carbon to be added directly before the filter, allowing for stabilisation and clarification in a single, simultaneous step. This not only enables wineries to reduce bentonite/activated carbon consumption, eliminate settling time after fining, reduce wine waste and sediment volumes, but also to save time, energy and water - all at the same time.

Application is performed via an inline dosing system controlled by a flow meter. It can be used in conjunction with the PALL Oenofine XL and Bucher Flavy Tandem crossflow filters. Please contact the filter manufacturer in advance for direct use in other manufacturers' dynamic crossflow filters or systems.

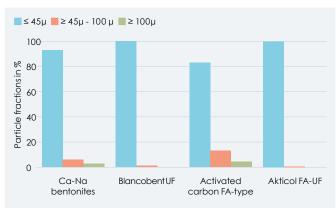


Fig. 1 Blancobent UF and Akticol FA-UF products are unique due to their extraordinarriy small particle size

Bentonite and activated carbon suitable for cross-flow filtration have a defined particle size distribution and are therefore characterised by lower abrasiveness compared to membrane systems. For example, the bentonite particles in Blancobent UF are entirely below 100 microns and only 0.2 % of the particles are larger than 45 microns.

#### Blancobent UF

This special bentonite is used to drastically reduce the effort required for protein stabilisation and filtration. The wine is introduced to the crossflow system without prior racking or filtration. The purity and high adsorption capacity of Blancobent UF additionally reduces the dosage by up to 30%, compared to conventional bentonites.

#### **Akticol FA-UF**

Acid-activated, highly efficient powdered carbon of purely vegetable origin. Lower dosages are possible due to Akticol FA-UF's high phenol adsorption, while a better colour effect can be achieved at the same time. The composition and purity of this carbon allow very gentle use in combination with crossflow filtration systems, with negligible abrasion.

Organisation of bottling can be decisively simplified and made more flexible by combining several work steps. The working time for preparation and cleaning is drastically reduced. The available tank space is utilised in the most efficient way, which increases the winery's profitability. Not only is the CO<sub>2</sub> footprint of the wines reduced, but water consumption is also consistently minimised. Wines can thus be brought to the market with pinpoint accuracy and high sustainability at the same time.

# At a glance:

- Reduction of time and effort
- Savings in energy and water
- Increased and more flexible production capacity
- Reduced bentonite input
- Extremely fine granulation to protect the filter membranes
- No disposal of filter aids necessary

Inline stabilisation is the resource and cost-saving alternative to conventional filtration processes.

# ACTIVATED CARBON

# CarboTec GE | 7.5/20 kg pack

Special adsorption granulate

#### Treatment aim

Adsorption and removal of undesirable components in juice

#### **Product and effect**

Application with CarboTec GE offers the following benefits:

- Preservation of positive flavour
- · Removal of impurities, such as spraying residues or rot-induced off-flavours
- · Acceleration of juice clarification
- Improved deposition of some of the proteins and colloids inducing turbidity
- Deodorizing effect and reliable, clean fermentation

#### Dosage

50-200 g/100 L

# Granucol® FA | 1/10 kg pack

Activated carbon pellets

#### Treatment aim

Colour reduction and elimination of brownish colour pigments

#### **Product and effect**

The application of Granucol® FA offers the following benefits:

- Reduction of tannins and polyphenols
- Elimination of high colour due to browning reactions
- Easy to dissolve due to special production process
- Quick and compact sedimentation in the tank

#### Dosage

10-40 g/100 L

# Granucol® GE | 1/5/10 kg pack

Activated carbon pellets

#### Treatment aim

Adsorption of undesirable off-flavours

#### **Product and effect**

The application of Granucol® GE offers the following benefits:

- Selective adsorption of undesirable off-flavours
- Easy to dissolve due to special production process
- Quick and compact sedimentation in the tank

The guideline for grape processing is to use 1 g/100 L Granucol® GE per percent of fungus-affected grapes, preferably to be added into the sedimentation tank.

#### Dosage

10-40 g/100 L







# OAK ALTERNATIVES

The e.Staves and e.Bois® product lines are ideal for enriching and supporting the aromatic expression of your wines, strengthening their structure and stabilising colour.

# e.Staves - premium quality for extraordinary wines

The new selection from e.Staves brings sweetness and complexity. The elegant profile created by oak alternatives is reminiscent of the profile of wines from oak barrels. At the same time, a longer maceration time allows for better integration of the wood. e.Staves are available with three different roasts:

- e.Staves Light FRESHNESS, FRUIT, STRUCTURE & VOLUME
- e.Staves 70% Medium CARAMEL, VANILLA & TOASTED NOTES
- e.Staves 80% MediumPLUS COFFEE & ROASTED NOTES

# e.Bois® – for a fast organoleptic effect at a high level

The use of oak chips is a quick solution to introducing the characteristics of oak into the wine. e.Bois® oak chips also allow unripe notes or flavour deviations to be masked. With a short maceration time and a fast extraction, the integration of the oak flavour can be performed even at a late stage of the winemaking process. e.Bois® oak chips are available in the following toasts:

- e.Bois® Reglissa LIQUORICE & SMOKE
- e.Bois® Opéra CARAMEL & ROASTED NOTES
- e.Bois® Muffins AMERICAN MEDIUM
- e.Bois® Vanilla VANILLA & TOASTED NOTES
- e.Bois® Fondant SWEET & SPICY
- e.Bois® Sorbet FRESHNESS & VOLUME
- e.Bois® Fraîcheur FRESHNESS & VOLUME, GRANULATED

One of the great advantages of using e.Bois® oak chips is a possible high dosage in order to obtain intensive oak components that allow use as a blending partner.



# **OAK ALTERNATIVES**



The use of oak in winemaking has become increasingly diverse and multifaceted in recent years. e.Staves are an ideal new addition to the Erbslöh portfolio.

