

**WARNING**

**KEEP OUT OF REACH OF CHILDREN**



**NORSHIELD 45WG**



**PROTECTANT COPPER  
FUNGICIDE**

*grochem*

**Contains:** 450g/kg copper as cuprous oxide in the form of a water dispersible granule.

PROPER SHIPPING NAME:

**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, NOS  
UN NO. 3077**



9 421026 173782

NET CONTENTS  
**10KG**

**REGISTERED TO & DISTRIBUTED BY:** AgriNova New Zealand Ltd  
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[www.grochem.com](http://www.grochem.com)

GCONRSH/0724



# NORSHIELD 45WG

## PLEASE READ LABEL COMPLETELY BEFORE USE

**DANGER:** May cause damage to organs.  
Very toxic to aquatic life. Toxic to terrestrial vertebrates

**FIRST AID:** If medical advice is needed, have product label or container at hand.  
IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.  
IF ON SKIN: Wash with soap and water.  
IF INHALED: Call a POISON CENTRE or doctor/physician if you feel unwell or if irritation persists.

**24-hour Emergency Telephone Number – for advice contact the National Poisons Centre – 0800 POISON (0800 764 766) – or a doctor, immediately.**

**For specialist advice in an emergency only, call 0800 CHEMICAL (24hrs) or 0800 243 6225. In a transport emergency dial 111.**

**TRANSPORT:** Do not carry on a passenger service vehicle. Segregate from foodstuffs.

**SAFETY DATA SHEET:** A Safety Data Sheet (SDS) is available from Grochem or [www.grochem.com](http://www.grochem.com)

**STORAGE:** Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from feed, seeds and foodstuffs. Storage must be in accordance with the current version of NZS 8409 Management of Agrichemicals  
When stored appropriately, this product should show no significant degradation for 2 years from the date of manufacture (D.O.M.). Contact your supplier for further information about the use of any product that is older than this.

**HANDLING:** Do not breathe dust, fume, gas, mist, vapours or spray. Wash hands, face and all exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

**DISPOSAL:** Dispose of this product only by using according to the label, or at an approved landfill, or another approved facility.

Avoid contamination of any water supply with product or empty container.

Container Disposal – Triple rinse empty container and add rinseate to spray tank. Recycle at an appropriate recycling depot (eg Agrecovery).

**SPILLAGE:** Wear protective clothing and prevent material entering waterways. Absorb spill with inert material and place in waste containers. Wash area with water and absorb with further inert material. Dispose of waste safely in an approved landfill.

**CONDITIONS OF SALE:** As no control can be exercised over the manner in which or the conditions under which this product is used, all conditions and warranties expressed or implied, other than those required by statute are excluded. No responsibility will be accepted for any damage or injury whatsoever arising from the storage, handling, application or use of this product.

Registered pursuant to the ACVM Act 1997, No. P9734  
See [www.foodsafety.govt.nz](http://www.foodsafety.govt.nz) for registration conditions.

Approved Pursuant to the HSNO Act 1996, No. HSR 101409.  
See [www.epa.govt.nz](http://www.epa.govt.nz) for approval conditions.

## DIRECTIONS FOR USE

**It is an offence to use this product on animals.**

**RESTRAINTS: DO NOT apply when poor drying conditions exist. DO NOT apply when either extreme heat prevails or immediately prior to damaging frost conditions.**

Apply by ground-based methods only. Do not apply into or onto water. In use situations when multiple rate options are provided use the lower rates when disease pressure is light and higher rates when disease pressure is severe.

### GENERAL INSTRUCTIONS:

**COMPATIBILITY:** Norshield 45WG is compatible in the spray tank with spray oils, and most commonly used neutral or slightly alkaline fungicides, insecticides and miticides. DO NOT tank mix with acidic chemistry. Observe all precautions and limitations on labels of all products used in mixtures. If compatibility is a question, conduct a compatibility test before mixing. Mixtures with calcium nitrate may give rise to small skin markings on citrus. Kiwifruit – tank mixtures post fruit set may result in fruit marking.

**RESISTANCE MANAGEMENT STRATEGY:** Norshield 45WG is a member of the inorganic copper group of fungicides with multi-site activity. Norshield 45WG is a Group M1 Fungicide.

Some naturally occurring fungi and bacteria resistant to Norshield 45WG and other Group M1 fungicides may exist through normal genetic variability in any population. These will not be controlled by Norshield 45WG or other Group M1 fungicides. The resistant individuals can eventually dominate the population if copper products are used repeatedly. Since the occurrence of resistance is difficult to detect prior to use, AgriNova NZ Ltd accepts no liability for any losses that may result from the failure of Norshield 45WG to control resistant fungi or bacteria. To prevent or delay the development of resistance, use Norshield 45WG in tank mixtures where appropriate, and/or in rotation with fungicides or bactericides having a different mode of action.

Refer to [www.resistance.nzpps.org](http://www.resistance.nzpps.org) for further information.

**EQUIPMENT:** Apply using accurately calibrated and maintained equipment in accordance with The New Zealand Standard for the Management of Agrichemicals (NZS8409).

**MIXING:** Add slowly to the spray tank partially filled with water and agitate mixture to maintain uniform suspension. If using in a mixture with an emulsifiable concentrate, add after making the emulsion. Otherwise add insecticides, nutrients, etc after the Norshield 45WG. Ensure adequate agitation both during mixing and application. Rates as stated in directions for use are for dilute spray volume application.

**WITHHOLDING PERIOD: DO NOT apply to fruit crops later than 1 day before harvest.**

**The rates provided are for high volume spraying to thoroughly wet the crop to the point of run-off. For concentrate spraying adjust the dilution rates accordingly. The maximum application rate for Norshield 45WG is 5.8kg/ha per application (3kg a.i of product per ha) with a minimum interval of at least 10 days between applications.**

CROP	DISEASE	RATE/100L WATER	COMMENTS
Grapes	Downy mildew, black spot	80–150g	Apply at bud break & continue during pre and post bloom period every 14 days throughout the season as needed. Note: Discontinue if signs of injury are observed.
		160g	Under severe pressure or when Downy mildew has already established to prevent further spread.
	Powdery mildew, botrytis, sour rot	80–130g	The control of Sour Rot and the suppression of Powdery Mildew and Botrytis. Full control of Powdery Mildew and Botrytis may not be obtained under very high pressure situations. Apply at 10–14 day intervals throughout the season as required. To stay within the wine industry guidelines of less than 3kg metal copper per ha per season apply no more than 8 applications per season at 0.8kg/ha.

CROP	DISEASE	RATE/100L WATER	COMMENTS
Apples	European Canker	78–100g	Apply first application immediately post harvest, before the occurrence of wet weather. Reapply at the beginning of leaf fall and repeat as required to provide cover of leaf scars until leaf fall is complete. Ensure good coverage.
		92–117g	Apply as a dormant season spray only. Apply after harvest but before leaf fall, after pruning and as 2 sprays 1 month apart, before bud burst.
Kiwifruit	PSA Pseudomonas syringae pathovar actinidiae	92–117g	Apply after harvest but before leaf fall, after pruning and as 2 sprays 1 month apart, before bud burst.
		62.5g	Pre- and Post-flowering. Do not apply to open flowers. Apply full dilute water rate, appropriate for the size of canopy to give complete coverage. Apply as required to prevent infection. Warning higher rates and/or multiple applications and/or poor drying conditions can result in leaf drop, leaf marking, and marginal leaf burn. Fruit marking may occur from any application post flowering. Apply alone, post flowering, tank mixing with other chemistry may increase the risk of fruit marking and leaf damage.