

**Senator® 50 SC Fungicide**

GROUP

1

FUNGICIDE

**COMMERCIAL  
Suspension Concentrate**

**GUARANTEE:**

thiophanate-methyl

500 g/L

Contains 5-chloro-2-methyl-4-isothiazolin-3-one at 0.00113% and 2-methyl-4-isothiazolin-3-one at 0.00037 % as preservatives.

OR

Contains 5-chloro-2-methyl-4-isothiazolin-3-one at 0.001695% and 2-methyl-4-isothiazolin-3-one at 0.000555%, as preservatives.

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING**

REGISTRATION NO.: 32096 PEST CONTROL PRODUCTS ACT

WARNING – POISON



Warning, contains the allergen soy.

Registrant:

Nippon Soda Co., Ltd

Shin-Ohtemachi Bldg., 2-1, 2-Chrome Ohtemachi, Chiyoda-Ku

Tokyo, Japan, 100-8165

USA Contact Number: (212) 490-0350

Canadian Representative:

Brenda W. Nailor Consulting

12 Burke Court, Guelph, Ontario

N1L 1J2

(519) 837-8704

Net Contents: 1 L to 50 L

**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.

**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 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 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:**

No specific antidote is available. Treat symptomatically.

**PRECAUTIONS:**

KEEP OUT OF REACH OF CHILDREN. May be harmful if swallowed or inhaled. Avoid contact with eyes, skin or clothing. Avoid breathing of dust or spray mist. Wash thoroughly with soap and water after handling. Wash contaminated clothes before re-use. Do not contaminate food or feed. Do not contaminate domestic or irrigation water supplies, lakes, streams and ponds.

DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds, or other waters.

**DISPOSAL:**

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the 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.

***IN CASE OF EMERGENCY INVOLVING A POISONING OR MAJOR SPILL CALL 1-866-336-2983***

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**GENERAL INFORMATION:**

SENATOR 50 SC Fungicide is a systemic fungicide for control of certain fungus diseases. It is effective against certain diseases of apples, pears, lowbush blueberries, peaches, nectarines, plums, prunes, cherries, strawberries, raspberries, ornamentals, greenhouse tobacco seedlings and mushroom casing.

**NOTICE TO USER:**

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**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:**

No specific antidote is available. Treat symptomatically.

**PRECAUTIONS:**

**KEEP OUT OF REACH OF CHILDREN.** May be harmful if swallowed or inhaled. Avoid contact with eyes, skin or clothing. Avoid breathing of dust or spray mist. Wash thoroughly with soap and water after handling. Wash contaminated clothes before re-use. Do not contaminate food or feed. Do not contaminate domestic or irrigation water supplies, lakes, streams and ponds.

**DO NOT** allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

Apply only when the potential for drift to areas of human habitation or areas of human activity (such as houses, cottages and recreational areas) is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

After handling Senator 50 SC Fungicide, wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. No food, drink or tobacco should be allowed in areas of chemical storage or use. Do not apply this product in a way that will contact workers or other persons. Only protected handlers may be in the area during application.

**Personal Protective Equipment (PPE):**

Wear coveralls over long sleeved shirt and long pants and chemical resistant gloves for mixing, loading, applying, clean-up and repair.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of the gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**DISPOSAL:**

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
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4. Dispose of the container in accordance with provincial requirements.
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***IN CASE OF EMERGENCY INVOLVING A POISONING OR MAJOR SPILL CALL 1-866-336-2983***

**RESISTANCE MANAGEMENT RECOMMENDATIONS :**

For resistance management, please note that SENATOR 50 SC Fungicide contains a Group 1 fungicide. Any fungal population may contain individuals naturally resistant to SENATOR 50 SC Fungicide and other Group 1 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 SENATOR 50 SC Fungicide or other Group 1 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that is effective on the target pathogen when such use is permitted.
- Fungicide use should be based on an Integrated Pest 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. Notify Nippon Soda Co.Ltd if reduced sensitivity of the pathogen to SENATOR 50 SC 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 with a different target site of action, if available.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information and to report suspected resistance, contact Nippon Soda Co. Ltd at (212) 490-0350.

Since the occurrence of resistance cannot be foreseen, Nippon Soda Co., Ltd. accepts no responsibility for any loss of, or damage to, crops resulting from the failure of SENATOR 50 SC Fungicide to control the resistant fungi strains.

**MIXING:**

**SHAKE WELL BEFORE USING.** Some settling may occur during prolonged periods of non-use. When high pH tank mixes exist, the interval between mixing and application should be minimized. The buffering of tank water to pH 6-7 prior to the addition of SENATOR 50 SC Fungicide is recommended. Add required volume amount of SENATOR 50 SC Fungicide to partially fill tank (1/2 total volume), agitate by mechanical or hydraulic means, add

tank mix product if used (see below), agitate again and then add remaining required amount of water. Continuous agitation is recommended to keep the material in proper suspension. For best results, use spray mixture the same day it is prepared.

