

GROUP

M1

FUNGICIDE

# Nufarm

## Parasol WG

**FUNGICIDE**

COMMERCIAL- AGRICULTURAL

COPPER HYDROXIDE

Wettable Granules



CAUTION

POISON

WARNING EYE IRRITANT

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL BEFORE USING

**ACTIVE INGREDIENT**

Elemental copper, present as copper hydroxide ... 50.0%

REGISTRATION NUMBER 29063 PEST CONTROL PRODUCTS ACT

Nufarm Agriculture Inc.  
5101, 333 – 96<sup>th</sup> Ave NE  
Calgary, Alberta T3K 0S3  
1-800-868-5444

Net Contents: (1-20) KG

24 HOUR EMERGENCY RESPONSE NUMBER 1-800-424-9300

## GENERAL INSTRUCTIONS

Use **PARASOL WG Fungicide** at 1.1-4.25 kg/ha as noted. **PARASOL WG Fungicide** is adaptable to spraying from all types of spray equipment. It can be used in high or low volume spray. No additional surfactants are needed.

Add **PARASOL WG Fungicide** slowly to the spray tank partially filled with water. Spreader-stickers, insecticides, nutrients, etc. should be added last. **PARASOL WG Fungicide** is compatible with commercially formulated spreader-stickers, non-herbicidal agricultural oils, and such insecticides as Rotenone and Parathion.

The following specific instructions are based on general applications. However, the recommendations of the Provincial Ministry of Agriculture should be closely followed as to timing, frequency and number of sprays per season.

## RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, please note that **PARASOL WG Fungicide** contains a Group M1 fungicide/bactericide. Any fungal population may contain individuals naturally resistant to **PARASOL WG Fungicide** and other Group M1 fungicides/bactericides. A gradual or total loss of pest control may occur over time if these fungicides/bactericides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

### To delay fungicide/bactericide resistance:

- Where possible, rotate the use of **PARASOL WG Fungicide** or other Group M1 fungicides/bactericides with different groups that control the same pathogens.
- Use tank mixtures with fungicide/bactericides from a different group when such use is permitted.
- Fungicide/bactericide use should be based on an integrated disease management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease developments, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide/bactericide applications.
- Monitor treated fungal/bacterial populations for resistance development. Notify Nufarm Agriculture Inc. if reduced sensitivity of the pathogen to **PARASOL WG Fungicide** is suspected.
- If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide/bactericide with a different target site of action, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information and to report suspected resistance, contact Nufarm Agriculture Inc. at 1-800-868-5444 or at [www.nufarm.ca](http://www.nufarm.ca).

## **DIRECTIONS FOR USE**

### **DO NOT APPLY BY AIR.**

**DO NOT** apply this product in a way that will contact workers or bystanders, either directly or through drift. Only protected handlers may be in the area during application.

**DO NOT** apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands), estuarine/marine habitats.

**DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

### **Directions for Chemigation:**

For use on cranberries ONLY. DO NOT apply by chemigation to other crops listed on this label. Parasol WG Fungicide may be applied through a solid set overhead sprinkler irrigation system that will apply water uniformly and within the confines of a closed perimeter of dikes. Do not apply this product through any other type of irrigation system. Sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units are not recommended. Non-uniform distribution of treated water may reduce effectiveness. Proper calibration of the chemigation system is essential to deliver the desired rate per hectare in a uniform manner and to minimize wash-off time. If you have questions about calibration, contact the equipment manufacturer or other expert.

#### **Equipment Requirements:**

The system must contain an air gap, or approved backflow prevention device, or approved functional check valve, vacuum relief valve (including inspection port), and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow unless the water is from a man-made self-contained source on private land.

- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve or one-way valve to prevent the flow of fluid back toward the injection pump. A secondary containment system around the injection port area must be in place.
- The pesticide injection pipeline must also contain a functional, normally closed, valve located on the intake side of the injection system to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pressure drops or water flow stops. Alternatively, in the absence of such an automatic system, the injection procedure must be continuously monitored by an operator who is able to manually shut off pesticide injection under the same circumstances.
- Systems must use a metering device, such as a positive displacement injection pump (or flow meter on eductor) effectively designed and compatible with pesticides and capable of being fitted with a system interlock.

- The tank holding the insecticide mixture should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injection point.
- To insure uniform mixing of the insecticide in the water line, inject the mixture in the center of the pipe diameter or just ahead of an elbow or tee in the irrigation line so the turbulence created at those points will assist in mixing. The injection point must be located after all back-flow prevention devices on the water line unless the water is from a man-made self-contained source on private land.
- DO NOT connect an irrigation system used for pesticide application to a public water system unless the required safety devices for public water systems are in place. Specific local regulations may apply and must be followed.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and shall shut the system down to make necessary adjustments should the need arise.
- DO NOT apply when wind speed causes non-uniform distribution.
- DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the prescribed American Society of Agricultural Engineers (ASAE S572.1) fine classification. Applications must be conducted WITHOUT the use of end guns.
- DO NOT allow spray pattern to exceed the enclosed bed area.

