

GROUP	<b>M</b>	FUNGICIDE
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**KOCIDE® 2000**  
FUNGICIDE

DRY FLOWABLE  
AGRICULTURAL  
FUNGICIDE

COPPER HYDROXIDE

ACTIVE INGREDIENT: Copper Hydroxide 53.8% (metallic copper equivalent 35%)

**KEEP OUT OF REACH OF CHILDREN**

**READ THE LABEL BEFORE USING**

**CAUTION**



**POISON**

**WARNING - EYE IRRITANT**

REGISTRATION NO. 27348  
PEST CONTROL PRODUCTS ACT  
Net Contents: 10-25 kg

Kocide LLC  
12701 ALMEDA ROAD  
HOUSTON, TX 77045  
1-800-250-5024

## GENERAL INSTRUCTIONS

KOCIDE® 2000 Fungicide is adaptable to spraying from all types of spray equipment. It can be used in high or low volume sprays. No additional surfactants are needed. Add KOCIDE® 2000 Fungicide slowly to the spray tank partially filled with water. Spreader-stickers, insecticides, nutrients, etc. should be added last. KOCIDE® 2000 Fungicide is compatible with commercially formulated spreader-stickers, non-herbicidal agricultural oils, and insecticides. The following specific instructions are based on general applications. However, the recommendations of local Agricultural Extension Specialists should be closely followed as to timing, frequency, and number of sprays per season.

## RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, please note that KOCIDE® 2000 Fungicide contains a Group M Fungicide. Any fungal population may contain individuals naturally resistant to KOCIDE® 2000 Fungicide and other Group M 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 KOCIDE® 2000 Fungicide or other Group M 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 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 development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications.
- 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 Kocide LLC at 1-800-250-5024.

## DIRECTIONS FOR USE:

**BEANS:** Bacterial Blight (*Halo Blight - Pseudomonas syringae pv. phaseolicola* and Common Blight - *Xanthomonas axonopodis pv. phaseoli*). For protective sprays, apply first application when plants are 15 cm high. Apply on a 7 to 14 day schedule depending on local conditions, to a maximum of 6 applications per year. Apply 1.6 – 2.3 kg/ha; use high rate under high disease pressure and low rate under low disease pressure. Do not apply to crops within 2 days of harvest.

**PEPPERS:** Bacterial Spot (*Xanthomonas campestris pv. vesicatoria*). When disease threatens, apply 2.52 kg/ha at 7 to 14 day intervals depending on disease severity, to a maximum of 10 applications per year. Do not apply to crops within 2 days of harvest.

**PEPPERS (GREENHOUSE SEEDLINGS FOR TRANSPLANT):** *Bacterial Spot (Xanthomonas campestris pv. vesicatoria)*. Apply KOCIDE® 2000 Fungicide at 3.2 kg/ha every 5 days when warranted to a maximum of 5 applications over a 4 week period prior to transplant. Following transplantation to the field, when disease threatens, apply KOCIDE® 2000 Fungicide at 3.2 kg/ha at 7 to 10 day intervals depending upon disease severity. Do not apply to crops within 1 day of harvest. Wear protective clothing including long-sleeved shirt, long pants and chemical-resistant gloves when handling or spraying the product. Do not re-enter treated area for 24 hours.

**POTATOES:** Early Blight (*Alternaria solani*) and Late Blight (*Phytophthora infestans*). Apply at 7 to 10 days intervals starting when plants are 15 cm high until harvest. Apply KOCIDE® 2000 at 0.80 - 1.6 kg/ha, depending on density of foliage. KOCIDE® 2000 can be combined with 1.75 - 2.25 kg/ha of MANZATE® DF Fungicide or MANZATE® Pro-Stick Fungicide for control of early blight and late blight.

KOCIDE® 2000 at 2.4 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. Maximum of 10 applications per year.

**TOMATOES:** For control of early blight (*Alternaria solani*) and late blight (*Phytophthora infestans*): Apply Kocide® 2000 at 2.52 kg/ha at 7-day intervals.

For control of septoria leaf spot (*Septoria lycopersici*): Apply Kocide® 2000 at 2.24 kg/ha at 7-day intervals. For control of bacterial canker (*Clavibacter michiganensis* subsp. *michiganensis*): Apply Kocide® 2000 at 2.25 kg/ha at 7 – 10 day intervals.

For control of Bacterial Spot (*Xanthomonas campestris* pv. *vesicatoria*): When disease threatens, apply Kocide®2000 at 2.52 kg/ha at 7-10 day intervals, more frequently when disease is severe to a minimum application interval of 3 days.

