

Filtration and Beverage Treatment Products

Winemaker's Guide

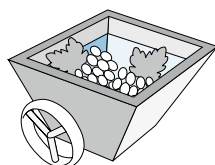
EAT•N

Powering Business Worldwide

Contemporary White Wine

Contemporary consumers enjoy variety. They seek lightness, elegance, freshness, and harmony when savoring their wine. Eaton brings the best selection of products for wine filtration and treatment best suited for your needs to meet your customers' expectations.

Grape processing Grape mash processing



Young & Fresh Type

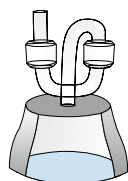
- Only fully ripen and 100% healthy grapes
- Harvest grapes cool and with as little bruising as possible
- Quick and reductive processing
- Add 30 – 40 mg/l SO₂

Must clarification Must treatment



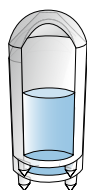
- **TIP** Cool the must during the entire processing period!
- Must clarification:
 - Enzymatic clarification: 1 – 2 g/hl **SIHAZYM Claro** enzyme
 - For Flotation: 2 ml/hl **SIHAZYM Flot** enzyme and 5 – 15 g/hl **SIHA® Flotation Gelatine** or 5 – 20 g/hl **SIHA Pea Protein** fining agent
 - If required: 10 – 40 g/hl **SIHA GESIL** fining agent
 - 50 – 150 g/hl **SIHA Active Bentonite G** stabilizer

Fermentation control



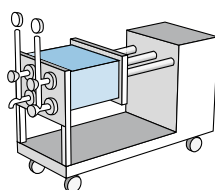
- Cold fermentation at ~15 °C
- Rehydration with 30 g/hl of **SIHA SpeedFerm™** yeast nutrient
- 20 – 30 g/hl **SIHA CRYAROME™** yeast or **SIHA WhiteArome** yeast
- 20 g/hl **SIHA PROFERM™ Fit** yeast nutrient or up to 40 g/hl **SIHA SIHA PROFERM H+²** yeast nutrient in combination with **SIHA Vitamin B₁** yeast nutrient or 50 g/hl **SIHA Fermentation Salt Plus** fermentation aid (add in stages)

Young wine development



- Recommended sulfurization with 50 – 70 mg/l SO₂
- Young wine development (if required):
 - SIHA Gelatine** or **SIHA Pea Protein** (for vegan wine production)
 - SIHA OPTISIL** fining agent
 - SIHA Active Bentonite G** stabilizer
 - SIHA Isinglass** fining agent
- Young wine stabilisation:
 - SIHA Gum Arabic Granulate** stabilizer

Filtration



- Filtration with depth filter media **BECOPAD® 170** or **BECOPAD 220** in plate and frame filters **BECO COMPACT™ PLATE**
- Filtration with stacked disc cartridges **BECODISC® B173** or **BECODISC B223** in stacked disc cartridge housings **BECO INTEGRA® DISC**
- Filtration with depth filter cartridges **BECO PROTECT®** 0.3 µm or 0.5 µm in filter cartridge housings **BECO INTEGRA CART**
- Filtration with membrane filter cartridges **BECO MEMBRAN PS Wine** or **PS Pure** 0.45 µm or 0.65 µm in filter cartridge housings **BECO INTEGRA CART**

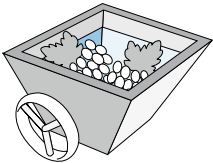
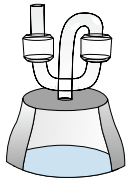
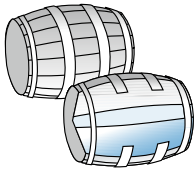
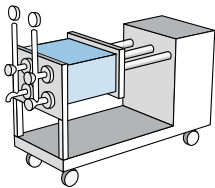
TIP The filterability of the wine increases considerably by using SIHAZYM Extro, Claro, and Fine enzymes consistently. Selective wine filtration using BECOPAD depth filter media decreases the burden and at the same time increases the filtration performance. This enhances wine quality.