Tank mixing instructions: SENATOR 50 SC is compatible with most commonly used pesticides. If tank mixing with other materials, add products in the following order: wettable powders, dry flowables, liquid flowables, emulsifiable concentrates, and soluble materials such as fertilizers. No claim of compatibility with other products is implied: Do not tank mix with copper-containing materials or with highly alkaline pesticides, such as Bordeaux mixture or lime sulfur. Consult the intended tank mix partner product label for appropriate application rates and use instructions. Follow the label directions for the most restrictive of label precautions and limitations. This product may not be mixed with any product containing a label prohibition against such mixing. Read and observe the most restrictive precautionary statements and other information appearing on product labels used in mixtures. SENATOR 50 SC may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

#### **DIRECTIONS FOR USE: AERIAL APPLICATION**

Apply only by fixed-wing or rotary aircraft equipment that 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 applications 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.

#### **Use Precautions**

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 any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

#### **Operator 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, coveralls 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.

## Product Specific Precautions

Read and understand the entire label before opening this product. If you have any questions, call the manufacturer at (212) 490-0350 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: Apply the recommended rate in a minimum spray volume of 50 litres per hectare.

### RATE:

Rates for orchard spraying are shown as mL of SENATOR 50 SC Fungicide per 1000 litres water for dilute spraying based on a volume of approximately 3500 litres per hectare. For concentrate spraying apply the same quantity per hectare as would be applied by dilute spraying. Use the recommended rate and reduce spray intervals under conditions of severe disease pressure.

### Compatibility:

SENATOR 50 SC Fungicide is compatible with most pesticides; do not mix with lime or other alkaline materials.

### DIRECTIONS FOR USE

#### APPLES AND PEARS:

NOTE: When using SENATOR 50 SC Fungicide in a tank mix, only use with a suitable protectant fungicide that is registered on the target crops at a suitable timing, such as Maestro 80 DF, Supra Captan 80 WDG or Granuflo-T. Always follow label rates and the most conservative personal protective equipment, pre-harvest intervals (PHI), re-entry intervals (REI) and spray intervals of the two tank mix products.

**Apple Scab (*Venturia spp.*), Powdery Mildew (*Podosphaera leucotricha*):** Spray with ground application equipment using sufficient volume for thorough coverage. When used without any tank mix partner, Senator 50 SC Fungicide may be applied up to the day before harvest. When used with a tank mix partner, always use the most restrictive preharvest interval labelled for either tank mix partner. **DO NOT APPLY BY AIR.**

#### Eastern Canada

##### **Tank-mix with Maestro 80 DF or Supra Captan 80 WDG:**

Apply at the rate of 250 mL of SENATOR 50 SC Fungicide plus 0.625 kg of Maestro 80 DF or Supra Captan 80 WDG per 1000 L of water. Based on a volume of 3500 L of water per hectare, this rate is 875 mL of SENATOR 50 SC Fungicide (0.437 kg ai) + 2.18 kg of Maestro 80 DF or Supra Captan 80 WDG per hectare for a single application. This tank-mix may be applied twice per season with a minimal retreatment interval of 7 days. The maximum seasonal rate is 1.75 L of product (0.875 kg ai) per hectare.

Do not use Maestro 80 DF or Supra Captan 80 WDG with or shortly after oil sprays, or solvent formulations of parathion.

##### **Tank mix with Granuflo-T:**

Apply at the rate of 250 mL SENATOR 50 SC Fungicide plus 1.5 to 2.25 kg of Granuflo-T per 1000 L of water. Based on a volume of 3500 L of water per hectare, this rate is 875 mL of SENATOR 50 SC Fungicide (0.437 kg ai) + 5.25 to 7.88 kg of Granuflo-T per hectare for a single application. Do not exceed the per hectare rate of SENATOR 50 SC Fungicide of 875 mL/ha. This tank-mix may be applied only once per season.

#### British Columbia

For apple scab and powdery mildew control in the Okanagan-Kootenay region of British Columbia, apply SENATOR 50 SC Fungicide at the rate of 3.15 L of product (1.58 kg ai) per hectare. Consult local authorities for timing of applications. The product may be applied twice per season with a minimal retreatment interval of 7 days. The maximum seasonal rate is 6.30 L of product (3.15 kg ai) per hectare.

