

Container Label

GROUP	11	FUNGICIDE
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SOVRAN®

FUNGICIDE

For use on apples, grapes and pears

COMMERCIAL

ACTIVE INGREDIENT: Kresoxim-Methyl 50% WG

WARNING, contains the allergen soy

REGISTRATION NO.: 26257 PEST CONTROL PRODUCTS ACT

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT
1-800-454-2673**



CAUTION

POISON

CAUTION – EYE IRRITANT

**READ THE LABEL AND BROCHURE BEFORE USING
KEEP OUT OF REACH OF CHILDREN**

NET CONTENTS: 450 grams

BASF Agricultural Solutions Canada Inc.
510 - 28 Quarry Park Blvd. SE
Calgary, Alberta T2C 5P9
1-877-371-2273

SOVRAN is a registered trade-mark of BASF Corporation, used under license by BASF Agricultural Solutions Canada Inc.

PRECAUTIONS

1. **KEEP OUT OF REACH OF CHILDREN.**
2. Harmful if swallowed. Do not take internally.
3. Causes eye irritation. Do not inhale dust, vapour or spray mist. Avoid contact with eyes, skin and clothing.
4. Wash thoroughly after handling and before eating, drinking or smoking.
5. If clothing becomes contaminated, remove and wash separately from household laundry before reuse.
6. Clean spray equipment thoroughly after use.
7. Do not contaminate domestic or irrigation water, lakes, streams or ponds by the cleaning of equipment or the disposal of wastes.

FIRST AID

IN CASE OF EYE CONTACT: 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.

IN CASE OF SKIN CONTACT: 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 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

The patient should be treated symptomatically.

STORAGE

1. Store in original tightly closed container.
2. Do not ship or store near food, feed, seed and fertilizers.
3. Store in cool, dry, locked, well-ventilated area without floor drain.

DISPOSAL

Store this product away from food or feed.

Disposal of Container

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For information on 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.

Booklet

GROUP

11

FUNGICIDE

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CAUTION

POISON

CAUTION – EYE IRRITANT

**READ THE LABEL AND BROCHURE BEFORE USING
KEEP OUT OF REACH OF CHILDREN**

NET CONTENTS: 0.100 – 10 kg

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GENERAL INFORMATION

This package contains **SOVRAN** fungicide, a 50% water-dispersible granule (WG). The active ingredient in **SOVRAN** fungicide belongs to a new class of fungicides, the strobilurins. Strobilurins are synthetic derivatives of a natural antifungal substance. **SOVRAN** fungicide has a new mode of action and is effective against pathogens resistant to other fungicides.

SOVRAN fungicide has a protective effect because it inhibits spore germination and a curative-eradicator effect due to the inhibition of mycelial growth and sporulation of the fungus on the leaf surface. **SOVRAN** fungicide can therefore be applied in either pre- or post-infection situations. However, optimum disease control is achieved when **SOVRAN** fungicide is applied in a regularly scheduled protective spray program and is used in rotation program with other fungicides.

On apples and pears, **SOVRAN** fungicide controls apple/pear scab and powdery mildew. On grapes, **SOVRAN** fungicide controls powdery mildew, downy mildew and black rot.

Because of its high specific activity, low vapour pressure and good rainfastness, **SOVRAN** fungicide has good residual activity against the target fungi.

DIRECTIONS FOR USE

DO NOT APPLY BY AIR.

For application using handheld airblast/mistblower, wear chemical-resistant coveralls over long-sleeved shirt, long pants, chemical-resistant hood, socks, chemical-resistant footwear, and a respirator with a NIOSH-approved organo-vapour removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, applications, clean-up, and repair. Gloves are not required during application within a closed cab.

Application Instructions

Apply **SOVRAN** fungicide at rates listed in the following crop application rate and timing tables. Apply **SOVRAN** fungicide with ground spray equipment only. Ensure thorough coverage of foliage. Equipment should be calibrated frequently.

DO NOT apply during periods of dead calm or when winds are gusty. DO NOT overspray non-target terrestrial or aquatic habitats. DO NOT contaminate aquatic habitats when cleaning and rinsing spray equipment or containers.

Apply only when the potential for drift to non-target areas of human habitation or areas of human activity is minimal, taking into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

Airblast application

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. DO NOT apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

SPRAY BUFFER ZONES

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. DO NOT apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

DO NOT apply by air.