Mouthfeel Type

- Only fully ripen and 100% healthy grapes
 - Process quickly
 - Destem and mash
 - 2 – 6 hour mash contact time with
3 – 4 g/100 kg **SIHAZYM Extro** enzyme
 - Pressing pressure < 100 kPa, 1 – 1.2 bar
-
- Must temperature: 12 – 14 °C
Must clarification:
Enzymatic clarification: 1 – 2 g/hl **SIHAZYM Claro** enzyme
For Flotation: 2 ml/hl **SIHAZYM Flot** enzyme and
5 – 15 g/hl **SIHA® Flotation Gelatine** or
5 – 20 g/hl **SIHA Pea Protein** fining agent
 - If required: 10 – 40 g/hl **SIHA GESIL** fining agent
 - 50 – 150 g/hl **SIHA Active Bentonite G** stabilizer
-
- Control fermentation at 17 – 19 °C
 - Rehydration with 30 g/hl of **SIHA SpeedFerm** yeast nutrient
 - 20 g/hl **SIHA Active Yeast 7 (Riesling yeast)** yeast or
20 – 25 g/hl **SIHA FERM® Element** yeast
 - 20 g/hl **SIHA PROFERM™ Fit** yeast nutrient or up to 40 g/hl
SIHA PROFERM H+² yeast nutrient in combination with
SIHA Vitamin B₁ yeast nutrient or 20 – 40 g/hl
SIHA Fermentation Salt Plus fermentation aid (add in stages)
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- Approx. 4 – 6 week yeast contact (bâtonnage)
 - Bâtonnage: 3 – 5 g/hl **SIHAZYM Fine®** enzyme for 4 – 6 weeks
 - Malolactic fermentation with **SIHALACT Oeno** malolactic bacteria
(Temperature 18 – 20 °C)
 - **SIHA BACTIFERM** bacteria nutrient for unfavorable conditions
during malolactic fermentation lactic acid bacteria
 - Sulphuring max. 50 – 70 mg/l SO₂
 - Mature for 4 – 6 months in tanks or casks
 - Young wine development (if required):
SIHA Gelatine or **SIHA Pea Protein** (for vegan wine production)
SIHA OPTISIL fining agent
SIHA Active Bentonite G stabilizer
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- Filtration with depth filter media **BECOPAD 220** or **BECOPAD 270**
in plate and frame filters **BECO COMPACT PLATE**
 - Filtration with stacked disc cartridges **BECODISC B223** or
BECODISC B273 in stacked disc cartridge housings
BECO INTEGRA DISC
 - Filtration with depth filter cartridges **BECO PROTECT** 0.5 µm
in filter cartridge housings **BECO INTEGRA CART**
 - Filtration with membrane filter cartridges
BECO MEMBRAN PS Wine or **PS Pure** 0.65 µm or 1.0 µm
in filter cartridge housings **BECO INTEGRA CART**



Top red wine grapes already grow in the vineyard. The terroir is decisive. Selecting the right oenological actions in the wine cellar can optimize the results.

Young & Fresh Type	
	<ul style="list-style-type: none"> • Only fully ripen and 100% healthy grapes with fully developed color • Harvest and process grapes cool and healthy • Destem, space between drums not too close • 2 – 4 g/100 kg SIHAZYM Extro enzyme • Add 30 mg/l SO₂
<p>Mash processing</p> 	<ul style="list-style-type: none"> • Control mash fermentation at 18 – 24 °C • 20 – 25 g/hl SIHA Active Yeast 8 (Burgundy yeast) or SIHAFERM Finesse Red yeast • 25 – 30 g/hl SIHA PROFERM Red yeast nutrient • 6 – 8 g/hl SIHA Tannin FC fining agent • Press after complete fermentation
<p>Fermentation control</p> 	<ul style="list-style-type: none"> • Store in a mixed set of 1 – 3 year old barriques • Malolactic fermentation with SIHALACT Oeno malolactic bacteria (Temperature 18 – 20 °C) • SIHA BACTIFERM bacteria nutrient for unfavorable conditions during malolactic fermentation • Bâtonnage: 3 – 5 g/hl SIHAZYM Fine[®] enzyme for 3 – 5 weeks • Late sulphuring with maximum 80 mg/l SO₂
<p>Ageing</p> 	<ul style="list-style-type: none"> • Filtration with depth filter media BECOPAD 270 or BECOPAD 350 in plate and frame filters BECO COMPACT PLATE • Filtration with stacked disc cartridges BECODISC B273 or BECODISC B353 in stacked disc cartridge housings BECO INTEGRA DISC • Filtration with depth filter cartridges BECO PROTECT 0.3 µm or 0.5 µm in filter cartridge housings BECO INTEGRA CART • Filtration with membrane filter cartridges BECO MEMBRAN PS Wine or PS Pure 0.45 µm or 0.65 µm in filter cartridge housings BECO INTEGRA CART
<p>Filtration</p>	

