



Net contents: **20L**



IMPORTANT

Protector^{hml} is a product that contains various liquid soaps (potassium salts of fatty acids). The viscosity of the **Protector^{hml}** varies with temperature. When cold, it can be quite viscous and may appear 'snotty'. The solubility and function of **Protector^{hml}** is not affected by temperature changes.

A Fungicide for the Control of Botrytis on Grapes.
A Fungicide for use in combination with copper for the Control of Powdery Mildew and Downy Mildew on Grapes.
An Adjuvant to improve coverage of fungicides on Grapes.

ACTIVE INGREDIENTS: Contains 182 g/litre fatty acids (Potassium salts) in the form of a soluble concentrate.

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Registered to: **Certis Belchim NV**
Technologielaan 7, 1840 Londerzeel, Belgium



LOW TOXICITY

Designed for biocidal action against fungous diseases. Do not apply onto or into water. Avoid contamination of any water supply with chemical or empty packaging.

PRECAUTIONS:

Keep out of the reach of children.
Store in original containers, tightly closed, in a cool dry, well ventilated place.
Do not eat, drink or smoke while using.
Avoid skin contact and inhalation of spray mist.
Wear overalls, gloves and goggles while mixing and spraying.
Remove protective clothing and wash hands and exposed skin before meals and after work.
Wash protective clothing daily after work.

Storage & Disposal: Store in original packaging, tightly closed, in a cool, dry, well ventilated place. Triple rinse container and empty rinsate into spray tank, recycle or otherwise bury in landfill.

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FIRST AID

If splashed in the eyes, flush with plenty of water for at least 15 minutes. If splashed on the skin wash with plenty of water.

DIRECTIONS FOR USE

It is an offence to use this product on animals.

RATES OF USE AND TIMING OF APPLICATIONS

Disease	Rate per 100L	Time of application	Comment
Downy Mildew on wine grapes	1-2 L Protector and cuprous oxide fungicide to provide 22g elemental copper per litre of Protector Copper fungicide calculation (for 1L Protector): $\frac{22 \times 100}{\% \text{ copper in product}}$	Apply at budburst (E-L 4) and continue applying during the pre and post bloom period, every 10-14 days throughout the season as needed up to harvest (E-L 36). Keep application intervals close (7 - 14 days) over extended wet periods. Do not apply if there is a risk of slow drying, particularly through flowering.	Apply to the point of run off (at least 12L/100m row at full canopy) Use the 1% rate at times of low disease pressure and the 2% rate at times of high disease pressure. If the vineyard had a downy mildew outbreak the previous season, it is deemed to be always under 'high disease pressure' for the current season. Where a major rain event occurs, replace the cover as soon as practicable. See mixing instructions
Powdery Mildew on wine grapes	1 L Protector and cuprous oxide fungicide to provide 22g elemental copper per litre of Protector Copper fungicide calculation (for 1L Protector): $\frac{22 \times 100}{\% \text{ copper in product}}$	Apply at budburst (E-L 4) through to flowering (E-L 19) at 10-14 day intervals. Keep application intervals close (7-10 days) from 10% capfall (E-L 20) to veraison (E-L 35) Do not apply if there is a risk of slow drying, particularly through flowering.	Apply to the point of run off (at least 12 L/100m row at full canopy) Where a major rain event occurs during a period of growth, replace the cover as soon as practicable. See mixing instructions
Botrytis on wine grapes	2L Protector	Apply at: Onset of flowering (E-L 19), At 80%-100% capfall (E-L 26) At Pre bunch closure (E-L 32) At veraison (E-L 35) Alternatively, apply at 10-14 day intervals throughout the season	Apply to the point of runoff (at least 12L/100m row at full canopy) Where a major rain event occurs during a period of growth replace the cover as soon as practicable. Alternating the direction of applications assists with better coverage. For best results use in a programme with HML32
Adjuvant	500ml Protector	As directed on the label of any compatible fungicide.	Protector^{hml} used as an adjuvant in the spray mix with sulphur will enhance powdery mildew control in both high and low water rate regimes. Protector^{hml} used as an adjuvant in the spray mix with copper fungicides will enhance downy mildew and powdery mildew control (avoid this spray mix through flowering if there is a risk of slow drying)

APPLICATION

Throughout the season for all preventative disease applications, apply sufficient water to obtain full coverage of bunches and leaf canopy to the point of run off. Water rates used depend on canopy development (no less than 500 L/ha on 2.4m row equivalent, or 12L/100m at full canopy). Higher water rates will give better coverage and better disease control. Alternating the application direction assists with better coverage.