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

Crop	Ground Airblast App. Timing	Product Rate per hectare (g product/ha)	Active Ingredient Rate per hectare (g a.i./ha)	Number of Apps.	Min. App. Interval (days)	Buffer Zones (metres) required for the Protection of:			
						Freshwater Habitat of Depths:		Estuarine/Marine Habitat of Depths:	
						< 1 m	> 1 m	< 1 m	> 1 m
Apple	Early Season Growth	450	225	1	NA	20	1	3	1
		240	120	2	10	10	0	2	0
					7				
		180	90	2	7	10	0	1	0
360	180	1	NA	15	1	3	1		
Pear	Early Season Growth	360	180	1	NA	15	1	3	1
		240	120	2	7	10	0	2	0
Grape	Early Season Growth	300	150	1	NA	15	1	2	1
	Late Season Growth					5	1	1	1
	Early Season Growth	240	120	2	14	10	0	2	0
	Late Season Growth					5	0	1	0

NA – not applicable

Where g a.i./ hectare = gram of active ingredient per hectare; app = application; m = metre

For tankmixes, 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 Spray Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

RECOMMENDED APPLICATION RATES AND TIMING TABLE

Table 1: Application rate and timing for apples

DISEASE CONTROLLED	RATE PER HECTARE* (GRAMS PRODUCT)	MAXIMUM NUMBER OF APPLICATIONS PER YEAR
Apple scab (<i>Venturia inaequalis</i>)	180** (preventative rate only)	Apply at the 1.27 cm (½ inch) green growth stage, or when environmental conditions become favourable for primary scab development. Maximum of 2 applications per year made 10-14 days apart. During periods of rapid shoot growth, the re-application interval should be shortened to 7 days.
	240 (moderate disease pressures - preventative and curative - up to 96 hours post infection)	
	241-360 (curative only, under high*** disease pressure)	Maximum of 1 application per year at this rate. Apply at the 1.27 cm (½ inch) green growth stage. DO NOT apply at this rate if a previous SOVRAN application has already been made.
Powdery mildew (<i>Podosphaera leucotricha</i>)	240 (low to moderate disease pressure)	Maximum of 2 applications per year. Apply preventatively at the 1.27 cm (½ inch) green growth stage and re-apply 10-14 days later.
	450 (high*** disease pressure)	Apply at the 1.27 cm (½ inch) green growth stage. Maximum of 1 application per year at this rate. DO NOT apply at this rate if a previous SOVRAN application has already been made.

* **DO NOT** exceed a total seasonal maximum of 480 grams product per crop per ha.

** Use low rate under low disease pressure only.

*** High disease pressure = disease is present in your orchard and weather conditions are conducive to the progression of disease.

Table 2: Application rate and timing for grapes

DISEASE CONTROLLED	RATE PER HECTARE* (GRAMS PRODUCT)	MAXIMUM NUMBER OF APPLICATIONS PER YEAR
Powdery mildew (<i>Uncinula necator</i>) Downy mildew (<i>Plasmopara viticola</i>)	240	Maximum of 2 applications per year. Apply during pre and/or post bloom on a 14-21 day re-application interval, depending on disease pressures.
	241-300 **	Maximum of 1 application per year at rates between 241 and 300 g/ha. DO NOT apply at this rate if a previous SOVRAN application has been made.
Black rot (<i>Guignardia bidwellii</i>)	240	Maximum of 2 applications per year. Apply preventatively. Re-apply once 14 days after initial application if warm, moist environmental conditions persist.

* **DO NOT** exceed a total seasonal maximum of 480 grams product per crop per ha.

** Use high rate under high disease pressures or when conditions are conducive for disease development.

Table 3: Application rate and timing for pears

DISEASE CONTROLLED	RATE PER HECTARE* (GRAMS PRODUCT)	MAXIMUM NUMBER OF APPLICATIONS PER YEAR
Pear scab <i>(Venturia pirina)</i> Powdery mildew <i>(Podosphaera leucotricha)</i>	240 (low to moderate disease pressure)	Apply at the 1.27 cm (½ inch) green growth stage, or when environmental conditions become favourable for primary scab development. Maximum of 2 applications per year made 10-14 days apart. During periods of rapid shoot growth, the re-application interval should be shortened to 7 days.
	360 (high** disease pressure)	Apply at the 1.27 cm (½ inch) green growth stage. Maximum of 1 application per year. DO NOT apply at this rate if a previous SOVRAN application has already been made.

* **DO NOT** exceed a total seasonal maximum of 480 grams product per crop per ha.

** High disease pressure = disease is present in your orchard and environmental conditions are conducive to the progression of disease.

COVERAGE

Apply **SOVRAN** fungicide in sufficient water to ensure thorough coverage of foliage, bloom and fruit. Thorough coverage is required for optimum disease control.

ADDITIVES

No additives or adjuvants are recommended for use with **SOVRAN** fungicide.

RESISTANCE MANAGEMENT RECOMMENDATIONS

SOVRAN fungicide contains kresoxim-methyl, a group 11 fungicide, and is effective against pathogens resistant to fungicides with modes of action different from those of QoI fungicides (Target site group 11) such as for example dicarboximides, sterol inhibitors, benzimidazoles or phenylamides. Fungal isolates with acquired resistance to group 11 fungicides such as pyraclostrobin, azoxystrobin, trifloxystrobin and kresoxim-methyl may eventually dominate the fungal population if group 11 fungicides are used predominantly and repeatedly in the same field in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control by **SOVRAN** fungicide or other group 11 fungicides.

