FINING AGENTS

Fining agents can be used for many purposes in winemaking including clarification, filterability improvement, prevention of haze and sediment formation, organoleptic profile and wine color improvement, and removal of undesirable elements from wine.

enartis

Inspiring innovation.

PLANT-BASED PROTEINS

Plant proteins, free of genetically modified organisms and allergenic proteins, are suitable for vegetarian and vegan beverage production. Often used to correct oxidation, browning, and bitterness, plant proteins have excellent clarifying and stabilizing properties.

PLANTIS AF-Q

- Allergen-free preparation made of pea protein and activated chitosan.
- Activated chitosan and hydrolyzed pea protein work synergistically to increase flocculant efficacy in improving clarification.
- Assures clarification while forming small, compact lees, especially when used during flotation.
- Improves juice and wine resistance to oxidation by removing pro-oxidant metals and low molecular weight polyphenols.
- Helps preserve young color, increases aromatic cleanliness and freshness, reduces bitterness and astringency, and increases wine longevity.

Application: *flotation; prevent and treat oxidation and pinking; reduce bitterness and astringency*

Dosage: *5-30 g/hL*

1 kg **(Item #35-759-0001)**
10 kg **(Item #35-759-0010)**

PLANTIS PQ

- Vegan friendly fining agent made of potato protein and activated chitosan.
- Effective in improving wine clarification, filterability and aromatic cleanliness.
- Improves wine resistance to oxidation by removing oxidized and oxidable compounds.
- In red wines, removes unstable color while respecting wine's color intensity.
- Increases aromatic cleanliness and reduces the perception of astringency and dryness.

Application: *wine clarification; treatment of oxidized wine or wine sensitive to oxidation; reduce astringency and dryness; elimination of unstable color*

Dosage: *4-10 g/hL (0.3-0.8 lb/1,000 gal)*

1 kg **(Item #35-764-0001)**

CLARIL AF

- Bentonite, PVPP and pea protein.
- Prevents and treats oxidation, prevents pinking and reduces bitterness.
- Improves protein stability and clarification.

Application: *prevent and treat oxidation and pinking; remove bitterness; improves protein stability*

Dosage: *30-150 g/hL (2.4-12.6 lb/1,000 gal)*

1 kg **(Item #35-666-0001)**
10 kg **(Item #35-666-0010)**

CLARIL ZR

- Vegan fining agent made from plant protein, chitosan and bentonite.
- Designed for the clarification of red wines meant to be tartrate stabilized with colloid addition of ZENITH.
- Removes unstable color compounds, improves wine clarification and filterability and reduces sulfur off-flavors.

Application: *clarification of red wine intended to be tartrate stabilized with ZENITH; elimination of unstable color*

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

2.5 kg **(Item #35-663-0002)**
10 kg **(Item #35-663-0010)**

CLARIL ZW

PROTEIN STABILITY

- Vegan fining agent made from plant protein, chitosan and sodium activated bentonite.
- Designed for the clarification of white and rosé wines that are meant to be tartrate stabilized with colloid addition (ZENITH and CMC).
- Effective in improving protein stability and eliminating unstable colloids that can affect wine clarification and filterability.

Application: *clarification of white and rosé wine intended to be tartrate stabilized with ZENITH; protein and colloid stability*

Dosage: *20-80 g/hL (1.7-6.7 lb/1,000 gal)*

2.5 kg **(Item #35-664-0002)**
10 kg **(Item #35-664-0010)**

GELATIN

HYDROCLAR 30

- 30% liquid solution of food grade gelatin. Medium hydrolyzed gelatin.
- Good for clarification.
- Reduces dryness and astringency at the middle-end of the palate.

Application: *flotation; clarification; reduce astringency; reduce dryness*

Dosage: *10-60 mL/hL (0.4-2.3 L/1,000 gal)*

1 L **(Item #35-610-0001)**
20 kg **(Item #35-610-0025)**

HYDROCLAR 45

- 45% liquid solution of food grade gelatin. Extremely hydrolyzed gelatin and low charge density.
- Powerful effect on removing undesirable polyphenols and harsh tannins.

Application: *reduce excessive astringency; reduce dryness; pressed wines*

Dosage: *7-40 mL/hL (0.27-1.5 L/1,000 gal)*

5 kg **(Item #35-615-0005)**
20 kg **(Item #35-615-0025)**

INORGANIC FINING AGENTS

PLUXBENTON N

- Granular sodium bentonite.
- Excellent protein removal and good clarification properties.
- Reduces riboflavin, the molecule responsible for "light-struck" defect in white wines.