Complex Type (Bordeaux Type)

- Only fully ripen and 100% healthy grapes
- Process quickly
- Destem and mash
- Mash temperature: 13 – 15 °C at maceration time > 8 days
- 2 – 4 g/100 kg **SIHAZYM Extro** enzyme
- Add 5 – 10 % non-destemed grapes

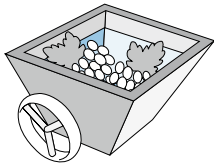
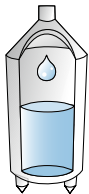
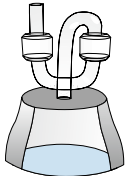
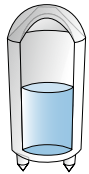
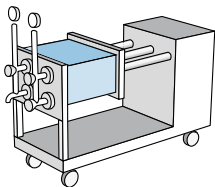
- Control mash fermentation at 18 – 22 °C
- 20 – 25 g/hl **SIHA Active Yeast 10 (Red Roman)** or **SIHA Rubino Cru** yeast
- 25 – 30 g/hl **SIHA PROFERM Red** yeast nutrient
- Add 4 – 6 g/hl **SIHAZYM Fine** enzyme to liberate the polysaccharides, mannoproteins
- 5 – 7 g/hl **SIHA Tannin FC** fining agent or **SIHA Tannin MOX** fining agent for micro-oxidation
- Press after complete fermentation

- Store in barriques for 6 – 12 months
- Malolactic fermentation with **SIHALACT Oeno** malolactic bacteria (Temperature 18 – 20 °C)
- **SIHA BACTIFERM** bacteria nutrient for unfavorable conditions during malolactic fermentation
- Bâtonnage: 3 – 5 g/hl **SIHAZYM Fine**® enzyme for 3 – 5 weeks
- Late sulphuring with maximum 80 mg/l SO₂

- Filtration with depth filter media **BECOPAD 350** or **BECOPAD 450** in plate and frame filters **BECO COMPACT PLATE**
- Filtration with stacked disc cartridges **BECODISC B353** or **BECODISC B453** in stacked disc cartridge housings **BECO INTEGRA DISC**
- Filtration with depth filter cartridges **BECO PROTECT 0.5 µm** in filter cartridge housings **BECO INTEGRA CART**
- Filtration with membrane filter cartridges **BECO MEMBRAN PS Wine** or **PS Pure 0.65 µm** or **1.0 µm** in filter cartridge housings **BECO INTEGRA CART**



Ice wines and dessert wines are regaining popularity. Take advantage of this variety of taste. Less is frequently more and small selective actions maximize the results.

