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rovral® wp

Fungicide Wettable Powder

NET CONTENTS:

1 KG

GROUP	2	FUNGICIDE
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GUARANTEE: 500g/kg IPRADIONE

Warning, contains the allergen sulfites

FOR USE ON

APRICOT, CHERRY, GRAPE, PEACH, PLUM, RASPBERRY, STRAWBERRY, CABBAGE (stored), CAULFLOWER, CUCUMBER (greenhouse), GARLIC, GINSENG, LETTUCE (field and greenhouse), ONION (dry bulb), TOMATO (greenhouse), CANOLA, DRY COMMON BEANS (white and kidney), SNAP BEANS, LEEK, TURF AND ORNAMENTALS

COMMERCIAL

REGISTRATION NO. 15213
PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

**For product information and
in case of spills, poisoning, fire or other emergencies,
call 1-800-331-3148.**

ROVRAL® is a registered trademark of FMC

FMC FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103 USA



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PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN.

During all activities, wear long pants, long-sleeved shirt and work boots. In addition, chemical-resistant gloves, protective eyewear and work boots must be worn during mixing, loading, cleanup and repair of spray equipment.

For aerial application, coversalls or a chemical-resistant apron over normal work clothes, chemical-resistant gloves, protective eyewear and work boots must be worn during mixing and loading operations.

DO NOT re-enter treated areas within 12 hours. If required, individuals may re-enter treated areas within 12 hours for short-terms tasks not involving hand labour if at least 4 hours have passed since application and long pants, long-sleeved shirt, hat, protective eyewear and chemical-resistant gloves are worn.

Do not inhale product or spray. This product is mildly irritating to eyes. Wash hands and exposed skin before eating, drinking or smoking. Thoroughly clean application equipment after use. Do not contaminate domestic or irrigation waters. Do not store in contact with foodstuffs.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at: www.croplife.ca.

CAUTION: Do not graze the treated crops or use for feed or fodder, sufficient data are not available to support such use.

AIR APPLICATION

- Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.
- Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.
- Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Aerial Use Precautions

- Read and understand the entire label before opening this product. If you have questions, call FMC Corporation at 1-800-331-3148 or obtain technical advice from the distributor or your provincial agricultural representative.
- Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.
- Do not apply to terrain where there is a potential for surface runoff to enter aquatic systems.
- Do not apply if rain is expected within 1 hour after spraying. If tank mixing, consult the tank mix partner label and respect the most restrictive interval.

Aerial Application Precautions

- Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
- It is desirable that the pilot has communication capabilities at each treatment site at the time of application.
- The field crew and the mixer/loaders must wear chemical-resistant gloves, coversalls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.
- All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

FIRST AID:

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 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.

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 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.

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

TOXICOLOGICAL INFORMATION:

Treat symptomatically. Medical personnel should contact FMC Corporation's medical information services, toll-free 1-800-331-3148.

DISPOSAL:

- Empty bag.
- Follow provincial instructions for any required additional cleaning of the bag prior to its disposal.
- Make the empty bag unsuitable for further use.
- Dispose of the bag in accordance with provincial requirements.
- For information on the disposal of unused, unwanted product, contact the manufacturer or provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

NOTICE TO USER: This control product is to be used only in accordance with the directions on this 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. The user assumes the risk to persons or property that arises from any such use of this product.

DIRECTIONS FOR USE:

For application through field, aerial or orchard sprayers, put one half the required water volume in the tank, stir in Rovral® and add the remainder of the water. For use through knapsack or small sprayers, first stir the required amount of Rovral® with water in a bucket, add this suspension to the partly filled spray tank, then add the remainder of the water.

Ensure mixing is complete and agitate thoroughly before each application and continue to agitate during spraying.

A prepared spray mixture should be used as soon as possible in the same day, especially if the water used for mixing is alkaline (greater than pH of 7).

Rovral® should not be mixed with other pesticides, adjuvants or fertilizers except where stated.