The following recommendations are considered to delay the development of fungicide resistance:

1. Do not make more than a total of 2 applications of **SOVRAN** fungicide per crop per season (total management of all diseases).
2. Do not apply sequential applications of **SOVRAN** fungicide, or other fungicides from Group 11 in a season. Where possible, rotate the use of **SOVRAN** fungicide or other Group 11 fungicides with fungicides from different groups that control the same pathogens.

3. **IPM: SOVRAN** fungicide should be integrated into an overall disease and pest management program. Cultural practices known to reduce disease development should be followed. Consult your local extension specialist, certified crop advisor and/or BASF Agricultural Solutions Canada Inc. (“BASF”) for additional IPM strategies established for your area. **SOVRAN** fungicide may be used in Agricultural Extension advisory (disease forecasting) programs, which recommend application timing based on environmental factors favourable for disease development. This product has been shown to be harmful to certain beneficial arthropods and should be used with caution in IPM programs.
4. **Monitor:** Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development.
5. **Reporting:** If a group 11 target site fungicide such as **SOVRAN** fungicide appears to be less or no longer effective against a pathogen that it previously controlled or suppressed, contact a BASF representative, local extension specialist or certified crop advisor to assist in determining the cause of reduced performance.

For further information and to report suspected resistance, contact BASF at 1-877-371-2273 or at www.agsolutions.ca.

MIXING

1. Prior to mixing, clean the spray tank by following the sprayer clean-up recommendations on the previously sprayed product label.
2. Fill the spray tank one-half full of water and start agitation.
3. Add the required amount of **SOVRAN** fungicide to the tank.
4. Continue agitation while filling tank to the desired spray volume.
5. After use, thoroughly rinse and clean the spray tank.

ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic organisms. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Toxic to birds.

Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland.

This product demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

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.

SENSITIVE CROP PRECAUTION

1. Cherries: **SOVRAN** fungicide may cause injury to certain sensitive cherry varieties such as Van, Sweetheart, Chelan, Somerset, Valera Vandalay, Cavalier, Coral Champagne, Angela Vista, Emperor Francis, Royalton, Schmidt, Summit and Viva.
2. Asian Pears: **SOVRAN** fungicide may cause injury to certain sensitive Asian pears of variety Olympic (Korean Giant).
3. Use special care when applying **SOVRAN** fungicide to prevent contact with these varieties and other non-target plants. Avoid off-target movement.
4. Thoroughly rinse spray equipment, including the inside of the tank, hoses and nozzles after and before using the same equipment in crops that are sensitive to **SOVRAN** fungicide.

RESTRICTIONS AND LIMITATIONS

CROP	TOTAL SEASONAL MAXIMUM PRODUCT/HA	MAXIMUM NUMBER OF APPLICATIONS/ SEASON	PRE-HARVEST INTERVAL (PHI)
Apples	480 g	2	30 days
Grapes	480 g	2	14 days
Pears	480 g	2	30 days

1. Do not re-enter or allow workers to re-enter treated areas to conduct high foliar contact activities (e.g. pruning, thinning, harvesting) within 48 hours of application. Activities not involving high foliar contact (e.g. scouting, irrigation, weeding) may be conducted during this period, provided that workers wear the personal protective equipment listed on the label.
2. DO NOT allow people or pets to enter treated areas until sprays have dried.
3. Allow a minimum of 7 days on apples, 7-14 days on pears and 14 days on grapes between sequential applications of **SOVRAN** fungicide.
4. Do not reduce the **SOVRAN** fungicide rates recommended on the label.
5. Do not apply through any type of irrigation equipment.
6. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
7. As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.
8. **DO NOT APPLY BY AIR.**
9. Do not tank mix **SOVRAN** fungicide with other crop protection compounds, spray adjuvants or additives.

PRECAUTIONS

1. **KEEP OUT OF REACH OF CHILDREN.**
2. Harmful if swallowed. Do not take internally.
3. Causes eye irritation. Do not inhale dust, vapour or spray mist. Avoid contact with eyes, skin and clothing.
4. Wash thoroughly after handling and before eating, drinking or smoking.
5. If clothing becomes contaminated, remove and wash separately from household laundry before reuse.
6. Clean spray equipment thoroughly after use.
7. Do not contaminate domestic or irrigation water, lakes, streams or ponds by the cleaning of equipment or the disposal of wastes.

FIRST AID

IN CASE OF EYE CONTACT: 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.

IN CASE OF SKIN CONTACT: 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 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

The patient should be treated symptomatically.

STORAGE

1. Store in original tightly closed container.
2. Do not ship or store near food, feed, seed and fertilizers.
3. Store in cool, dry, locked, well-ventilated area without floor drain.

DISPOSAL

Store this product away from food or feed.

Disposal of Container

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For Returnable Containers

DO NOT reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

For Containers that can be Refilled for the User by the Distributor/Dealer

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

For information on 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.