

SEE ENCLOSED LEAFLET FOR FULL DETAILS

PHOSGUARD 400 SL

ZEMA Product No: 7284

FUNGICIDE GROUP CODE 33

A systemic water soluble liquid fungicide for the control of diseases caused by Oomycetes on various crops as listed in the label.

Active ingredients:

Phosphorous acid equivalent 400 g/l
Potassium phosphite 560 g/l

Hazard Statement

H319 Causes serious eye irritation.

Precautionary Statements

P270 Do not eat, drink or smoke when using this product.

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice

Manufacturer & Supplier:

Nulandis, a division of AECI LTD
14 Field Road, Lilianton, Boksburg, 1459,
South-Africa
Tel: +27 11 823 8000



Local Distributor:

ATS Agrochemicals Ltd.
Stand 3143, Mukwe Road, Lusaka,
Zambia
Tel: +260 1 246 724-6



Net Volume:

UN No. Not regulated

Batch No:

Manufacturing date:

Expiry Date:



WARNING



PHOSGUARD 400 SL

A systemic water soluble liquid fungicide for the control of diseases caused by Oomycetes on various crops as listed in the label.

FUNGICIDE GROUP CODE 33

ACTIVE INGREDIENT :

Phosphorous acid equivalent400 g/ℓ
Potassium phosphite560 g/ℓ

CAUTION**WARNINGS:**

ALLOW THE FOLLOWING WITHHOLDING PERIODS BETWEEN LAST APPLICATION AND HARVESTING:

CITRUS, WINE AND TABLE GRAPES

28 DAYS

POTATOES

21 DAYS

PINEAPPLES

SHOULD NOT BE SPRAYED WITHIN 6 WEEKS OF FLOWER INDUCTION

Handle with care.

Harmful if swallowed.

May cause skin and eye irritation.

Store in a cool dry place, away from food and feedstuffs.

Keep out of reach of children, animals and uninformed persons.

Re-entry – Do not enter treated area until spray deposit has dried unless wearing protective clothing.

In case of poisoning – CALL A DOCTOR AND MAKE THIS LABEL AVAILABLE TO HIM.

NOTE: Maximum residue limits (MRL) have been determined for **Phosguard 400 SL** in South Africa. These values are based on considerations for “good agricultural practice” (GAP). In several countries of the world (e.g. The USA and many Middle Eastern and Mediterranean countries) phosphorous acid formulations are regarded as fertilizers rather than fungicides and since MRL's are not required for fertilizer products, these countries have neither established nor approved MRL values for phosphorous acid products. There are also other countries where phosphorous acid is neither used as a fertilizer nor as a fungicide. Difficulties could therefore be experienced in exporting fruit from **Phosguard 400 SL** treated trees and vines to countries that have not established MRL values for phosphorous acid fungicides. Growers wishing to export their produce are recommended to discuss this matter with their export agents or with a representative of Nulandis.

ALTHOUGH THIS REMEDY HAS BEEN EXTENSIVELY TESTED UNDER A LARGE VARIETY OF CONDITIONS THE REGISTRATION HOLDER DOES NOT WARRANT THAT IT WILL BE EFFICACIOUS UNDER ALL CONDITIONS BECAUSE THE ACTION AND EFFECT THEREOF MAY BE AFFECTED BY FACTORS SUCH AS ABNORMAL SOIL, CLIMATIC AND STORAGE CONDITIONS, QUALITY OF DILUTION WATER, COMPATIBILITY WITH OTHER SUBSTANCES NOT INDICATED ON THE LABEL AND THE OCCURRENCE OF RESISTANCE OF THE DISEASE TO THE REMEDY CONCERNED AS WELL AS BY THE METHOD, TIME AND ACCURACY OF APPLICATION. THE REGISTRATION HOLDER FURTHERMORE DOES NOT ACCEPT RESPONSIBILITY FOR DAMAGE DONE TO CROPS, VEGETATION, THE ENVIRONMENT OR HARM TO MAN OR ANIMAL OR FOR LACK OF PERFORMANCE OF THE REMEDY CONCERNED DUE TO FAILURE OF THE USER TO FOLLOW THE LABEL INSTRUCTIONS OR TO THE OCCURRENCE OF CONDITIONS WHICH COULD NOT HAVE BEEN FORESEEN IN TERMS OF THE REGISTRATION. CONSULT THE SUPPLIER IN THE EVENT OF ANY UNCERTAINTY.