FRUIT AND FIELD CROPS

APRICOT – CONTROL OF BROWN ROT/BLOSSOM BLIGHT

RATE: 1.5 kg/ha of Rovral®.

TIMING: To protect the fruit use Rovral® in a cover spray program with application at 7-14 day intervals throughout the season. Use the short term interval under wet conditions close to harvest. For blossom blight apply at first bloom. Repeat at 4-5 day intervals if wet. Apply by ground. Observe a 1 day PHI. To reduce the possibility of disease resistance to Rovral®, alternation with other fungicides is recommended.

CHERRY – CONTROL OF BROWN ROT

RATE: 1.5-1.75 kg/ha of Rovral®. Use the higher rate on large or mature trees. For dilute sprays use 50 g/100 litres of water.

TIMING: Blossom Blight Stage: Spray at first bloom. If wet weather prevails, this spray should be repeated.

Brown Rot: To protect the fruit use Rovral® in a spray program with applications beginning at Shuck. Repeat at 7-14 day intervals throughout the season, including a treatment 1 day prior to harvest. To reduce the possibility of disease resistance to Rovral®, the alternation with other fungicides is recommended.

GRAPE – CONTROL OF BOTRYTIS BUNCH ROT

RATE: 1.5 kg/ha Rovral® in at least 900 litres of water per hectare.

TIMING: Sprays may be applied beginning at mid to late bloom. Two sprays should be applied before complete bunch closure; these should be timed to achieve maximum protection of the fruit, i.e. just before anticipated periods of

wet weather. To reduce the possibility of disease resistance to Rovral®, no more than two applications of Rovral® should be made per season; other fungicides should be alternated with Rovral® in a bunch rot control program.

PEACH – CONTROL OF BROWN ROT

RATE: 1.5-1.75 kg/ha of Rovral®. Use the higher rate on large or mature trees. For dilute sprays, use 50 g/100 litres of water.

TIMING: Blossom Blight Stage: Spray at first bloom to control blossom blight stage of brown rot. Repeat at 4-5 day intervals if the weather is wet.

Brown Rot: To protect the fruit use Rovral® in a cover spray program with application at 7-14 day intervals throughout the season including a treatment 1 day prior to harvest. Use the short interval under wet conditions close to harvest. To reduce the possibility of disease resistance to Rovral®, the alternation with other fungicides is recommended.

PLUM/PRUNE – CONTROL OF BROWN ROT

RATE: 1.5 kg/ha of Rovral®.

TIMING: To protect the fruit use Rovral® in a cover spray program with application at 7-14 day intervals throughout the season. Use the short interval under wet conditions close to harvest. Observe a 1 day PHI. Apply by ground. To reduce the possibility of disease resistance to Rovral®, alternation with other fungicides is recommended.

RASPBERRY – CONTROL OF GREY MOLD FRUIT ROT

RATE: 2 kg/ha of Rovral® in 1000 litres of water per hectare.

TIMING: Apply a maximum of 8 applications per year. Begin applications when flower buds are visible in the crown and repeat at 7-10 day intervals. Reduce intervals during rainy periods. Apply by ground. Observe a 1 day PHI. To reduce the possibility of disease resistance to Rovral®, alternation with other fungicides is recommended.

STRAWBERRY – CONTROL OF BOTRYTIS FRUIT ROT AND SUPPRESSION OF PENICILLIUM

RATE: 2 kg/ha of Rovral® in at least 1000 litres of water per hectare. Good coverage of the plants is essential. The addition of a non-ionic adjuvant registered for this purpose will improve performance.

TIMING: Begin application when flower buds are visible in the crown and repeat at 7-10 day intervals. Reduce interval during rainy periods. To reduce the possibility of disease resistance to Rovral®, the alternation with other fungicides is recommended. Leave 1 day from last spray to harvest.

CABBAGE (STORED) – CONTROL OF ALTERNARIA

RATE: 3 kg/ha of Rovral®.

TIMING: Make 1 application 7-14 days before harvest. Apply by ground; boom or airblast sprayer. Observe a PHI of 7 days.