**DO NOT** apply when wind speed causes non-uniform distribution and/or favors drift beyond the area intended for treatment.

**BEANS**, Bacterial Blight, Halo (*Pseudomonas syringae* pv. *phaseolicola*), Bacterial Blight, Common (*Xanthomonas campestris* pv. *phaseoli*): For protective sprays, apply first application when plants are 15 cm high. Apply on 7-14 day schedule depending on local conditions. Use 2.25-3.25 kg/ha depending on disease severity. Do not apply within 2 days of harvest. Do not apply more than 6 treatments per year, with a minimum retreatment interval of 7 days.

**CUCUMBERS**, Angular Leaf Spot (*Pseudomonas syringae* pv. *lachrymans*): Apply weekly once the plants begin to vine. Use 2.25-3.25 kg/ha. Do not apply within 2 days of harvest. Do not apply more than 5 treatments per year, with a minimum retreatment interval of 7 days.

**PEPPERS**, Bacterial Spot (*Xanthomonas campestris* pv. *vesicatoria* and *X. vesicatoria*): When disease threatens, apply 2.25-3.25 kg/ha at 7 to 14 day intervals depending on disease severity. Do not apply within 2 days of harvest. Do not apply more than 10 treatments per year, with a minimum retreatment interval of 3 days.

**POTATOES**, Early Blight (*Alternaria solani*), Late Blight (*Phytophthora infestans*): Apply at 7 to 10 day intervals starting when plants are 15 cm high until harvest. Use PARASOL WG Fungicide at 1.1-2.5 kg/ha, depending on density of foliage, combined with 1.75-2.25 kg of Mancozeb (80% active) product per ha. PARASOL WG Fungicide at 3.4 kg/ha may be applied at vinekill with a desiccant or alone after vinekill, prior to harvest. This late treatment may reduce infection of tubers by the late blight fungus during harvesting. Do not apply within 2 days of harvest. Do not apply more than 10 treatments per year, with a minimum retreatment interval of 5 days.

**SUGAR BEETS**, Cercospora Leaf Spot (*Cercospora beticola*): Start spray when disease threatens and continue for 4 to 5 applications. Spray every 10 to 14 days depending on weather conditions at 2.25-4.25 kg/ha depending on disease severity. Addition of a suitable non-herbicidal agricultural spray oil is recommended at 5.5 liters/ha. For specific instructions, consult local agricultural authorities. Do not apply within 2 days of harvest. Do not apply more than 6 treatments per year, with a minimum retreatment interval of 7 days.

**TOMATOES**, Bacterial Spot (*Xanthomonas campestris* pv. *vesicatoria*), Early Blight (*Alternaria solani*), Late Blight (*Phytophthora infestans*): When disease threatens, apply 2.25 kg/ha at 7 to 10 day intervals, more frequently when disease is severe. PARASOL WG Fungicide should be combined with 1.75-2.25 kg/ha maneb or mancozeb (80% active compound). Do not apply within 2 days of harvest. Do not apply more than 10 treatments per year, with a minimum retreatment interval of 3 days.

**NOTE TO USERS: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS**

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Nufarm Agriculture Inc. under the User Requested Minor Use Label Expansion program. For these uses, Nufarm Agriculture Inc. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

**CRANBERRY:**

Apply 4.71 kg product/ha. Solid set sprinkler chemigation and boom application equipment may be used.

**Fruit rot complex (early rot (*Phyllosticta vaccinii*), end rot (*Godronia cassandrae*, *Fusicoccum putrefaciens*), viscid rot (*Phomopsis vaccinii*), botryosphaeria fruit rot and berry speckle (*Botryosphaeria vaccinii*), ripe rot (*Coleophoma empetri*), black rot (*Allantophomopsis lycopodina*), yellow rot (*Botrytis cinerea*), blotch rot (*Physalospora vaccinii*), and bitter rot (*Colletotrichum gloeosporioides*)):** Make first application in early bloom. One or two additional applications at 10 to 14 days intervals may be required if high disease pressure persists.

**Rose bloom (*Exobasidium oxycocci*):** Make up to three applications on a 10 to 14 day schedule as soon as symptoms are observed.

**Monilinia tip blight (*Monilinia oxycocci*), Twig blight (*Lophodermium oxycocci*, *L. hypophyllum*), Red leaf spot (*Exobasidium rostrupii*):** Apply as a delayed dormant spray when buds have started to swell but no are leaves showing (bud swell to early cabbagehead). Repeat at 10 to 14 day intervals through prebloom.

For all diseases, do not make more than 3 applications per year with a minimum of 7 days between applications.

**For boom application equipment:** Use 500 – 1000 L water/ha.

**For chemigation:** Use up to 3000 L water/ha through solid set systems only. See application and calibration techniques for sprinkler chemigation under Directions for Use.

Preharvest interval: 2 days.