PRECAUTIONS:

Do not inhale spray mist.

Wear rubber gloves, boots, face shield and overall whilst mixing and applying.

Wash with soap and cold water after application or skin contamination.

Wash contaminated clothing after application.

Do not eat, drink or smoke whilst applying or before washing hands and face.

Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Prevent spray drift onto other crops, grazing or any other areas not under treatment.

Clean applicator thoroughly with **FLUSHSOL** before re-using and dispose of wash water where it will not contaminate crops, grazing, rivers and dams. Refer to the **FLUSHSOL** label for directions of use.

When **Phosguard 400 SL** is applied as a foliar spray, rinse the empty **Phosguard 400 SL** containers three times with a volume of water equal to one tenth of the volume of the container and add rinsings to the spray solution in the spray tank. Then destroy the container by perforation and flattening.

When using **Phosguard 400 SL** as trunk paint, rinse empty containers thoroughly and dispose of waste rinsing water where it will not contaminate crops, grazing, rivers or dams. Then destroy the container by perforation and flattening.

Do not use container for any other purpose.

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

COMPATIBILITY:

- **Phosguard 400 SL** trunk paints should not be combined with other pesticides.
- **Phosguard 400 SL** spray application is compatible with **Biodew** (Reg. No. L8120, Act No. 36 of 1947), **Chloroflo 500 SC** (Reg. No. L5171, Act No. 36 of 1947), **Ventum 800 WP** (Reg. No. L8691, Act No. 36 of 1947), various other agricultural remedies and foliar feed products. Tank mixes with Megafol, mineral oils, dimethoate, wettable sulphur, copper-containing products, high calcium containing products or highly alkaline products is, however, not recommended.
- It is important in the case of citrus that **Phosguard 400 SL** be applied as an ultra light cover spray. Pesticides and foliar feeds requiring application as high volume sprays should therefore be regarded as being incompatible with **Phosguard 400 SL** in practical terms.
- Consult the registration holder of this product for further details on compatibility with other agricultural pesticides.

IMPORTANT NOTES:

Avoid application when trees or vines are under stress as this may cause a phytotoxic response damaging both leaves and fruit. Heat stress, drought stress, stress caused by excess soil water, and stress caused by heavy cropping are all forms that have been problematic in the past. Easy peeler citrus which tend to set very heavy crops should not be sprayed close to harvest. Do not apply sprays under conditions of oxygen deprivation at root level, e.g. within six days after heavy rains, or at any time when the soil is so saturated with water to the extent that oxygen is displaced for the soil profile and roots are deprived of oxygen for a period of time, the stress will increase the longer the saturation persists. Sprays should only be applied when the matrix potential is between -18 and -50 kPa. This problem seems to be specific for citrus but may occur on other crops.

Trees and vines should not be treated when suffering from stress as such conditions, even when temporary, may lead to a phytotoxic response (e.g. leaf and fruit burn and gummosis).

Phosguard 400 SL must thus only be applied to actively growing trees, vines and plants.

Do not apply **Phosguard 400 SL** within 7 days (before or after) a copper application.

Although **Phosguard 400 SL** is neutralized it may still be corrosive to metal. Use plastic or glass fiber containers when applying as trunk paints.

Treatment against *Phytophthora* root and collar rot is more effective when applied as preventative, rather than as curative treatments. **Phosguard 400 SL** applications should ideally commence before the first visual symptoms of decline occur, and preferably not later than stage 4 on the 0 to 10 scale of decline as described in "Outspan Production Guidelines Part 3".

MIXING INSTRUCTIONS:

Preparation of the **Phosguard 400 SL** spray solution is best achieved by filling the spray tank to approximately 50% of capacity with clean water, start agitation, add the required amount of **Phosguard 400 SL** to the water. **Phosguard 400 SL** will go into solution immediately. It is, however, necessary to make sure that the **Phosguard 400 SL** is completely dissolved before additional (compatible) substances are added. Follow the manufacturers mixing instructions for such substances. With the agitation engaged complete the filling of the spray tank with water. Wetters, if used, should be added last of all to prevent excessive foam generation.

General comment:

If any doubt exists on any aspect concerning this label contact the registration holder of this product for further information.