CAULIFLOWER – CONTROL OF ALTERNARIA

RATE: 3 kg/ha of Rovral®.

TIMING: Make 1 application 1-2 days prior to tying. Apply by ground; boom or airblast sprayer. Observe a PHI of 5 days.

CUCUMBER (GREENHOUSE) – CONTROL OF GUMMEY STEM BLIGHT

RATE: 100g Rovral®/100 L water applied at 1000-2000 L water per hectare. Spray to runoff ensuring good coverage of the plants, particularly stem nodes, immediately following any pruning.

TIMING: Begin application at the first sign of disease. Spray at weekly intervals or as required for control. Observe a PHI of 2 days.

CUCUMBER (GREENHOUSE) – CONTROL OF BOTRYTIS GREY MOLD

RATE: 100g Rovral®/100 L water per hectare. Spray to runoff ensuring good coverage of the plants, particularly stem nodes, immediately following any pruning.

TIMING: Begin application at the first sign of disease. Spray at weekly intervals or as required for control. At least 2 days must elapse between treatment and picking. To reduce the possibility of disease resistance, Rovral® must be alternated with other fungicides.

GARLIC – CONTROL OF GREEN MOLD (Penicillium corymbiferum)

RATE: 4g/L Rovral® as a seed dip.

TIMING: Dip garlic seeds for 30 minutes in a suspension of Rovral® and water. Make one application in the fall, immediately before planting.

GINSENG – CONTROL OF ALTERNARIA LEAF BLIGHT

RATE: 1.1 kg/ha Rovral® in at least 2000 L of water per hectare.

TIMING: Apply when the disease first appears and follow with two subsequent sprays at monthly intervals as part of a spray programme. Do not apply more than three applications per season; the Rovral® applications should be alternated with other suitable fungicides. Do not apply closer than 30 days to harvest.

LETTUCE (FIELD) – CONTROL OF GREY MOLD

RATE: 1.5 kg/ha of Rovral® in 300-500 L water per hectare.

TIMING: Apply a maximum of 4 applications per year at 7 day intervals between sprays. Apply by ground; boom sprayer. Observe a PHI of 4 days.

LETTUCE (GREENHOUSE) – CONTROL OF GREY MOLD/SCLEROTINIA DROP

RATE: 2 kg/ha of Rovral® in 2000 L water per hectare. Use a high volume sprayer.

TIMING: Apply a maximum of 4 applications per year with the first application at the 3-leaf stage and then every 7-10 days if conditions continue to favour disease development. Observe a PHI of 14 days.

ONION (DRY BULB) – CONTROL OF BOTRYTIS LEAF BLIGHT

RATE: 1.5 kg/ha Rovral® applied in 300-500 litres of water. The addition of a non-ionic adjuvant will improve performance.

TIMING: Begin applications about mid-June or at the first sign of leaf spotting and repeat at 7-10 day intervals. Do not apply Rovral® within 15 days of harvest. To reduce the possibility of disease resistance to Rovral®, the alternation with other fungicides is recommended.

ONIONS (DRY BULB) – CONTROL OF BOTRYTIS LEAF BLIGHT PLUS DOWNY MILDEW

RATE: Use 0.75 kg/ha Rovral® tank mixed with the recommended rate of Manzate DF Fungicide or Manzate Pro-Stick Fungicide for downy mildew control (consult the Manzate DF Fungicide or Manzate Pro-Stick Fungicide label for dose rates, precautions and limitations). Apply in 300-500 litres of water per hectare. The addition of a non-ionic adjuvant will improve performance.

TIMING: Apply this tank mix as a preventative treatment. Application can begin mid-June or when conditions are favourable for disease infection. Repeat applications at 7-10 day intervals. DO NOT apply Rovral® within 15 days of harvest.

TOMATO (GREENHOUSE) – CONTROL OF BOTRYTIS GREY MOLD

RATE: 100 g Rovral®/100 L water. Spray to runoff ensuring good coverage of the plants, particularly stem nodes, immediately following any pruning.

