

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.

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.

Airblast application

DO NOT direct spray above plants to be treated and turn off outward pointing nozzles at row ends and outer rows. DO NOT apply when wind speed is greater than 16 km/hour at the application site as measured outside of the orchard on the upwind side.

Buffer Zones

A buffer zone of 3 metres is required between the downwind point of direct application and the closest edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, pastures, rangelands and shrublands).

A buffer zone of 7 metres is required between the downwind point of direct application and the closest edge of sensitive aquatic habitats (such as lakes, rivers, sloughs, ponds, coulees, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

RECOMMENDED APPLICATION RATES AND TIMING TABLE

APPLES

Table 1: Application Rate and Timing for Apples

DISEASE CONTROLLED	RATE PER HECTARE
Apple scab (<i>Venturia inaequalis</i>)	180* grams (preventative only) 240 grams (preventative and curative - up to 96 hours post infection) 360 grams (curative only, under extreme** disease pressure)
Powdery mildew (<i>Podosphaera leucotricha</i>)	240 grams (low to moderate disease pressure) 450 grams (high to extreme** disease pressure)

* Use low rate under low disease pressure only.

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

Under low-level disease conditions, the minimum application rates can be used while maximum application rates and shortened spray schedules are recommended for severe or threatening disease conditions.

Timing

Apple Scab

For scab control, apply **SOVRAN** fungicide as a protectant at 1/2 inch green or when conditions become favourable for primary scab and continue on a 10-14 day interval. **SOVRAN** fungicide can be applied (240-360 g/ha only) up to 96 hours after the beginning of the scab infection period. During periods of rapid shoot growth, the interval should be shortened to 7 days.

Use the high rate (360 grams/ha) during periods of extreme disease pressure or when apple scab symptoms are present in the orchard.

Powdery Mildew

For powdery mildew, apply **SOVRAN** fungicide at 1/2 inch green and continue preventive applications on a 10-14 day interval.

Use the high rate during periods of extreme infection pressure.

GRAPES

Table 2. Application Rate and Timing for Grapes

DISEASE CONTROLLED	RATE PER HECTARE
Powdery mildew (<i>Uncinula necator</i>) Downy mildew (<i>Plasmopara viticola</i>)	240 – 300 grams*
Black rot (<i>Guignardia bidwellii</i>)	240 grams

*Use high rate under heavy infection pressure.

Timing

Powdery Mildew and Downy Mildew

SOVRAN® fungicide can be applied to grapes through pre- and post-bloom for control of powdery and downy mildew. Apply at 240 g/ha under low to moderate disease pressure and at 300 g/ha under heavy disease pressure. Use a 14-day interval under moderate to heavy disease pressure and a 21-day interval under low disease pressure.

Black Rot

Apply at 240 g/ha at a 14-day interval.

DO NOT make more than 4 applications per season. DO NOT apply within 14 days of harvest.

DO NOT make more than 2 sequential applications of SOVRAN fungicide, then alternate with 2 applications of a fungicide with a different mode of action.

PEARS

Table 3: Application Rate and Timing for Pears

DISEASE CONTROLLED	RATE PER HECTARE
Pear scab (<i>Venturia pirina</i>) Powdery mildew (<i>Podosphaera leucotricha</i>)	240 grams (low to moderate disease pressure) 360 grams (high to extreme* disease pressure)

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

Timing

Pear Scab

For scab control, apply **SOVRAN** fungicide as a protectant at 1/2 inch green or when conditions become favourable for primary scab and continue on a 10-14 day interval. During periods of rapid shoot growth, the interval should be shortened to 7 days.

Use the high rate (360 grams/ha) during periods of extreme disease pressure or when pear scab symptoms are present in the orchard.

Powdery Mildew

For powdery mildew, apply **SOVRAN** fungicide at 1/2 inch green and continue preventive applications on a 10-14 day interval.

Use the high rate during periods of extreme infection pressure.

Make a maximum of two sequential applications of **SOVRAN** fungicide followed by two or more applications of fungicides with a different mode of action and registered for the control of scab and powdery mildew on pears.

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 4 applications of **SOVRAN** fungicide per season.
2. BASF recommends making no more than **2 consecutive applications** of **SOVRAN** fungicide. Then, alternate to an effective non-strobilurin fungicide with a different mode of action. Thereafter, **SOVRAN** fungicide can be sprayed again up to the maximum number of 4 applications per season.
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 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 HAZARDS

Observe buffer zones specified under Directions for Use.

HARMFUL TO CERTAIN BENEFICIAL PREDATORY OR PARASITIC ARTHROPODS. Minimize spray drift (See Directions for Use) to reduce effects on beneficial arthropods in habitats adjacent to the application site such as hedgerows and woodland.

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	1.8 kg	4	30 days
Grapes	1.2 kg	4	14 days
Pears	1.44 kg	4	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. Allow a minimum of 7 days on apples, 7-14 days on pears and 14 days on grapes between sequential applications of **SOVRAN** fungicide.
3. Do not reduce the **SOVRAN** fungicide rates recommended on the label.
4. Do not apply through any type of irrigation equipment.
5. **DO NOT APPLY BY AIR.**
6. 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. Wear protective equipment and clothing, including goggles or face shield, gloves (rubber, PVC, neoprene or nitrile), hat, long-sleeved shirt, trousers and rubber boots.
6. If clothing becomes contaminated, remove and wash separately from household laundry before reuse.
7. Clean spray equipment thoroughly after use.
8. Do not contaminate domestic or irrigation water, lakes, streams or ponds by the cleaning of equipment or the disposal of wastes.

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.

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

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

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 container unsuitable for any 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. The user assumes the risk to persons or property that arises from any such use of this product.