**GRAPES:**

**Black rot (*Guignardia bidwellii*), Phomopsis rot (*Phomopsis viticola*), Powdery Mildew (*Uncinula necator* syn. *Erysiphe necator*), Downy Mildew (*Plasmopara viticola*):**

Apply 2.24 – 6.72 kg product/ha in 400 to 600 L water/ha. The amount of product applied per ha in concentrate must be the same as the amount applied per ha in dilute spray. Ensure crop is thoroughly covered with spray mixture. For all diseases, begin application at bud break and repeat at 3 day intervals through the season if needed.

For all diseases, do not make more than 8 applications per year with a minimum of 3 days between applications. May be applied using vertical boom or air-assisted sprayers.

Preharvest interval: 2 days.

**Note:** Injury to foliage may occur in copper-sensitive varieties such as: Concord, Delaware, Niagara and Rosette. The addition of hydrated lime at a rate of 0.454 – 1.36 kg per 0.454 kg of Parasol WG Fungicide may reduce the severity of phytotoxicity. Add lime to the spray tank first and mix thoroughly before adding product.

**HOPS:**

**Downy mildew (*Peronospora humuli*):**

Apply 1.2 kg product/ha in 400 to 1000 L water/ha. Do not apply more than 5 treatments per year at a minimum interval of 10 days. The amount of this product applied per ha in concentrate must be the same as the amount applied per ha in dilute spray. Ensure crop is thoroughly covered with spray mixture. Apply as a fungicide crown treatment after pruning, but before training.

After training, apply at 10 days interval if needed. Discontinue use 2 weeks before harvest.

Do not make more than 5 applications per year with a minimum of 10 days between applications. May be applied using vertical boom or air-assisted sprayers.

Preharvest interval: 14 days.

**TANK MIXES**

This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label

must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Nufarm Agriculture Inc. at 1-800-868-5444 for information before applying any tank mix that is not specifically recommended on this label.

## SPRAY BUFFER ZONES

Field sprayer application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

Use of the following spray methods or equipment DO NOT require a spray buffer zone: hand-held or backpack sprayer and spot treatment.

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Use site	Spray Buffer Zones (meters) Required for the Protection of:					
		Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat	
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m		
Field Sprayer*	Beans	35	15	20	10	1	
	Cucumbers	20	10	10	5	1	
	Peppers	40	20	20	10	1	
	Potatoes	40	20	20	10	1	
	Sugar beets	25	10	15	5	1	
	Tomatoes	45	20	25	10	1	
Airblast	Grapes	Early growth stage	65	55	55	50	3
		Late growth stage	55	45	45	40	2
	Hops	Early growth stage	40	35	35	25	0
		Late growth stage	35	25	25	15	0
Field Sprayer/ Chemigation	Cranberries	15	10	10	4	0	

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank

mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pesticide portion of the Canada.ca website.

## **PRECAUTIONS**

### **KEEP OUT OF REACH OF CHILDREN HARMFUL IF INHALED - AVOID BREATHING DUSTS OR SPRAY MISTS CAUSES EYE IRRITATION - DO NOT GET IN EYES.**

Remove personal protective equipment immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Remove clothing/personal protective equipment immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

For cleaning/maintaining personal protective equipment, use detergent and hot water. Keep and wash personal protective equipment separately from other laundry.

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

If gloves are required on the label, wash the outside of gloves before removing.

Wear goggles, long pants, a long-sleeved shirt and shoes plus socks during mixing/loading, application, clean-up and repair. In addition, wear chemical-resistant gloves during mixing/loading, clean-up and repair.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval of 48 hours.

Harmful if swallowed.

Avoid contact with skin and eyes.

Do not contaminate food or feed. Do not contaminate any body of water.

## **ENVIRONMENTAL PRECAUTIONS**

TOXIC to birds, small wild mammals, aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.



Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

### FIRST AID

**If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

### TOXICOLOGICAL INFORMATION

Treat symptomatically. **Note to physician: If Swallowed:** Probable mucosal damage may contraindicate use of gastric lavage.

### EMERGENCY TELEPHONE NUMBERS

For spills or transportation accidents, Chemtrec, 1-800-424-9300.

For health or environmental emergencies, ProPharma Group, 1-877-325-1840.

For product and use information, Nufarm Agriculture Inc., 1-800-868-5444.

### STORAGE

Store unused product in original container only in a cool, dry, well-ventilated area, out of reach of children and animals. If container or bag is damaged, place the container or bag in a plastic bag. Shovel any spills into plastic bags and seal with tape. Store this product away from food or feed.

### DISPOSAL

1. Follow provincial/territorial instruction for any required additional cleaning of the container prior to its disposal.
2. Make the empty container unsuitable for further use.
3. Dispose of the container in accordance with provincial/territorial requirements.
4. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial/territorial regulatory agency in case of a spill, and for clean-up of spills.

### **NOTICE TO USER**

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *PEST CONTROL PRODUCTS ACT* to use this product in a way that is inconsistent with the directions on the label.