TIMING: Treat when the second truss is in flower or at the onset of the disease. Repeat treatment at weekly intervals or when conditions are favourable.

At least 2 days must elapse between treatment and picking. To reduce the possibility of disease resistance, Rovral® must be alternated with other fungicides.

CANOLA – CONTROL OF SCLEROTINIA STEM ROT

RATE: 1-1.5 kg/ha Rovral® as an aerial application in at least 45 litres of water per hectare. The use of the higher rate is recommended for fields with a history of heavy disease pressure or for dense crop stands. Good coverage of the plants is essential.

The addition of a non-ionic adjuvant will improve performance.

TIMING: Apply Rovral® when 20-30% of the blooms have opened.

DRY COMMON BEANS (WHITE & KIDNEY) – CONTROL OF SCLEROTINIA WHITE MOLD

RATE: 1-1.5 kg/ha Rovral®. The use of the higher rate is recommended for fields with a history of heavy disease pressure or for dense crop stands. For ground application, use 300 litres of water per hectare. For aerial application, use at least 45 litres of water per hectare. Good coverage of the foliage and stems is essential. To ensure thorough coverage for ground applications, a combination of overhead and drop nozzles should be used at a minimum pressure of 400 kPa. The addition of a non-ionic adjuvant will improve performance.

TIMING: Apply Rovral® as a preventative treatment when 25-75% of the blooms have opened. Treatment prior to the presence of disease is preferable, but Rovral® is still effective if application is made at the initial sign of disease infection, when less than 5% of the plants are showing white mold.

SNAP BEANS – CONTROL OF SCLEROTINIA WHITE MOLD AND BOTRYTIS POD ROT

RATE: 1.5 kg/ha of Rovral® in 300 litres of water per hectare for ground applications and at least 45 litres of water for aerial application. Good coverage of the plants is essential. The addition of a non-ionic adjuvant registered for this purpose will improve performance.

TIMING: Control of Sclerotinia white mold - apply Rovral® when 50% of the blooms have opened. Control of Botrytis pod rot (normally only a problem in British Columbia) - apply Rovral® twice, when 30% and again when 50% of the blooms have opened.

CARROT SEED – CONTROL OF SEED BORNE ALTERNARIA

RATE: 521 mL of Rovral®/100 kg seed

DIRECTIONS: For the importation of treated seed into Canada; NO SEED IS TO BE TREATED IN CANADA.

Wear protective gloves and overalls when handling treated seeds. When augering or handing treated seed work in a well ventilated area and wear a suitable respirator.

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS (BELOW): THE DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than FMC Corporation and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. FMC Corporation itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crops listed below. Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold FMC Corporation harmless from any claims based on efficacy or phytotoxicity in connection with the uses described below.

LEEK – CONTROL OF BOTRYTIS LEAF BLIGHT

Pest: For control of Botrytis leaf blight

Rate: 1.5 kg/ha of Rovral® applied in 300-500 litres of water as a foliar spray.

Timing: Apply a maximum of 4 applications per year with the first application at the appearance of the disease and/or when conditions are favourable to the disease prevail. Repeat applications should be made at 7-10 day intervals. Observe a PHI of 15 days.

TURF AND ORNAMENTALS

TURF

Rovral® is effective either as a preventative or curative spray. Ensure the area to be treated is covered uniformly. Apply the required amount of Rovral® in not less than 10 litres per 100 m². When treating golf greens, always treat aprons and fairway approaches. Avoid mowing for ten hours after application.

DOLLAR SPOT (Sclerotinia homeocarpa)

Apply Rovral® at the first sign of disease and repeat at recommended intervals as long as required. Use either 30 g per 100 m² at 14 day intervals or 45 g per 100 m² at 21 day intervals.

BROWN PATCH (Rhizoctonia solani)

Apply Rovral® at 60 to 125 g per 100 m², beginning when the disease is first observed and continue at 14 to 21 day intervals throughout the season or as needed. Under severe disease pressure use the higher rate and the shorter interval.

LEAF SPOT, MELTING OUT (Helminthosporium spp.)