German Type – “Ice Wine”	
<p>Grape processing Mash processing</p>	 <ul style="list-style-type: none"> • Grapes with at least 120 °Oe, pure botrytis • Remove any grapes with white, pink, and blue mold • Harvest temperature of -10 °C • Pressing: pH ≤ 0.3 in comparison to first pressings
<p>Must clarification Must treatment</p>	 <ul style="list-style-type: none"> • Heat the juice to 10 °C • Strong pre-clarification of the must 1 – 2 g/hl SIHAZYM Claro enzyme • Must fining (if required): 80 – 100 g/hl SIHA Actiliq GE fining agent 10 – 40 g/hl SIHA GESIL fining agent or for vegan wine production: SIHA Pea Protein as required • 150 – 200 g/hl SIHA Active Bentonite G stabilizer
<p>Fermentation control</p>	 <ul style="list-style-type: none"> • Fermentation at 18 – 20 °C • Rehydration with 30 g/hl of SIHA SpeedFerm yeast nutrient • 30 – 50 g/hl SIHA Active Yeast 7 (Riesling yeast) • 40 g/hl SIHA PROFERM Fit combined yeast nutrient or 50 g/hl SIHA Fermentation Salt Plus fermentation aid (add in stages) • Ferment up to residual sugar concentration of 140 – 150 g/l • Stop fermentation by cooling at temperatures < 4 °C
<p>Ageing</p>	 <ul style="list-style-type: none"> • Fast racking of yeast • Sulphuring with at least 130 – 150 mg/l SO₂ • Young wine development (if required): SIHA Gelatine or SIHA Pea Protein (for vegan wine production) SIHA OPTISIL fining agent SIHA Active Bentonite G stabilizer SIHA Actiliq GE fining agent • 3 – 4 g/hl SIHAZYM Fine enzyme to improve sensory profile and the filtration
<p>Filtration</p>	 <ul style="list-style-type: none"> • Filtration with depth filter media BECOPAD 220 or BECOPAD 270 in plate and frame filters BECO COMPACT PLATE • Filtration with stacked disc cartridges BECODISC B223 or BECODISC B273 in stacked disc cartridge housings BECO INTEGRA DISC • Filtration with depth filter cartridges BECO PROTECT 0.3 µm or 0.5 µm in filter cartridge housings BECO INTEGRA CART • Filtration with membrane filter cartridges BECO MEMBRAN PS Wine or PS Pure 0.45 µm in filter cartridge housings BECO INTEGRA CART

Sauternes Type

- Grapes with at least 140 °Oe, pure botrytis
- Remove any grapes with white, pink, and blue mold
- Press slowly
- Control sugar and pH during pressing; pH 3.5
- pH ≤ 0.3 in comparison to first pressings

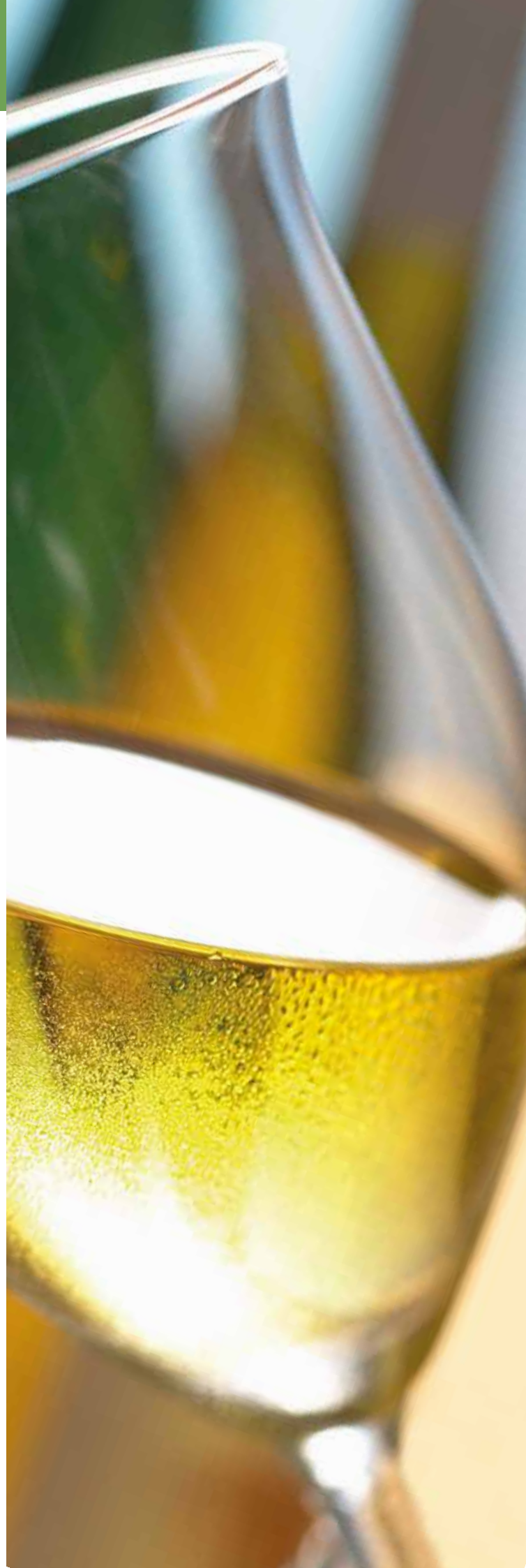
Heat the juice to 10 °C

- Strong pre-clarification of the must
3 – 4 g/hl **SIHAZYM Claro** enzyme
- Must fining (if required):
80 – 100 g/hl **SIHA Actiliq GE** fining agent
10 – 40 g/hl **SIHA GESIL** fining agent
or for vegan wine production: **SIHA Pea Protein** as required
- 150 – 200 g/hl **SIHA Active Bentonite G** stabilizer