RECOMMENDATIONS FOR CONTROL OF PHYTOPHTHORA ROOT AND CROWN ROT IN CITRUS

General Recommendations:

- Foliar spray or stem paint treatments should commence after the start of the rain season and repeat applications with 6 to 8 week intervals, during the rain season.
- To facilitate systemic translocation of **Phosguard 400 SL** to roots of citrus trees, avoid treating when trees are flushing strongly. Under such conditions it will be preferable to delay the application until the new flush begins to harden off.

Recommendations for Foliar Application:

- Prepare and apply a spray solution by diluting **Phosguard 400 SL** at a rate of:

Phosguard 400 SL at 500 ml/100 l of water (use 1 800 to 2 000 l of spray solution/ha)

- Apply sprays as **ultra light** cover sprays using 1 800 to 2 000 l spray solution/ha for medium and large trees. Use proportionally less for smaller trees. Higher spray volumes may give inferior results due to excessive run off, and may cause damage to leaves and fruit. Spraying with handguns is generally preferred for smaller trees since growers will experience difficulties calibrating mist blowers to deliver lower volumes per hectare.
- Sprays should be applied to trees at high turgidity to avoid leaf burn. For this reason spraying should be confined to early morning or late afternoon. As a general guide, it is advisable that spraying operations be stopped at approximately one hour before air temperatures are expected to reach 30°C.
- Do not apply soon after irrigation or heavy rains (see comment under directions for use).

Recommendations for Stem Application:

- For trunk treatment dilute **Phosguard 400 SL** with an equal volume of water.
- Apply by painting the whole trunk from ground level upwards for about 35 cm.
- Where graft incompatibility occurs, apply by painting the scion and lower scaffold branches only.
- Certain scion / rootstock combinations may be sensitive. Confirmation of tolerance of the specific scion / rootstock combination is therefore recommended.

RECOMMENDATIONS FOR DOWNY MILDEW CONTROL IN TABLE AND WINE GRAPES

- Apply as a foliar spray combining

Phosguard 400 SL at 300 ml/100 l water (0.12% a.i.)

+

Ventum 800 WP at 120 g/100 l water

- Apply when shoots are 10 to 15 cm in length and repeat at 10 to 14 day intervals depending on the frequency and duration of infection periods. Spray intervals may need to be reduced to 7 day intervals when weather conditions are very favourable for disease development. Under extreme conditions during the blossom period and where inclement weather conditions have caused serious disruptions of the spray program, spray intervals should reduce to 5 day intervals for two to three sprays, reverting to 10 to 14 day spray intervals as conditions improve.
- Sprays should be applied as normal high volume sprays to provide good coverage of both the leaves as well as of the developing grape bunches. Over-wetting of vines should be avoided as these results in run-off and loss of the active ingredient. Spray volumes should therefore conform to the guideline of "ARC – Infruitec-Nietvoorbij", which provide the following indications:

Growth Stage	Volume of spray solution required per hectare	
	Table grapes	Wine grapes
Shoot length 2.5 to 25 cm	500 - 750 l	250 - 500 l
25 cm shoot length to pre-flowering	750 - 1 000 l	500 - 750 l
Flowering to pea-size berries	1 000 - 1 200 l	750 - 1 000 l
Pea-size berries to harvest	1 200 - 1 500 l	1 000 - 1 200 l

Bush vines, due to the greater density of their canopies, would require similar spray volumes to table grapes.

- Sprays should continue until berries reach pea-size stage. Under abnormally high disease pressure when foliage needs to be protected after berries reach pea-size stage, continued spraying with the above may lead to visible spray deposits on berries because of the (mancozeb) component in the mixture. Under such conditions continued spraying with **Phosguard 400 SL** on its own using 300 ml/100 l will provide useful protection of the leaf canopy without leaving visible residues.
- Although berries are resistant to infection once at "pea size", the berry stems or peduncles remain sensitive to infection. Peduncle infection occurring later in the season will cause individual berries, or sections of the bunch, to shrivel. This condition has not been encountered in trials to date and specific recommendations can therefore not be made, but protection against mid summer leaf infection could be expected to benefit bunch quality at harvest.
- Sprays should be applied to vines at high turgidity to avoid leaf burn. For this reason spraying should be confined to early morning or late afternoon. As a general guide, it is advisable that spraying operations be stopped at approximately one hour before air temperatures are expected to reach 30°C.
- The addition of a wetter (e.g. **Biodew**) to **Phosguard 400 SL** / **Ventum 800 WP** spray mixture will improve wetting of the fruit and foliage. Over-wetting may, however, occur when additional pesticides are included as tank mixtures and under such conditions it may be better to exclude the wetting agent from the spray. Careful attention therefore needs to be paid to the wetting properties of the spray when combination sprays are used.
- Do not apply higher rates than recommended as this may cause damage to foliage.
-