Apply Rovral® at 60 g per 100 m² when the disease first appears. Repeat 2 or 3 times in the early spring at 14-21 day intervals or as needed.

GREY AND PINK SNOW MOLD (Typhula spp. and Fusarium nivale)

To suppress the active stages of the disease during spring or fall, apply Rovral® at 180 g per 100 m². For winter protection, Rovral Green® is recommended.

ORNAMENTALS – CONTROL OF BOTRYTIS spp.

RATE: 10 g Rovral® per 10 litres of water. Apply to the point of runoff, ensuring good coverage of the plants.

TIMING: Treat at the onset of Botrytis and repeat at 21 day intervals, or as necessary.

To reduce the possibility of disease resistance, Rovral® must be alternated with other fungicides.

The following species have been safely treated:

Adeiantum spp
Apehlandra squarrosa
Aralia elegantissima
Aralia sieboldii
Asparagus sprengeri
Asparagus plumosus
Azalea spp
Begonia rex var. Fireglow
Chrysanthemum spp (all year round)
Chlorophytum spp
Cineraria spp
Ciccus antarctica
Croton spp var. Bravo
Cyclamen spp
Dracaena spp var. Rededge
Episcia cupreata
Euonymus spp
Euphorbia splendens
Ficus spp
Fittonia spp
Fuchsia spp
Geranium (Zonal)
Gesneria spp
Gynura sarmentosa
Hedera spp
Hypoestes sanguinolenta
Impatiens spp
Iresine herbstii
Kalanchoe spp
Maranta spp
Monstera deliciosa borsigiana
Neanthe bella
Nepeta (ginger plant)
Nephrolepis spp
Pelargonium spp
Peperomia caperata
Peperomia hederifolia
Peperomia magnoliifolia
Philodendron scandens
Pilea cadierei
Poinsettia spp
Primula spp
Rhoicissus spp
Ruellia makoyana
Saintpaulia ionantha **
Saxifraga stolonifera
Senecio macroglossus variegatum
Setcreasea purpurea
Sinningia spp (Gloxinia)
Solanum capsicastrum
Rosa samantha

**Spraying Saintpaulia flowers may result in petal scorch. Tepid water should be used and the wet plants protected from direct sunlight.

Tolerance of other species should be checked on a few plants before making any large scale applications.

ORNAMENTALS – CONTROL OF DAMPING-OFF CAUSED BY RHIZOCTONIA

RATE: 2 g Rovral® in 5 litres of water applied per square metre as a drench.

TIMING: Treat immediately after picking out when the risk of infection is particularly high.

The following species can be treated: Celosia, Salvia. Tolerance of other species should be checked on a few plants before making any large scale applications.

CONIFER SEEDLINGS (SPRUCE, FIR, HEMLOCK, CEDAR) – CONTROL OF BOTRYTIS BLIGHT:

FOR USE ON CONTAINER OR BAREROT CONIFER SEEDLINGS IN GREENHOUSES AND CONIFER NURSERIES.

RATE: 1.5-2 kg Rovral®/ha in 1100 litres of water/ha. (15-20 grams in 11 litres water/100 m²)

TIMING: Treat at the onset of botrytis, and repeat at 21 day intervals. Do not apply more than 3 applications of Rovral®/year. Do not apply 2 days prior to harvest. To reduce the possibility of disease resistance Rovral® must be alternated with other suitable fungicides.

RESISTANCE MANAGEMENT

RECOMMENDATIONS

For resistance management, please note that ROVRAL® Fungicide contains a Group 2 fungicide. Any fungal population may contain individuals naturally resistant to ROVRAL® Fungicide and other Group 2 fungicides. A gradual or total loss of pest control may occur over time if these fungicides 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 resistance:

- Where possible, rotate the use of ROVRAL® fungicide or other 2 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicide from a different group when such use is permitted.
- Fungicide use should be based on an IPM program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological and other chemical control practices.
- Monitor treated fungal populations for resistance development.
- 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 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 FMC Corporation at 1-800-331-3148.