Application: *protein stabilization; clarification; prevent "light-struck" defect*

Dosage: *20-200 g/hL (1.7-16.7 lb/1,000 gal)*

20 kg **(Item #35-685-0020)**

PLUXCOMPACT

- Granulated calcium bentonite sodium activated.
- Generates compact lees.

Application: *protein stabilization; removal of unstable color; clarification; prevent "light-struck" defect*

Dosage: *10-200 g/hL (0.8-16.7 lb/1,000 gal)*

1 kg **(Item #35-680-0001)**
20 kg **(Item #35-680-0020)**

BENTOLIT SUPER

- Powdered calcium bentonite sodium activated.
- Excellent clarification with good protein removal.

Application: *dilute in 20 times its weight of cold water. Allow to swell 12-24 hours. Stir constantly during addition.*

Dosage: *20-200 g/hL (1.7-17 lb/1,000 gal)*

25 kg **(Item #35-675-0025)**

HOW TO CHOOSE BETWEEN ENARTIS BENTONITES	
FUNCTION	**ENARTIS PRODUCT**
LEES COMPACTION	PLUXCOMPACT > BENTOLIT SUPER > PLUXBENTON N
PROTEIN REMOVAL	PLUXBENTON N > PLUXCOMPACT ≥ BENTOLIT SUPER

SIL FLOC

- Pure silicon dioxide in solution.
- Enhances clarification properties of protein fining agents.

Application: *clarification*

Dosage: *25-100 mL/hL (1-3.8 L/1,000 gal)*

25 kg **(Item #35-690-0025)**

CORRECTIVE FINING AGENTS

ENOBLACK PERLAGE

- Vegetal activated carbon in pellet form (dust-free).
- High decolorizing capacity.
- Removes ochratoxin A (OTA).

Application: *discoloration of juice and wine; treat oxidation; color adjustment in rosé wine*

Dosage: *5-100 g/hL (0.4-8.3 lb/1,000 gal)*

1 kg **(Item #35-701-0001)**
15 kg **(Item #35-701-0015)**

FENOL FREE

- Activated carbon in powder form.
- Deodorizing, high affinity with volatile phenols related to *Brettanomyces* and smoke taint.
- Negligible effect on wine color.

Application: *treatment for wines contaminated with Brettanomyces or smoke taint; deodorizing*

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

1 kg **(Item #35-705-0001)**
10 kg **(Item #35-705-0010)**

CLARIL SMK

- Activated carbon, pea protein and chitosan.
- Removes aroma defects in musts and wines: volatile phenols, smoke taint, geosmin, molds and other defects of microbiological origin.
- Restores aromatic cleanliness, fruity character and freshness.
- Low impact on color and phenolic content, even at high addition rates.

Application: *aromatic cleanliness in musts and wines*

Dosage: *25-110 g/hL (2.1-9.2 lb/1,000 gal)*

1 kg **(Item #35-674-0001)**
10 kg **(Item #35-674-0010)**

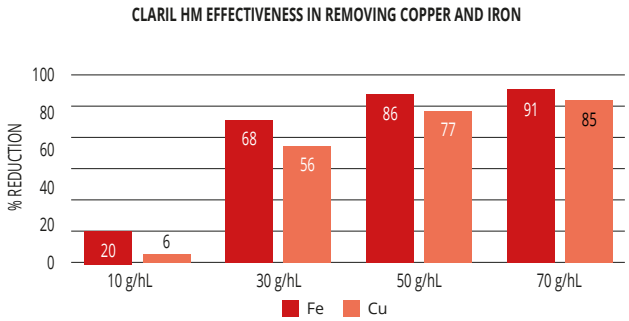
CLARIL HM

- Co-polymer of PVI/PVP (polyvinylimidazole/polyvinylpyrrolidone) and pre-activated chitosan.
- Adsorbs heavy metals (Cu, Fe, Al) and removes hydroxycinnamic acids and low molecular weight catechins.
- Prevents oxidation, browning and oxidation of aromas.

Application: *prolong wine shelf life; prevent oxidation*

Dosage: *30-50 g/hL (2.5-4.2 lb/1,000 gal)*

2.5 kg **(Item #35-661-0001)**



CLARIL HM effectively reduces wine copper and iron content, preventing oxidation and haze. The combination of PVI/PVP and chitosan helps to increase its action on iron removal.