Kocide® 2000 should be combined with 1.75 – 2.25 kg/ha maneb or mancozeb (80% active compound). Do Not apply to crops within 2 days of harvest. Maximum of 10 applications per year.

**TOMATOES (GREENHOUSE SEEDLINGS FOR TRANSPLANT):** *Bacterial Spot*. (*Xanthomonas campestris* pv. *vesicatoria*). Apply KOCIDE® 2000 Fungicide at 3.2 kg/ha every 5 days when warranted to a maximum of 5 applications over a 4 week period prior to transplant. Following transplantation to the field, when disease threatens, apply KOCIDE® 2000 Fungicide at 3.2 kg/ha at 7 to 10 day intervals depending upon disease severity. KOCIDE® 2000 Fungicide should be combined with 1.75-2.25 kg/ha maneb or mancozeb (80% active compound). Do not apply to crops within 1 day of harvest. Wear protective clothing including long-sleeved shirt, long pants and chemical-resistant gloves when handling or spraying the product. Do not re-enter treated area for 24 hours.

**Cucumbers:** Angular leaf spot (*Pseudomona syringae* pv. *lachrymans*). Apply every 7 days once the plants begin to vine, to a maximum of 5 applications per year. Use Kocide® 2000 at 1.6-2.3 kg/ha. Do not apply to crops within 2 days of harvest.

**Sugar Beets:** Cercospora leaf spot (*Cercospora beticola*). Start spraying when disease threatens and continue if conditions are conducive for disease development. Spray every 10-14 days depending on conditions, using Kocide® 2000 at 1.6 – 3.2 kg/ha depending on disease severity. Addition of suitable non-herbicidal agricultural oil is recommended at 5.5 L/ha. For specific instructions, consult local agricultural authorities. Do not apply to crops within 2 days of harvest. Maximum of 6 applications per year.

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.

DO NOT APPLY **USING AERIAL APPLICATION EQUIPMENT.**

When applied as a tank mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels

#### **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) 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 buffer zone: hand-held or backpack sprayer and spot treatment. The 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		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*	Potatoes, peppers		40	20	20	10	1
	Tomatoes, sugar beets, fruiting vegetables, celery and celeriac, red (garden) beets		45	20	25	10	1
	Beans, cucumbers		35	15	20	10	1
Airblast	Grapes	Early growth stage	60	55	55	45	2
		Late growth stage	50	45	45	35	2

\* For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labeled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labeled buffer zone can be reduced by 30%.

## ENVIRONMENTAL PRECAUTIONS

TOXIC to birds, small wild mammals, aquatic organisms and non-target terrestrial plants. Observe 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 strip between the treated area and the edge of the water body.

### NOTE TO BUYER/USER: 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 Kocide LLC under the User Requested Minor Use Label Expansion program. For these uses, Kocide LLC 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.

#### DRY EDIBLE BEANS AND SUCCULENT BEANS

For suppression of the following seed borne diseases; common blight (*Xanthomonas axonopodis* pv. *phaseoli*), halo blight (*Pseudomonas syringae* pv. *phaseolicola*) and bacterial brown spot (*Pseudomonas syringae* pv. *syringae*), in dry edible beans and succulent beans: For every 100 kg seed to be treated, add 113 g Kocide® 2000 to 200 ml of warm water and stir until dissolved. Additional warm water can be added as required to create a slurry of suitable consistency for use with commercial seed treatment equipment. Add this mixture to the bean seed as it is being gently tumbled to ensure even coverage. Allow treated seed to dry before planting. Treated seed must be labelled as follows: "This seed has been treated with Kocide® 2000; do not use treated seed for food, feed or oil processing".

Kocide 2000 used as a seed treatment may cause some delay in seed germination. Treat a small quantity of seed using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of seed before committing the total seed lot to a selected seed treatment.

All seed treated with this product must be conspicuously coloured at the time of treatment. When handling contaminated equipment or treated seed, wear long sleeved coveralls over normal work clothing, chemical resistant gloves and goggles; use an approved respirator with a canister approved for pesticides to minimize exposure to dust when handling, mixing leading product, bagging seed, sewing bags of treated seed or when transferring treated seed to a storage bin.

#### GRAPES:

For control of downy mildew (*Plasmopara viticola*) apply 1.6 kg/ha Kocide® 2000 mixed in 500-1400 L/ha of water. Make one application every 7-14 days starting at bud break with subsequent applications throughout the season depending on disease severity, up to a maximum of 7 applications per year. Do not apply within 2 days of harvest

Note: Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara and Rosette. Always test for sensitivity. The addition of 454-1360 g hydrated lime per 454g of Kocide 2000 may reduce phytotoxicity.