RECOMMENDATIONS FOR THE CONTROL OF *PHYTOPHTHORA* ROOT AND HEART ROT IN PINEAPPLES

Recommendation for dip treatment of planting material before planting:

- Dip (by total immersion) planting material (crowns, suckers, or slips) for 10 minutes in a solution containing:

Phosguard 400 SL at 500 to 750 ml per 100 l water

- Dipping of plant material will afford pineapple plants protection against *Phytophthora* attack at planting. Crown dipping permits freshly harvested planting material to be planted without plants rotting in the field.
- Compatibility between **Phosguard 400 SL** dipping solutions and other pesticides must be confirmed before being applied on a commercial scale.

Recommendation for foliar application:

- 1 Prepare and apply a spray solution by diluting **Phosguard 400 SL** at a rate of;

10 ℓ per ha and apply as foliar spray in 1 000 to 2 000 ℓ of water per ha
(i.e. 500 to 1 000 ml **Phosguard 400 SL**/100 ℓ water)
- 2 Sprays should be applied during periods of active growth closest to periods of anticipated *Phytophthora* risk i.e. in autumn and spring. Repeat sprays at intervals of 2 - 3 months but avoid spraying during periods of dormancy caused by water, cold, or heat stress.
- 3 Do not apply more than five sprays per annum.
- 4 At least 6 weeks should elapse between the last spray and fruit induction. Shorter intervals may result in poor induction efficiency.
- 5 Application during the fruit maturation phase is not recommended.

RECOMMENDATION FOR THE CONTROL OF LATE BLIGHT ON POTATOES

Phosguard 400 SL at 400 ml
+
Chloroflo 500 SC at 100 ml /100 ℓ water

- Apply **Phosguard 400 SL** in combination with **Chloroflo 500 SC** but ensure that you add the **Phosguard 400 SL** to the spray water before adding the **Chloroflo 500 SC**.
- Add **Phosguard 400 SL** to the spray water at a rate of 400 ml/100 ℓ of water following the directions given above. Continue filling the spray tank while agitating the spray solution and add the **Chloroflo 500 SC** at 100 ml/100 ℓ of water.
- Spraying should start in areas and seasons of high risk at 21 days from emergence or sooner when conditions for infection are favourable. Some districts have late blight warning systems that could be helpful. Early sprays at 14 and 21 days from emergence are best applied as directed sprays over the row.
- Sprays should be repeated at weekly intervals under conditions of high disease pressure. It is, however, important to maintain good disease control in the early season. Therefore, if late blight threatens to gain a foothold due to a break in the spray program, or for any other reason, the spray interval should be shortened to 5 days. The target required is that plants should be 95% blight free (or better) at all times.
- Sprays should be applied as conventional high volume sprays ensuring good coverage of the leaves and stems of the haulms. Spray volumes of 500 to 600 ℓ/ha are intended at first cover spray, increasing to 1 000 ℓ at full canopy. Canopies that are over fertilized may be excessively dense and may require even higher spray volumes.
- Lower spray volumes can be used provided the per hectare spray rate of fungicide is maintained. It is intended that the **Phosguard 400 SL** dosage per hectare should be 2.0 to 2.5 ℓ at first cover increasing to 4.0 to 4.5 ℓ/ha at full canopy. The **Chloroflo 500 SC** dosage per hectare would be 25% of that of the **Phosguard 400 SL** dosage. Growers should note that the lower the spray volume the more critically important the factors of droplet size, distribution, and penetration become. Correct and appropriate calibration of the low volume sprayer is therefore required. Failures have occurred where this was not the case.
- At present the **Phosguard 400 SL / Chloroflo 500 SC** treatment is recommended as a program of weekly sprays. Limited data is currently available on the introduction of other products into the program. Such introductions could be either synergistic or even antagonistic. The introduction of other products for late blight control into the program is therefore not currently recommended.

BIODEW® & FLUSHSOL® are the registered trademarks of AECI Limited (Nulandis™ a division of AECI Ltd.)

Chloroflo 500 SC & Ventum 800 WP are the registered tradenames of Nulandis™ (A division of AECI Ltd.)