Made of French oak, e.Staves have to meet the same high standards as conventional barrel staves. In contrast to this, however, numerous steps, such as shaping, bending and binding, are omitted.

Wood is very heterogeneous as a raw material. Oak from the Vosges area, for example, contains more vanillin, while wood from the Limousin region is richer in tannin. The composition of the natural compounds varies greatly depending on the spe-

cies and origin.

# **Drying**

Drying of the wood takes place outdoors for 24 months. This gentle process ensures stabilisation and allows slow physical-chemical reactions to take place and the aroma potential to develop fully. No comparable result can be achieved by artificial drying.

# **Toasting**

The roasting takes place in a convection process, which is particularly gentle on the aroma and enables very uniform degrees of toasting. Complete traceability from the forest to the finished e.Stave guarantees homogeneity of the batches and a consistent product profile.

# Effect in wine

e.Staves have a colour-stabilising effect and are significantly involved in the harmonisation of tannins. They offer a diverse range of volatile and non-volatile compounds that have a great influence on the structure, colour and complexity of the wines.

- During the fermentation phase: emphasis on fruitiness and balance, better integration of the wood
- During maturation: stronger aromatic influence, less good integration of the wood

The different toasting degrees can be combined - even in a single container. A completely individual ageing is made possible according to wine, style and vintage.

The use of e.Staves is much more sustainable compared to a barrel. Their use requires less wood as a raw material and only a fraction of the water and energy for cleaning and preservation.

e.Staves are suitable for white, rosé and red wines. With their help, it is possible to easily achieve a clear differentiation of the portfolio, with an overall increased value. Compared to chips, application is much slower, resulting in more complex wines.

# At a glance

- Anti-oxidative effect, aroma protection
- Reinforcement by tannins of the structure
- Balance of phenolic compounds: intensity and adjustment
- · Development of aromatic profile
- Support of fruitiness



# **OAK ALTERNATIVES**

#### e.Staves

e.Staves are made from high-quality French oak. The oak wood is matured outdoors for at least 24 months. The toasting of the staves is available in Light, Medium and MediumPLUS.

e.Staves increase the complexity of the wines and introduce subtle notes of almond, caramel or smoke, depending on the degree of toasting.

	Product Application/Effect		Dosage (Staves/100 L)	Packaging
e.Staves	French oak light	Freshness, fruit, structure and volume	0,5-3	10 staves
e.Staves 70 %	French oak medium	Caramel, vanilla and toasted notes	0,5-3	10 staves
e.Staves 80 %	French oak heavy	Coffee, powerful notes of wood and roasting	0,5-3	10 staves

# e.Bois® oak chips

e.Bois® oak chips are made from either American or French oak. e.Bois® chips are used to optimise the organoleptic properties of the wine and improve its tannin structure. They are also ideal for barrique ageing and to refresh older barrels.

French oak with different degrees of toasting is complemented by medium-toasted American oak.

	Product	Application/Effect	Dosage (g/100 L)	Packaging
e.Bois® Reglissa	French oak medium plus	Very woody, smoky	50-500	2 x 5 kg infusion bag
e.Bois® Opéra	French oak medium	Intensive, powerful notes of oak and roasting, marked caramel notes	50-500	2 x 5 kg infusion bag
e.Bois® Muffins	American oak medium	Harmonious balance of oak and vanilla	50-500	2 x 5 kg infusion bag
e.Bois® Vanilla	French oak medium	Pronounced oak, lots of vanilla	50-500	2 x 5 kg infusion bag
e.Bois® Fondant	French oak light	Spicy, marked sweetness, stronger than in "Vanilla", moderate oakiness	50-500	2 x 5 kg infusion bag
e.Bois® Sorbet	French oak untoasted	Freshness, adds volume, fruitiness and colour stabilisation	50-500	2 x 5 kg infusion bag
e.Bois® Fraîcheur	French oak untoasted	Freshness, adds volume, fruitiness, colour stabilisation and pumps well (same raw material as e.Bois® Sorbet)	50-500	10 kg bag For direct addition to mash



# Our tannins at a glance

	Product	Application/Effect	Dosage (g/100 L)	Packaging (kg)
Tannivin® EH	French oak wood tannin	Support of complexity in white and red wine	1-20	1
Tannivin® Elevage	Tannin from oak wood, que- bracho and grape skin	Increase in the reductive potential during sur-lies aging	2-20	1
Tannivin® Finesse	Blend of ellagitannin and condensed tannin	Increase in the maturation potential of elegant white and red wines	1-30	0,2
Tannivin® Galléol	Pure gallnut tannin	Reduction of oxidation and improvement of structure in mash, must, white and red wine	1-20	0,5 25
Tannivin® Grape	Pure grape tannin	Structuring and harmonisation of full-bodied white and red wines	1-15	0,1 20
Tannivin® Multi	Blend of gallnut and quebra- cho tannin	Colour stabilisation and struc- turing in mash, must, white and red wine	1-20	0,5 25
Tannivin® Premium NEW	Toasted oak tannin with a particularly high content of ellagitannins	Increasing the reductive potential and improvement of the aromatic profile during ageing of white, rosé and red wines	2-10	0,25
Tannivin® Structure	Quebracho tannin rich in condensed tannin	Colour stabilisation and complexation of phenols in red wines	2-30	0,5 5
Tannivin® Superb	Specially selected oak wood tannin with reduced astringency	Harmonisation in white and red wine, boosts mouthfeel	1-20	0,1



# **ANIMAL ORIGIN**

# ErbiGel® | 1/25 kg pack

Food-grade gelatin

#### Treatment aim

Polyphenol reduction and fining

#### **Product and effect**

ErbiGel® is a food grade gelatin with the following properties:

- Ideal Bloom value between 80 and 100 for the treatment of beverages
- Positive charge in typical beverage media due to acidic production process
- · High reactivity with polyphenols or silica sols