#### GOLF COURSE AND LAWN BOWLING GREENS

For control of Silvery Thread Moss (*Byrum argentums*), apply 210 grams of Kocide® 2000 mixed in 8 litres of water per 100 m<sup>2</sup> of green. Apply every 2 weeks in late fall through early spring in areas of Canada that do not have permanent snow cover, and in mid-September until permanent snow cover in other areas. A minimum of 4 applications is needed to a maximum of 5 applications in a 12-month period.

DO NOT enter or allow others to enter until sprays have dried.

Note: Copper interferes with iron metabolism in the plant. Apply either chelated iron or ferrous sulphate at a rate of 10-12 g iron/100 m<sup>2</sup> every 2-4 weeks during the period of Kocide® 2000 applications to avoid copper induced iron chlorosis.

#### CELERY/CELERIAC

For suppression of Septoria late blight (*Septoria apicola*) on celery and celeriac, apply Kocide 2000 at 1.68 kg/ha in a minimum of 200L water/ha.. Begin applications when conditions are favourable to disease infection and repeat at an interval of 7 – 10 days. A maximum of 10 applications per year is permitted. Do not apply within 2 days of harvest.

#### FRUITING VEGETABLES, CROP GROUP 8-09\*

For control of early blight (*Alternaria solani*) and late blight (*Phytophthora infestans*): Apply Kocide® 2000 at 2.52 kg/ha at 7-day intervals.

For control of Septoria leaf spot (*Septoria lycopersis*): Apply Kocide® 2000 at 2.24 kg/ha at 7-day intervals. \*Use only the low rate of 2.24 kg/ha on eggplants.

For control of Bacterial Spot (*Xanthomonas campestris* pv. *vesicatoria*): When disease threatens, apply Kocide® 2000 at 2.52 kg/ha at 7-10 day intervals, more frequently when disease is severe to a minimum application interval of 3 days.

A maximum of 10 applications per year is permitted. Do not apply within 2 days of harvest.

Refer to other sections of this label for additional application instructions and/or use precautions.

**RED (GARDEN) BEETS** For the control of cercospora leaf spot (*Cercospora beticola*). Start spraying when disease threatens and continue if conditions are conducive for disease development. Spray every 10-14 days depending on conditions, using Kocide® 2000 at 1.6 – 3.2 kg/ha depending on disease severity. Addition of suitable non-herbicidal agricultural oil is recommended at 5.5 L/ha. For specific instructions, consult local agricultural authorities. Do not apply to crops within 2 days of harvest. Maximum of 6 applications per year. Refer to other sections of this label for additional application instructions and/or use precautions.

**PRECAUTIONS: DANGER: POISON. KEEP OUT OF REACH OF CHILDREN.** Harmful if swallowed or inhaled. DO NOT get in eyes. 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.

Remove personal protective equipment immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash the outside of gloves before removing.

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.

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

### **For Greenhouse Use:**

**DO NOT enter** or allow worker entry into treated areas during the restricted-entry interval of 24 hours.

At least one container or station designed specifically for flushing eyes must be available, and in operating condition with decontamination supplies, for workers entering the treated areas. This container/station must remain available for at least seven days following application.

Applicators must post warning signs bearing the following information on all entrances to the greenhouse:

- the name of the product applied
- the date and time of the application
- "product residues in the treated area may be highly irritating to the eyes."
- "avoid contact of product residues with eyes"
- "if in eyes: hold eye open and rinse slowly and gently with water for 15-20 minutes using the eye flush container [or eye flush station] located in the greenhouse. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice"
- The location of the eye flush container/station
- Instructions on how to operate the eye flush container/station.

Signs must remain posted at least 7 days after treatment. Only the applicator(s) (or someone under their supervision) may remove warning signs.

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 website at [www.croplife.ca](http://www.croplife.ca).

### **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 Registration Number with you when seeking medical attention.

### **TOXICOLOGICAL INFORMATION**

Unless extensive vomiting has occurred, empty the stomach by gastric lavage with water, milk, sodium bicarbonate solution, or a 0.1% solution of potassium ferrocyanide. (Gosselin, Clinical Toxicology of Commercial Products, 5th ed.). Administration of gastric lavage should be performed by qualified medical personnel. Probable mucosal damage may contraindicate use of gastric lavage.

For medical emergencies call 1-800-441-3637 (24 hours).

**DISPOSAL**

1. Completely empty bag into the spray mixture tank.
2. Follow provincial instructions for any required additional cleaning of container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial 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.