- Fermentation at 18 – 20 °C
- Rehydration with 30 g/hl of **SIHA SpeedFerm** yeast nutrient
- 30 – 50 g/hl **SIHA CRYAROME** yeast or **SIHA VARIOFERM** yeast
- 40 g/hl **SIHA PROFERM Fit** combined yeast nutrient or
50 g/hl **SIHA Fermentation Salt Plus** fermentation aid
(add in stages)
- Fermentation to at least cooling 7 Vol.-%
- Stop fermentation by cooling at temperatures < 4 °C

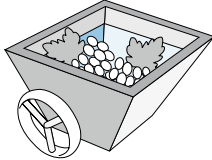
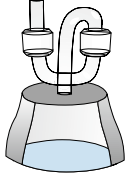

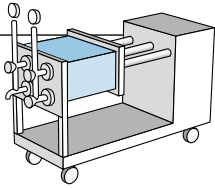
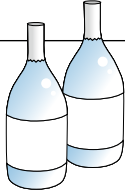
- According to the quality of the yeast depot stabilize after first racking
- Sulphuring with at least 100 – 150 mg/l SO₂
- Store in barriques for 6 months
- Young wine development (if required):
SIHA Gelatine or **SIHA Pea Protein** (for vegan wine production)
SIHA OPTISIL fining agent
SIHA Active Bentonite G stabilizer
SIHA Actiliq GE fining agent
- 3 – 4 g/hl **SIHAZYM Fine** enzyme to improve sensory profile and the filtration

- Filtration with depth filter media **BECOPAD 220** or **BECOPAD 270** in plate and frame filters **BECO COMPACT PLATE**
- Filtration with stacked disc cartridges **BECODISC B223** or **BECODISC B273** in stacked disc cartridge housings **BECO INTEGRA DISC**
- Filtration with depth filter cartridges **BECO PROTECT** 0.3 µm or 0.5 µm in filter cartridge housings **BECO INTEGRA CART**
- Filtration with membrane filter cartridges **BECO MEMBRAN PS Wine** or **PS Pure** 0.45 µm in filter cartridge housings **BECO INTEGRA CART**



Sparkling Wine Bottle Fermentation

Many consumers have discovered that sparkling wine is not only pearly, but has the essence of wine as well. This presents an opportunity to produce many notable sparkling wines.

	Sparkling Wine Type
<p>Grape processing Mash processing</p> 	<ul style="list-style-type: none"> • Only fully ripen and 100% healthy grapes • Harvest at max. 80 – 85 °Oe • Total acidity 8 – 10 g/l • Gentle grape transportation • Must temperature: 12 – 14 °C • Must clarification: 1 – 2 g/hl SIHAZYM Claro enzyme • Must fining (if required): 10 – 40 g/hl SIHA GESIL fining agent • For vegan sparkling wine production: SIHA Pea Protein as required
<p>Fermentation control Base wine</p> 	<ul style="list-style-type: none"> • Control fermentation at 15 – 18 °C • Rehydration with 30 g/hl of SIHA SpeedFerm™ yeast nutrient • 20 – 25 g/hl SIHA CRYAROME yeast or SIHA Active Yeast 7 (Riesling yeast) • 40 g/hl SIHA SIHA PROFERM H+2 yeast nutrient in combination with SIHA Vitamin B₁ yeast nutrient or 50 g/hl SIHA Fermentation Salt Plus fermentation aid (add in stages)
<p>Base wine stabilization</p> 	<ul style="list-style-type: none"> • No malolactic fermentation. Deacidification with SIHA Potassium Bicarbonate • Low dosage of SO₂: max. 30 mg/l total SO₂ • Clarification and tartrate stabilization • Cuveé the wine
<p>Filtration</p> 	<ul style="list-style-type: none"> • Filtration with depth filter media BECOPAD 270 or BECOPAD 350 in plate and frame filters BECO COMPACT PLATE • Filtration with stacked disc cartridges BECODISC B273 or BECODISC B353 in stacked disc cartridge housings BECO INTEGRA DISC • Filtration with depth filter cartridges BECO PROTECT 0.3 µm or 0.5 µm in filter cartridge housings BECO INTEGRA CART • Filtration with membrane filter cartridges BECO MEMBRAN PS Wine or PS Pure 0.65 µm in filter cartridge housings BECO INTEGRA CART
<p>Sparkling wine making</p> 	<ul style="list-style-type: none"> • Second fermentation: • Bottle fermentation: 17 – 19 °C with 20 – 30 g/hl SIHA Active Yeast 4 • Tirage 22 – 24 g/l saccharose • Max. 30 g/hl SIHA Fermentation Salt fermentation aid • 60 ml/hl SIHA Brillant liquid riddling aid and 60 ml/hl SIHA Tannin liquid riddling aid • Yeast storage at least for 9 months • Set liqueur to 12 – 24 g/l residual sugar concentration