When making late season bunch-line applications for botrytis control every effort should be made to saturate (flood) the bunch and surrounding canopy (no less than 8L/100m of canopy).

Low water rates and concentrate spraying are not recommended.

Protector^{hml}'s mode of action is contact, therefore efficacy will be optimised by viticultural practices that assist spray coverage such as well calibrated sprayers, sprayer speeds and adequate bunch exposure.

MIXING INSTRUCTIONS:**General**

In all cases ½ to ¾ fill the spray tank with agitators running.

If HML Silco is included in the spray mix it should be put in FIRST through a clean filter basket with water running or directly into spray water.

In many cases tank mix compatibility issues can be minimized or prevented by slurring spray materials ahead of adding to the spray tank (so that additions are made less concentrated). Magnesium additives are a good example.
Do not leave any spray mix standing without agitation for long periods.

For downy mildew and powdery mildew applications

In all cases where a cuprous oxide fungicide is included in the spray mix, **slurry** the required amount of Protector with the required amount of cuprous oxide fungicide together to form a concentrate mix. Allow to stand for a few minutes to ensure a homogeneous slurry. Add the concentrate mix through top filter basket or venturi AFTER other pesticides have been added such as Sulphur (also see compatibility below), and then

continue to fill with water.

For botrytis applications

Protector^{hml} when used alone for botrytis control does not require slurring and can be added directly through the filter basket or venturi.

Do not leave any spray mix standing without agitation for long periods.

WATER HARDNESS

Protector^{hml} when mixed in hard water (high in dissolved mineral cations) may have mixing issues. **Where growers have a known water hardness issue it is recommended that a small premix is made to determine mixing.**

COMPATIBILITY

Protector^{hml} is an alkaline material.

Protector^{hml} is normally compatible with potassium silicate (HML Silco), sulphur and copper fungicides (cuprous oxide and copper hydroxide (see table above), seaweed products and magnesium products.

Protector^{hml} is not compatible with calcium products and many other chemicals directly or indirectly due to alkaline hydrolysis.

In all cases where a combination of materials are coming together for the first time, a precautionary approach should be used and a 'jar test' undertaken to assess for the formation of scums or precipitates. Likewise spray tank filters should also be checked through and after use.

Add **Protector^{hml}** to the spray tank only after other materials have been added and are thoroughly mixed, **except for potassium silicate** which should be added **first**. Do not add other pesticides or materials unless they have been specifically cleared as being compatible.

It is NOT recommended to tank mix **Protector^{hml}** with potassium bicarbonate.

Resistance Warning

Protector^{hml} can be used with a low rate of cuprous oxide fungicide for control of downy or powdery mildew on grapes. This may result in some naturally occurring individual fungi resistant to copper through natural genetic variability in any fungal population. The resistant individuals can eventually

dominate the fungal population if **Protector^{hml}** and cuprous oxide are used repeatedly at the recommended label rates. Since the occurrence of resistant fungi is difficult to detect prior to use, Certis Belchim NV accepts no liability for any losses that may result from the failure of this product to control resistant fungi. Monitor plants and crops for loss of field efficacy. For further information contact your farm chemical supplier, consultant, or local Certis Belchim NV Representative.

WITHHOLDING PERIOD:

3 days before harvest when used in a 1% or 2% solution
1 day before harvest when used in a 0.5% solution (as an adjuvant)

Note: This is a voluntary limit that is not residue based (MRL based). It covers off conservatively the rare occurrence of an off-flavour that has developed in the past with use of **Protector^{hml}**. This off-flavour has never been detected in wines.

Leaf plucking in vineyards: sheep must not be sent for slaughter or milked for 2 months after being removed from the vineyard (and placed on clean feed).

For export crops, growers should refer to industry export spray schedules for any specific restrictions before use.

Protector^{hml} can be used on certified organic properties as an adjuvant. Always consult organic certifiers before use.

Exclusion of Liability: Please Read

To the extent permitted by law, buyers and/or users of the goods accept that Certis Belchim NV as the manufacturer and distributor, nor any other distributor have any liability or responsibility whatsoever for any loss, damage or injury whether in contract or tort, whether direct, indirect or consequential howsoever arising in connection with the supply of these goods.

Batch No.:

DOM:

Shelf Life: When stored appropriately this product should show no significant degradation for 2 years from date of manufacture. Contact your supplier for further information about the use of any product that is older than this.