#### Dosage

5-40 g/100 L

# ErbiGel® Bio | 1/25 kg pack

Certified 100% organic gelatin

#### Treatment aim

Polyphenol reduction, flotation and clarification

#### **Product and effect**

ErbiGel®Bio is an organic food grade gelatin with the following positive properties:

- Suitable for grape must, juice, wine and other beverages
- Ideal in combination with Klar-Sol silica sol
- High reactivity

#### Dosage

5-20 g/100 L

# ErbiGel® Flot | 5/25 kg pack

Flotation gelatin

#### Treatment aim

High flocculation capacity and binding of phenols during flotation

#### **Product and effect**

The application of ErbiGel® Flot offers the following benefits:

- Easily soluble
- Quick binding of phenols due to the acidic character and high Bloom value
- Immediate flocculation effect
- Extremely efficient, even if the juice has an increased content of phenol or glucans from botrytis

#### Dosage

5-15 g/100 L







DE-ÖKO-003

# ErbiGel® Liquid | 1/10 kg pack

#### Liquid gelatin

#### Treatment aim

Clarification of juice and wine, with no time-consuming preparation

#### **Product and effect**

ErbiGel® Liquid is a 20% solution of food grade gelatin with the following attributes:

- Developed specifically for beverage treatment
- Gelatin fining should be carried out as combined fining, with Klar-Sol silica sol, to avoid precipitating residual proteins
- Combined fining optimizes the application and clarification is more effective

#### Dosage

20-50 mL/100 L

# Erbslöh Mostgelatine CF | 1/10/20/600/1.100 kg pack

#### Liquid gelatin blend

#### Treatment aim

Reduction of unbalanced polyphenols and catechins in juice

#### **Product and effect**

Erbslöh Mostgelatine CF is a juice gelatin with the following characteristics:

- Liquid gelatin, combined with isinglass and PVPP
- Reduction of broad spectrum of undesirable bitter substances, without eliminating beneficial ingredients in the juice, even at low temperatures
- Early removal of unbalanced polyphenols and catechins avoids wine treatment
- Improves aromatic aging potential
- Casein-free

#### Dosage

50-200 mL/100 kg

# IsingClair-Hausenpaste | 1/10 kg pack

#### Isinglass gel

#### Treatment aim

Particularly gentle fining

#### **Product and effect**

The application of IsingClair-Hausenpaste offers the following benefits:

- Extremely efficient in all beverages with high colloidal turbidity content, such as wines from heated must, wines from pasteurized juices and wines especially rich in extracts (e.g. botrytised wines)
- Quick flocculation of sediment particles after distribution in the beverage
- Easy removal of precipitated sediment due to its compactness
- Insensitive to low wine temperatures
- Brilliant colour with red wines

#### Dosage

25-100 mL/100 L







# **FINING**

# Kal-Casin Leicht löslich | 1 kg pack

Direct application casein fining agent

#### Treatment aim

Reduction of excess tannins

#### **Product and effect**

Kal-Casin Leicht löslich is a fining agent with the following characteristics:

- Based on pure milk protein components
- Easy dissolution due to granulation process during manufacture
- Elimination of odours and off-flavours caused by high polyphenol contents
- Reduction of oxidized, brown pigments

#### Dosage

2-40 g/100 L

# **LiquiGel Flot** | 10/600/1.100 kg pack

Liquid flotation gelatin

#### Treatment aim

Quick flocculation and binding of phenols during flotation

#### **Product and effect**

LiquiGel Flot is a liquid composed of gelatins with the following positive characteristics:

- Combination of different structures and molecular sizes
- Quick binding of phenols due to large reactive surface
- Immediately perceptible flocculation during flotation
- Co-use of Granucol® GE for botrytis-infected grapes is possible

#### Dosage

20-100 mL/100 L

#### OenoPur® | 5/10 kg pack

Directly applicable powdered fining agent blend

#### Treatment aim

Prevention of bitter notes and astringency in grape must

#### **Product and effect**

The components in OenoPur® are extremely pure cellulose, PVPP, gelatin and a mineral adsorbent which offer the following benefits:

- Removal of excessive polyphenols in the early must stage which negatively affect the wine
- Improved must quality, which results in better integrated wines later on
- Easily dispersible
- Addition to the juice or must is possible, depending on the technical conditions
- Bitter taste and astringency are prevented
- Deposits settle well and sediments can be easily separated

#### Dosage

30-100 g/100 L/kg







# VinoGel® CF | 1/10 kg pack

Liquid clarification agent

#### Treatment aim

Clarification of wines and improvement of filterability

#### **Product and effect**

VinoGel® CF is a liquid clarifying agent with the following positive characteristics:

- Great affinity for tannins, therefore strong and specific reduction
- Based on special gelatins, combined with macromolecular collagens from isinglass
- Direct addition is possible
- Casein-free

#### Dosage

30-150 mL/100 L

# **VEGAN**

# Erbslöh CompactLees | 1/10 kg pack

Riddling adjuvant

#### Treatment aim

Traditional bottle fermentation of sparkling wine and optimization of riddling process

#### **Product and effect**

Erbslöh CompactLees is a silicate suspension which offers the following benefits:

- Rapid and complete settling of the yeast
- Quick agglomeration of lees due to the silicates contained in the product
- Homogeneous suspension ensures secure dosing
- Sticking to bottle walls is prevented owing to accelerated sedimentation
- Several riddling steps per day become possible

#### Dosage

50-70 mL/100 L

# Erbslöh-PVPP | 1/10 kg pack

Polyvinylpolypyrrolidone

#### Treatment aim

Reduction of phenolic substances and their oxidation products

#### **Product and effect**

Erbslöh PVPP can be used for the following applications:

- Flavour harmonisation
- Removal of excess phenols
- · Reduction of browning
- Treatment of oxidation
- Direct addition to must or wine possible

#### Dosage

10-80 g/100 L







# **FINING**

# Klar-Sol 30 | 10/1.200 kg pack

Alkaline silica sol

#### Treatment aim

Clarification of wine and juice

#### **Product and effect**

Klar-Sol 30 is a transparent silica sol with the following attributes:

- Complexation of proteins (including fining proteins like gelatin, isinglass, etc.)
- Quick precipitation, forming a compact fining deposit
- Flocculation during fining due to reaction of negatively charged silica sol particles with positively charged protein particles

#### Dosage

20-250 mL/100 L

### **Klar-Sol Super** | 1/10/1.000 kg pack

Silica gel

#### Treatment aim

Efficient clarification of wine, juice and other beverages

#### **Product and effect**

Klar-Sol Super is an acidic silica gel with the following advantages:

- · Reacts in combination with protein-containing agents
- Provision of a surface structure with an extremely high charge intensity
- Particularly advantageous for wines and juices with low pH value, as well as increased fungal substance content
- Very quick flocculation and provision of compact deposit

#### Dosage

20-250 mL/100 L

# NEW LittoFresh® Chito-Flot | 1/10/1.000 kg pack

Liquid formulation based on plant protein and chitin-glucan

#### Treatment aim

Fast and effective clarification during flotation and sedimentation

#### **Product and effect**

The use of LittoFresh® Chito-Flot offers the following advantages:

- Reliable flotation even under difficult conditions, especially at high pH values
- Rapid flocculation and formation of compact flotation cake
- Can also be used for sedimentation of must and wine clarification
- Suitable for vegan wine production

#### Dosage

50-200 mL /100 L









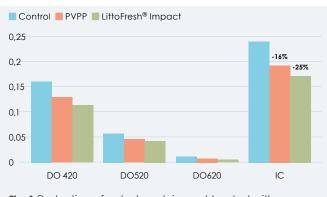
Consumer expectations are continuously moving towards sustainable and natural processes on all levels. At the same time retailers are looking for products to satisfy these demands. This leads to a growing demand for alternative fining agents for wine, vinegar and fruit juices.

# NEW LittoFresh® Chito-Flot

LittoFresh® Chito-Flot is a liquid blend of pea protein with added chitin-glucan. This allows a quick and strong clarification during flotation and sedimentation. The flotation cake rises quickly and can easily be separated from the clear must. Due to fast floculation the sedimentation time can be shortened and the degree of clarification increased.

# NEW LittoFresh® Impact

LittoFresh® Impact is a vegan combination product as a sustainable alternative to phenol fining. Its high reactivity to oxidised polyphenols enables a targeted sensory improvement and a reduction in the colour of must, as well as white and rosé wines. It consists of a mixture of high-quality, vegetable proteins, selectively acting activated carbon and silicates. Together, these components enable a far-reaching, well-controllable effect in must and wine.



**Fig. 1** Reduction of polyphenols in must treated with LittoFresh® Impact compared to PVPP per 30 g/100 L. Languedoc-Roussillon, France.

# New solutions, new opportunities

The new vegan product line offers distinct treatment possibilities guaranteed to be without animal components. They cover all winemaking applications and process steps, with equal or even better results compared to conventional products.

# Advantages of LittoFresh® Impact

High affinity for oxidisable and oxidised compounds

Reduction of off-flavours, such as fungal notes

Reduction of colour intensity

Preserves the aromatic freshness of white and rosé wines Suitable for organic and vegan at the same time

LittoFresh® Impact is the sustainable alternative for fining phenols in must and wine

# **FINING**

# NEW LittoFresh® Impact | 10 kg pack

Blended product based on plant proteins, activated carbon and bentonite

#### Treatment aim

Preventive treatment of wine and must

#### **Product and effect**

Application with LittoFresh® Impact offers the following advantages:

- Elimination of aroma-masking ingredients
- Colour optimisation through adsorption of oxidisable phenolic compounds
- Improvement of fermentation properties through decontaminating effect
- Casein-free

#### Dosage

40-100 g/100 L

# LittoFresh® Liquid | 10 kg pack

Liquid phytoprotein

#### Treatment aim

Fining and harmonisation of must and wine without time-consuming preparation

#### **Product and effect**

The protein used in LittoFresh® Liquid is a natural, hypo-allergenic product offering the following benefits:

- Obtained by natural extraction
- · Organoleptic neutrality in wine
- · Absorption of oxidized phenols in white or rosé must

#### Dosage

50-500 mL/100 L

# LittoFresh® Most | 5 kg pack

Plant-based fining agent

#### Treatment aim

Removal of excess polyphenols in grape must

#### **Product and effect**

LittoFresh® Most is a powdered product, consisting of plant proteins, cellulose, PVPP and silicates, for preventative must treatment with the following benefits:

- Prevention of oxidation and bitterness
- · Removal of phenolic components which oxidise astringent phenols
- Wines retain fruit and freshness
- Increased purity of fermentation aromas and improved organoleptic characteristics
- Casein-free and not subject to labelling requirements

#### Dosage

30-80 g/100 L or kg







# LittoFresh® Origin | 1/15 kg pack

Pure plant protein

#### Treatment aim

Flotation, clarification and polyphenol management of grape juice and wine

#### **Product and effect**

LittoFresh® Origin is a purified plant-based protein with the following benefits:

- Perfect alternative to animal-derived products
- Flotation of grape juice
- · Clarification and stabilisation of juice and wine
- Reduction of tannins and oxidized brownish colour pigments

#### Dosage

5-50 g/100 L

# LittoFresh® Rosé | 1 kg pack

Plant-based juice treatment

#### Treatment aim

Flotation, clarification and polyphenol management of rosé must and wine

#### **Product and effect**

LittoFresh® Rosé is a specifically developed product based on plant proteins and PVPP with the following positive characteristics:

- Highly reactive pea protein that removes phenols in grape must which otherwise oxidise easily
- Preservation of the wine's fresh aroma and attractive colour
- Any bitterness and green notes are reduced and fruity character is optimized
- No casein or other allergens
- Suitable for vegan wine production

#### Dosage

10-80 g/100 L

# LittoFresh® Sense | 1 kg pack

Plant-based organoleptic fining agent

#### Treatment aim

Selective removal of phenols which are responsible for astringent and bitter notes

#### **Product and effect**

LittoFresh® Sense is a fining agent consisting of plant proteins, bentonite and silicates with the following attributes:

- Highlighting the organoleptic properties through the adsorption of masking components
- Slight off-notes and flavours can be selectively removed
- Adsorption of impurities with very little impact on the aroma
- Casein-free and not subject to labelling requirements
- Suitable for vegan wine production

#### Dosage

5-30 g/100 L







# **MANNOPROTEINS**

# MannoComplexe<sup>NEW</sup> | 0.1/0.5 kg pack

Pure mannoprotein

#### Treatment aim

Addition of mannoprotein without changing the character of the wine

#### **Product and effect**

MannoComplexe<sup>NEW</sup> is a premium quality mannoprotein which offers the following benefits:

- Improvement of tartrate stability and protein stability
- · Improvement of the organoleptic integration and perception of alcohol in wine
- Application to the premium wine range to round off hard edges, giving the wine a clean finishing touch

#### Dosage

5-30 g/100 L

# NEW MannoFine | 1 kg pack

Liquid mannoprotein

#### Treatment aim

Organoleptic optimisation and stabilisation

#### **Product and effect**

Treatment with MannoFine offers the following benefits:

- Improvement of mouthfeel
- Aroma protection and prevention of premature aging
- Support of crystal stability and excellent filterability
- Easy application and immediate effect

#### Dosage

25-125 mL/100 L

# **NEW MannoPure®** | 1 kg pack

Liquid mannoprotein

#### Treatment aim

Crystal stabilisation and improvement of mouthfeel

#### **Product and effect**

MannoPure® is extracted by enzymatic treatment of yeast cell walls and offers the following advantages in application:

- Sensory optimisation of the wine and prevention of tartar formation
- Easy application due to liquid formulation
- Suitable for all types of wine, approved for organic wines

#### Dosage

50-150 mL/100 L







# Mannoproteins

Mannoproteins are natural components of the yeast cell wall that are released into the wine by the active yeast during fermentation. Maturation of the wine on the yeast deposit enables further release of mannoproteins through autolysis of the now inactive yeast cells. These natural processes can be further intensified by using specifically selected protein fractions with very specific properties.

# **Natural components**

Erbslöh uses a production process based on the enzymatic extraction of yeast cell walls. Through a subsequent fine filtration process, the desired mannoprotein fraction can be specifically separated. Being natural to wine, mannoproteins can effectively support the achievement of crystal stability and improve mouthfeel. They also contribute to a better organoleptic integration of the alcohol.



#### **MannoFine**

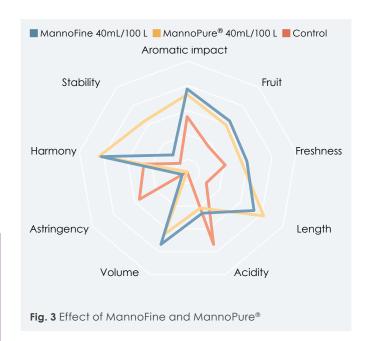
MannoFine is a liquid formulation of mannoprotein that aids colloidal stabilisation, improves mouthfeel and increases the aromatic profile of the wine.

#### MannoPure<sup>®</sup>

MannoPure is a pure mannoprotein liquid formulation that facilitates tartaric stabilisation and improves the colloidal matrix of the treated wine.

# **Specialised treatments**

Special formulations of mannoproteins support colloidal stability, improve mouthfeel and preserve the aromatic profile of wines. Unlike technical application methods such as electrodialysis or cold stabilisation, they do not interfere with the integrity of the wines and yet allow sufficient protection against tartaric precipitation.



# At a glance:

- Improved mouthfeel
- Reduced astringency
- Improved bouquet and reduced oxidation of flavours
- Sustained crystal stability
- Microfilterable with little effect on filtration rate
- Suitable for the production of organic wines
- Easy to use

# MannoSoft<sup>NEW</sup> | 0.5 kg pack

Mannoprotein and polysaccharides

#### Treatment aim

Improvement of organoleptics and mouthfeel in wine

#### **Product and effect**

MannoSoft<sup>NEW</sup> is a preparation of mannoprotein and polysaccharides which offers the following benefits:

- Improvement of tartrate stability and protein stability in wine
- Enhancement of mouthfeel and organoleptics due to the high proportion of free mannoproteins

#### Dosage

5-30 g/100 L

Corrective treatments

# Degustin | 1 kg pack

Fining agent based on silicate materials

#### Treatment aim

General correction and gentle reduction of tannins in young wine

#### **Product and effect**

The application of Degustin offers the following benefits:

- Selective adsorbent for tannins and slight deviations in aroma
- Reveals of freshness and fruitiness
- Improved shelf life by reducing oxidisable compounds

#### Dosage

5-50 g/100 L

# **Erbslöh Clarvinyl** | 1 kg pack

Powdered fining agent

#### Treatment aim

Removal of bitter substances and off-flavours

#### **Product and effect**

Erbslöh Clarvinyl is comprised of PVPP, milk casein, silicates and cellulose, which offer the following benefits:

- Removal of various undesirable off-flavours and odours, phenolic components which cause bitterness, and oxidized compounds
- The synergy of the ingredients intensifies the effect of the single components
- · Gentle fining without the risk of over-fining
- Excellent settlement in the tank