Champagne Type

- Only fully ripen and 100% healthy grapes
 - Harvest at max. 80 – 85 °Oe
 - Total acidity max. 10 g/l
 - Gentle grape transportation
 - Light must oxidation
 - Must temperature: 14 – 16 °C
 - Must clarification: 1 – 2 g/hl **SIHAZYM Claro** enzyme
 - Must fining (if required):
10 – 40 g/hl **SIHA GESIL** fining agent
For vegan sparkling wine production:
SIHA Pea Protein as required
-
- Control fermentation at 15 – 18 °C
 - Rehydration with 30 g/hl of **SIHA SpeedFerm™** yeast nutrient
 - 20 – 25 g/hl **SIHA WhiteArome** yeast or **SIHAFERM Element** yeast
 - 40 g/hl **SIHA SIHA PROFERM H+²** yeast nutrient in combination with **SIHA Vitamin B₁** yeast nutrient or 50 g/hl **SIHA Fermentation Salt Plus** fermentation aid (add in stages)
-
- Bâtonnage: 3 – 5 g/hl **SIHAZYM Fine** enzyme
 - Malolactic fermentation with **SIHALACT Oeno** malolactic bacteria (Temperature 18 – 20 °C)
 - **SIHA BACTIFERM** bacteria nutrient for unfavorable conditions during malolactic fermentation
 - After diacetyl breakdown low dosage of SO₂: max. 30 mg/l total SO₂
 - Clarification and tartrate stabilization
 - Cuveé the wine
-
- Filtration with depth filter media **BECOPAD 270** or **BECOPAD 350** in plate and frame filters **BECO COMPACT PLATE**
 - Filtration with stacked disc cartridges **BECODISC B273** or **BECODISC B353** in stacked disc cartridge housings **BECO INTEGRA DISC**
 - Filtration with depth filter cartridges **BECO PROTECT 0.5 µm** in filter cartridge housings **BECO INTEGRA CART**
 - Filtration with membrane filter cartridges **BECO MEMBRAN PS Wine** or **PS Pure 0.65 µm** in filter cartridge housings **BECO INTEGRA CART**
-
- Second fermentation:
 - Bottle fermentation: 17 – 19 °C with 20 – 30 g/hl **SIHA Active Yeast 4**
 - Tirage 22 – 24 g/l saccharose
 - Max. 30 g/hl **SIHA Fermentation Salt** fermentation aid
 - 60 ml/hl **SIHA Brillant liquid** riddling aid and 60 ml/hl **SIHA Tannin liquid** riddling aid
 - Yeast storage at least for 18 – 24 months
 - Set liqueur to 12 – 24 g/l residual sugar concentration



The World Wants New Wines

Globalization is a key word in trade and industrial economies. Oenologists around the world are increasingly aware of this development. New processes and trends in winemaking are the results of their ingenuity and innovation.

Eaton's Winemaker's Guide represents a selection of new and traditional types of wines to inspire the winemaker. These are only suggestions and provide a basis for enologists to experiment with variety.

Eaton is available as a partner to provide assistance with your winemaking needs.







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