We wanted to say thanks for the great service and friendly staff. We are very happy with all your products from yeast to stabilization. You have a great team indeed! Looking forward to many years of business to come! **Nicholas Husselman, Winemaker at Koelenhof - South Africa**

PROTOCLAR

- Pure potassium caseinate containing over 90% protein.
- Prevents and treats oxidation, browning and pinking.
- Reduces bitterness.
- Removes off-flavors.

Recommendations: *treat oxidation; remove browning; reduce astringency; reduce off-flavors*

Application: *dissolve in 20 times its weight of cold water. Stir constantly during addition*

Dosage: *20-100 g/hL (1.7-8.3 lb/1,000 gal)*

20 kg **(Item #35-645-0025)**

KNOW MORE ABOUT FINING

WHY FINING?
Fining agents can be used for many purposes in winemaking including clarification, filterability improvement, prevention of haze and sediment formation, organoleptic profile and wine color improvement, and removal of undesirable elements from wine.

HOW DOES FINING WORK?
Each fining agent has specific properties and reacts with various wine molecules depending on its origin, density of charge, molecular weight and chemical properties. Fining is based on two main principles:
- Flocculation: molecular interactions based on charge, chemical bonds, absorption or adsorption of compounds and formation of flocculates.
- Sedimentation: since the flocculates formed are not soluble and heavier than wine/juice, they settle.

WHAT ARE THE MAIN FACTORS THAT INFLUENCE FINING EFFECTIVENESS?
Product preparation and addition, temperature, pH, wine redox potential and previous fining treatments are factors that can influence the effectiveness of fining.

HOW TO CHOOSE THE RIGHT FINING AGENT
Set up a bench trial with different fining agents and dosages.

EFFECT	TRADITIONAL FINING AGENT	PLANT-BASED FINING AGENT
TREAT OXIDIZED COLOR	CASEINATE – PVPP – CARBON	PLANTIS AF-Q
CLARIFICATION	GELATIN – EGG ALBUMEN	CLARIL ZR – CLARIL ZW – PLANTIS PQ – PLANTIS AF-Q
REDUCE ASTRINGENCY	GELATIN – EGG ALBUMEN	PLANTIS PQ
REDUCE BITTERNESS	ISINGLASS – PVPP – CASEINATE	CLARIL AF
TREAT OFF-FLAVORS	CASEINATE – CARBON	CLARIL ZR – CLARIL SMK

PLANTIS: A NEW RANGE FOR ALLERGEN-FREE AND PLANT-BASED WINES

CAN PLANT-BASED FINING AGENTS BE AS EFFECTIVE ANIMAL-DERIVED FINING AGENTS?
Enartis has developed a range of plant-based adjuvants, based on pea and potato proteins, which allow the replacement of animal proteins such as gelatin, casein, and egg albumin. They achieve comparable results while adhering to labeling standards and consumer demands that are becoming stricter around the world.

The benefits of using plant based fining agents:
- Fast clarification, reduce the suspended solids, and eliminate unwanted compounds that can alter the quality of the wine.
- Reduce oxidized or easily oxidizable polyphenols that cause darkening of color, dull appearance, and bitter flavors.
- Efficiency in reducing oxidized color (OD 420nm), primarily with pea protein-based products (**PLANTIS AF-Q**).
- Decrease the concentration of heavy metals involved in oxidation reactions. **PLANTIS AF-Q** is especially effective in removing iron.
- Improve sensory quality through cleanliness and aromatic freshness, plus greater preservation of youthful and brilliant colors with less oxidized tones.

HOW CAN UNSTABLE COLOR BE REMOVED WITHOUT AFFECTING THE COLOR INTENSITY?
To ensure color stability in red and rosé wines with high color intensity, the unstable color can be removed with fining. **CLARIL ZR** and **PLANTIS PQ** are the best plant-based fining agents to remove unstable colloids and color compounds, preserving the color intensity of wine.

SUPERIOR FLOTATION PERFORMANCE WITH THE PLANTIS AF RANGE:
After standard pectinase enzyme treatment (with EnartisZym EZFILTER or EnartisZym RS), use **PLANTIS AF-Q** or **PLANTIS PQ** to achieve successful flotation. The synergistic action between the hydrolyzed plant protein and chitosan improves floccules formation efficacy, thanks to the increased charge density. This aids in forming a denser and more compact cap, with excellent clarification of juice.