#### Dosage

20-100 g/100 L (white and rosé)

10-20 g/100 L (red)







# Erbslöh-PVPP | 1/10 kg pack

Polyvinylpolypyrrolidone

#### Treatment aim

Reduction of phenolic substances and their oxidation products

#### **Product and effect**

Erbslöh PVPP can be used for the following applications:

- Flavour harmonisation
- Removal of excess phenols
- · Reduction of browning
- Treatment of oxidation
- Direct addition to must or wine is possible

#### Dosage

10-80 g/100 L

# NEW Ercofid Pure-Liquid | 1/10 kg pack

Liquid formulation based on copper citrate

#### Treatment aim

Treatment of persistent sulphurous off-notes

#### **Product and effect**

Ercofid Pure-Liquid is a treatment agent containing copper compounds with the following properties:

- Elimination of off-flavours from sulphur-containing compounds, such as hydrogen sulphide, disulphide, mercaptan and thioactetate
- Very good distribution and short reaction time due to liquid formulation
- Very high efficiency with otherwise hard-to-treat sulphurous off-notes

#### Dosage

10-150 mL/100 L

#### Gerbinol® CF | 1/5 kg pack

Casein-free fining agent

#### Treatment aim

Alleviation and/or removal of undesirable aromas and flavours

#### **Product and effect**

Gerbinol® CF is a fining agent providing the following attributes:

- Based on a variety of gelatins, silicates and isinglass
- Powdered tannin adsorption agent
- Adjustment of irregularities, rough edges and impurities
- Casein-free

#### Dosage

5-50 g/100 L





# Gerbinol® Super | 1 kg pack

Combination fining agent

#### Treatment aim

Efficient correction of unpleasant odours and aromas

#### **Product and effect**

Gerbinol® Super is a specific compound which offers the following benefits:

- Immediate flocculation after addition to the wine
- Voluminous flakes are distributed evenly in the juice by intensive stirring
- Resulting fine flakes have adsorptive properties and show astonishingly successful results, even when contact times are short
- Easy separation by filtration or racking

#### Dosage

3-20 g/100 L

# HarmoVin® CF | 1/10 kg pack

Casein-free fining agent

#### Treatment aim

Harmonization of wine

#### **Product and effect**

HarmoVin® CF is a powdered, specific fining agent which offers the following benefits:

- Based on gelatin, PVPP and silicates
- Gentle on colour and aroma
- Contains a balanced, effective, non-aggressive proportion of PVPP
- Casein-free

#### Dosage

10-80 g/100 L

# Kupzit® | 1/10 kg pack

Copper citrate applied to bentonite

#### Treatment aim

Removal of sulphurous off-flavours and odours

#### **Product and effect**

The application of Kupzit® offers the following benefits:

- Quick and specific reaction with sulphurous, unpleasant smelling compounds, such as hydrogen sulphide and mercaptans
- Compounds precipitate as black copper sulphide and do not increase the beverage's copper content
- For easy dosage and handling, it is coated onto a mineral carrier a particularly pure, granulated and high-quality bentonite

#### Dosage

5-20 g/100 L







# LittoFresh® Origin | 1/15 kg pack

Pure plant protein

#### Treatment aim

Flotation, clarification and polyphenol management of grape juice and wine

#### **Product and effect**

LittoFresh® Origin is a purified plant-based protein with the following benefits:

- Perfect alternative to animal-derived products
- Flotation of grape juice
- · Clarification and stabilisation of juice and wine
- Reduction of tannins and oxidized brownish colour pigments

#### Dosage

5-50 g/100 L

# LittoFresh® Sense | 1 kg pack

Plant-based organoleptic fining agent

#### Treatment aim

Selective removal of phenols which are responsible for astringent and bitter notes

#### **Product and effect**

LittoFresh® Sense is a fining agent consisting of plant proteins, bentonite and silicates with the following attributes:

- Highlighting the organoleptic properties through the adsorption of masking components
- Slight off-notes and flavours can be selectively removed
- Adsorption of impurities with very little impact on the aroma
- Casein-free and not subject to labelling requirements
- Suitable for vegan wine production

#### Dosage

5-30 g/100 L

# Manno Release® | 1 kg pack

Combination of  $\beta$ -glucanase and yeast cell walls

#### Treatment aim

Early release of mannoproteins

#### **Product and effect**

Manno Release® is a formulation with the following characteristics:

- Extraction of stabilizing, organoleptic mannoproteins
- Composition of specific yeast cell walls combined with a β-glucanase enzyme
- Release of mannoproteins from yeast cell walls into solution already during alcoholic fermentation
- Sur-lies effect develops in a significantly shorter time, by the end of fermentation, compared to traditional methods

#### Dosage

10-30 g/100 L







# SensoVin® | 1/10 kg pack

Broad spectrum fining agent

#### Treatment aim

Reduction of astringency and bitterness.

#### **Product and effect**

SensoVin® is a fining agent with the following characteristics:

- · Casein, PVPP, gelatin and different silicates as active ingredients
- Reliable removal of undesirable sensory characteristics
- The optimum dosage is governed by the nature and seriousness of the off-flavour or taint

#### Dosage

5-60 mL/100 L

# Vinpur® Special | 1/10 kg pack

Milk casein compound

#### Treatment aim

Very gentle elimination of polyphenols

#### **Product and effect**

The application of Vinpur® Special offers the following benefits:

- No additional filtration aids needed
- Excellent filterability results after settling
- High degree of hygiene safety due to direct addition to the wine without preparing a slurry first

# Dosage

5-60 g/100 L

# **GUM ARABIC**

# **Senso R** | 5/20 kg pack

Liquid gum arabic combined with mannoproteins and grape tannin

#### Treatment aim

Harmonization of wines with astringent phenols

#### **Product and effect**

Application with Senso R offers the following benefits:

- Balancing of astringent polyphenols
- More texture in the wine
- Preservation of the fruit character, which is required for complexity and length on the palate
- Filtration is affected very little due to the careful selection of raw materials

#### Dosage

50-300 mL/100 L





# **Senso Ü** | 5/20/1.000 kg pack

Liquid gum arabic combined with mannoprotein

#### Treatment aim

Improved mouthfeel

#### **Product and effect**

Application with Senso Ü offers the following benefits:

- Reduction of the perception of bitterness and astringency
- Balance of organoleptic characteristics
- Filtration is affected very little due to careful selection of raw materials
- Improved colloid and tartar stabilisation

#### Dosage

100-300 mL/100 L

# **Stabiverek** | 1/10/21/1,000 kg pack

Liquid gum arabic

#### Treatment aim

Stabilisation of unstable colloids and enhancement of mouthfeel

#### **Product and effect**

Stabiverek is a natural gum arabic, which is extracted from the dried sap of acacia Senegal, with the following attributes:

- Contains L-arabinose, D-galactose, L-rhamnose and D-glucuronic acid
- Made from high-quality gum arabic using a special production process
- · Very easy to apply due to its liquid form

#### Dosage

50-100 mL/100 L

#### **SweetGum** | 1/10/20/1,000 kg pack

Liquid gum arabic

#### Treatment aim

Support for colloid stabilisation

#### **Product and effect**

SweetGum is a gum arabic consisting of a hydrocolloid (arabinogalactan II) with the following attributes:

- Contains a polysaccharide and a protein fraction
- Stabilisation of unstable colloids, which affect turbidity
- Counteraction of metal-induced turbidity and precipitation of colour pigments
- Reduction of the perception of astringency where reactive tannins are concerned
- Very good performance in filtration
- Improved mouthfeel

#### Dosage

50-200 mL/100 L









# Our bacteria at a glance

	Description	Application/effect	Packaging (for litre)
Bi-Start® Forte SK 2	Lactic acid bacteria for red and white wines	Supports the varietal typicity of Burgundy wines, harmony and roundness for red wines	1,000 5,000
Bi-Start® Vitale SK11	Robust strain for low pH values and high SO <sub>2</sub> contents	Very fast degradation of malic acid, high alcohol tolerance	1,000 5,000
Bi-Start® Fresh SK55	Robust strain for low pH values and high SO <sub>2</sub> contents	Supports fresh and fruity notes with low diacetyl formation	1,000 5,000
MaloStar® Fruit	Second generation oenological, citrate-negative bacterial culture	Diacetyl and acetate-reduced vinification of fruity wines	2,500
MaloStar® Cream	Oenological blend of robust bacterial cultures with different, complementary properties	Rapid malolactic fermentation	2,500
MaloStar® Terra NEW	Direct inoculation of red wines	Supports natural aroma and fruitiness	2,500 10,000

# Overview of MLF culture tolerances

	Alcohol tolerance [% by vol.]	pH value	Max total SO <sub>2</sub> [mg/L]	Temperature [°C]	Nutrient requirements	Diacetyl production	MLF kinefics
Bi-Start® Forte SK 2	<14	>3.1	<45	>13	High	Medium	Medium
Bi-Start® Vitale SK11	<15.5	>3.1	50-60	>16	Medium	High	Fast
Bi-Start® Fresh SK55	<16	≥3.1	<60	>14	Low	Low	Very fast
MaloStar® Fruit	<13	>3.2	<30	>16	High	None	Slow
MaloStar® Cream	<14.5	>3.1	<45	>15	Medium	Medium	Medium
MaloStar® Terra NEW	<15	>3.3	<40	>18	Medium	Low	Medium

# STABILISATION

# CRYSTAL STABILISATION

# NEW MannoPure® | 1 kg pack

Liquid mannoprotein

#### Treatment aim

Crystal stabilisation and improvement of mouthfeel

#### **Product and effect**

MannoPure® is extracted by enzymatic treatment of yeast cell walls and offers the following advantages in application:

- Sensory optimisation of the wine and prevention of tartar formation
- Easy application due to liquid formulation
- Suitable for all types of wine, approved for organic wines

#### Dosage

50-150 mL/100 L

# MetaGum® | 1/10 kg pack

Highly esterified meta-tartaric acid and gum Arabic

#### Treatment aim

Prevention of crystal precipitations, even at higher storage temperatures

#### **Product and effect**

MetaGum® consists of a highly esterified meta-tartaric acid and a clearly soluble gum Arabic which offers the following benefits:

- Prevention of tartrate crystals in wines
- Extension of stabilizing effect in comparison to pure meta-tartaric acid

#### Dosage

10 g/100 L

# Metavin® 40 | 1/15 kg pack

Gently esterified meta-tartaric acid

#### Treatment aim

Prevention of tartaric precipitation

#### **Product and effect**

Application of Metavin® 40 offers the following advantages:

- Delays crystallisation and precipitation of tartrate
- Stops the growth of submicroscopic nuclei of tartrate crystals
- High stabilisation capacity due to degree of esterification > 38

#### Dosage

10 g/100 L







# **STABILISATION**

# Metavin® Opti | 1/15 kg pack

Optimally esterified meta-tartaric acid

#### Treatment aim

Prevention of tartaric precipitation

#### **Product and effect**

Application of Metavin® Opti offers the following advantages:

- Better protective effect due to extremely stable esterification compared to conventional tartaric acids
- Longer stability due to larger macromolecules
- Constant quality due to special manufacturing process

#### Dosage

10 g/100 L

# VinoStab® | 1/5/20/1,000 kg pack

Carboxymethylcellulose

#### Treatment aim

Prevention of precipitation of potassium hydrogen tartrate

#### **Product and effect**

The application of VinoStab® offers the following benefits:

- Prevents of submicroscopic tartrate crystal seeds growing
- Stabilizing effect depending on oversaturation of the wines
- Possibility of precise evaluation of stability by determining the saturation temperature, or by the mini-contact process (Erbslöh EasyKristaTest)

#### Dosage

75-130 mL/100 L

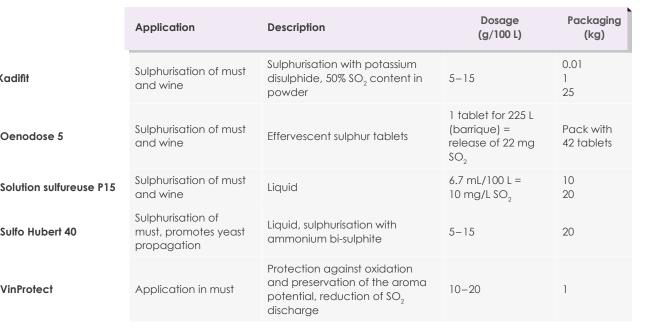
Kadifit

Oenodose 5

Sulfo Hubert 40

VinProtect

# **PRODUCTS**







# **ACIDITY MANAGEMENT**

# **Boerovin** | 10/1,200 kg pack

Biologically obtained L(+) lactic acid (liquid 80%)

#### Treatment aim

Acidification and microbiological protection

#### **Product and effect**

The application of Boerovin offers the following advantages:

- Not degradable by bacteria
- No risk of crystal precipitation and potassium loss
- · Particularly harmonious from a sensory point of view
- · Liquid no dissolving no clumping can be dosed directly

#### Dosage

15-450 g/100 L

# Erbslöh-Kalk | 25/1,000 kg pack

Precipitated, chemically pure calcium carbonate

#### Treatment aim

Reduction of tartaric acid in must and wine

#### **Product and effect**

The application of Erbslöh Kalk offers the following advantages:

- Increase of the pH-value to enable MLF
- Precipitation of insoluble calcium salt
- Easy separability
- · Usable from must to wine
- Precise implementation of minor deacidification is possible

#### Dosage

For a deacidification by 1 g/L, 67 g Erbslöh Kalk /100 L are required

# **Ercobin** | 25/1,000 kg pack

Pure vitamin C product

#### Treatment aim

Oxidation protection and flavour stabiliser

#### **Product and effect**

The application of Ercobin offers the following advantages:

- · Improves the shelf life of wines and sparkling wines
- Particularly beneficial for low-acid wines
- Prevention of UTA symptoms

#### Dosage

Maximal 25 g/100 L







# **STABILISATION**

# Kalinat | 1/25 kg pack

Potassium hydrogen carbonate

#### Treatment aim

Fine deacidification of must and wine

#### **Product and effect**

The application of potassium bicarbonate offers the following advantages:

- · Acid correction until shortly before bottling
- No crystal precipitation
- Fast bottling-readiness of the wine

#### Dosage

For a deacidification by 1 g/L, 67 g Kalinat/100 L are required

# Malicid® | 1/25 kg pack

Special product for extended double salt deacidification according to Dr. Würdig

#### Treatment aim

Deacidification of must and wine independent of the tartaric acid content present in each case

#### **Product and effect**

The application of Malicid® offers the following advantages:

- Precise dosage of natural L(+) tartaric acid and highly reactive special double salt lime
- Gentle wine deacidification without shifting the calcium ratios
- Irreplaceable part of acid management in unripe vintages
- · Highest deacidification range

#### Dosage

For a deacidification by 1 g/L, 67 g Neoanticid/100 L are required

# Neoanticid | 5/25 kg pack

#### Special lime

#### Treatment aim

Double salt acidification of must and wine

#### **Product and effect**

The application of Neoanticid offers the following advantages:

- Lime specially selected for double-salt deacidification
- Precipitated, chemically pure calcium carbonate
- Simultaneous reduction of malic and tartaric acid
- Higher deacidification range
- Can also be used for simple deacidification
- Suitable for the extended double-salt deacidification in combination with Malicid®

#### Dosage

For a deacidification by 1 g/L, 67 g Neoanticid/100 L are required







# eSan

	Properties	Application	Note
eSan-Filtertuch®	Monophilic fabric, high throughput, easy to clean	Lees and pre-coat filtration of wine	Made to measure
eSan-Filterbeutel	Monophilic fabric, easy handling and cleaning	Processing of lees (small quantities)	In combination with a press

# Filtration aid mixed product

	Properties	Application/Effect	Packaging (kg)
VarioFluxx® P	Coarse mixture of selected per- lite types with cellulose fibres	Filtration aid for the filtration of lees, with a high drainage effect	8
VarioFluxx® F	Fine mixture	Compression of the filter cake during pre- coat filtration	15

# Pure cellulose-based filtration aid for pre-coat filtration

	Properties	Application/Effect	Packaging (kg)
CelluFluxx® P50	Extra-long fibres for drainage	Ideal for use in chamber and drum filters	17,5
CelluFluxx® P30	Long fibres especially for pre-coating	Fibres with smooth surface and therefore easy to clean	20
CelluFluxx® F75	Medium to long fibres for coarse filtration	Ideal for second pre-coat or continuous dosing	20
CelluFluxx® F45	Medium length fibres for fine filtration	Provision of a filter cake with good structure	20
CelluFluxx® F25	Short fibres for fine filtration	Admixture for regular dosing to adjust the degree of clarification	20
CelluFluxx® F15	Extra short fibres for fine filtration	Increase in clarification efficiency when combined with Cellufluxx® F25	20

# Special cellulose

	Properties	Application/Effect	Packaging (kg)
Trub-ex Neu	Voluminous long-fibre cellulose product	Pressing aid for mash or the processing of lees	10