**LOWBUSH BLUEBERRIES:**

**Blossom and Twig Blight (*Phomopsis vaccinii*):** Apply 1.54 L of SENATOR 50 SC Fungicide in 1000 L of water (0.770 kg ai) per hectare when using ground application equipment or 50 – 60 L of water for aerial applications. Commence applications at bud break. Make 2 applications at a 10 - 14-day interval. Exact interval used depends on weather conditions and disease development. Contact local extension officials. Do not apply within 60 days of harvest. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare.

**PEACHES, NECTARINES, PLUMS, PRUNES, CHERRIES:**

**Brown Rot (*Monilinia* spp.):** Apply 700 mL of SENATOR 50 SC Fungicide per 1000 L of water, using ground application equipment, at very early stages of blossoming, and at full bloom to ensure adequate protection. In British Columbia apply at pink and full bloom stage. Based on a volume of 3500 L of water per hectare, this rate is 2.45 L of product (1.225 kg ai) per hectare for a single application. Repeat once 3 to 5 days later if wet weather conditions prevail. May be applied up to the day before harvest. The maximum seasonal rate is 4.9 L of product (2.45 kg ai) per hectare. DO NOT APPLY BY AIR

**RASPBERRIES:**

**Powdery Mildew (*Podosphaera macularis*), Fruit Rots (*Botrytis cinerea*):** Apply 700 mL of SENATOR 50 SC Fungicide per 1000 L of water, using ground application equipment, during flowering. Based on a volume of 2200 L of water per hectare, this rate is 1.54 L of product (0.770 kg ai) per hectare for a single application. Repeat once after 7 - 10 days as necessary. May be applied up to the day before harvest. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare. DO NOT APPLY BY AIR.

**STRAWBERRIES:**

**Fruit Rot (*Botrytis cinerea*), Leaf Spot (*Mycosphaerella fragariae*):** Apply 700 mL of SENATOR 50 SC Fungicide per 1000 L of water, using ground application equipment, commencing when buds are visible in the crown. Based on a volume of 2200 L of water per hectare, this rate is 1.54 L of product (0.770 kg ai) per hectare for a single application. Repeat once after 7 - 10 days as required. During rainy periods which favour rapid development of fruit rots, reduce spray interval to 3 - 5 days. May be applied up to the day before harvest. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare. DO NOT APPLY BY AIR.

**ROSES, ORNAMENTAL PLANTS:**

**Black Spot of Roses and Powdery Mildew:** Apply SENATOR 50 SC Fungicide at 700 – 1050 mL product per 1000 L of water, using ground application equipment. Based on spray volume of 1000 L of water per hectare, the rate is 0.350 – 0.525 kg ai/ha for a single application. Repeat once after 10 – 14 days as required. The maximum seasonal rate is 1.05 kg ai per hectare. DO NOT APPLY BY AIR.

**GREENHOUSE POTTED ORNAMENTALS:**

**Powdery mildew (*Podosphaera* spp.), Botrytis blight /grey mold (*Botrytis cinerea*) and leaf spot (*Alternaria* spp., *Cercospora* spp.):** Apply SENATOR 50 SC Fungicide at 910 – 1190 mL per 1000 L of water, using ground application equipment. Water soil thoroughly with spray solution. Based on spray volume of 1000 L of water per hectare, the rate is 0.455 – 0.595 kg ai/ha for a single application. Repeat once after 7 days as required. The maximum seasonal rate is 1.19 kg ai per hectare.

**Stem, Crown and Root Rots caused by *Fusarium* and *Rhizoctonia*:** Apply Senator 50 SC Fungicide at 910 – 1190 mL per 1000 L of water as a drench or directed spray by ground application to thoroughly soak the growing media through the root zone. Based on spray volume of 1000 L of water per hectare, the rate is 0.455 – 0.595 kg ai/ha for a single application. Repeat once after 15 days if required. The maximum seasonal rate is 1.19 kg ai per hectare.

Note: SENATOR 50 SC does not control *Pythium* or *Phytophthora*.

<b>GREENHOUSE TOBACCO SEEDLINGS AND WHITE BUTTON MUSHROOMS:</b>
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**NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS**

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Nippon Soda Co., Ltd. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Nippon Soda Co., Ltd. itself makes no representation or warranty with respect to performance (efficacy) and/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 Nippon Soda Co., Ltd harmless, from any claims based on efficacy and/or phytotoxicity in connection with the uses described below.

**DIRECTION FOR USES: For Control of *Rhizoctonia* Damping-Off on Greenhouse Tobacco Seedlings**

Apply 126 mL of SENATOR 50 SC Fungicide in 300 L water to 100 m<sup>2</sup> of seedlings as a drench or directed spray, using ground application equipment, to thoroughly soak the growing media through the root zone. Apply preventatively, when the larger leaves of the seedlings are about 1.5 cm in diameter, or at the first sign of disease. Repeat if necessary 10 - 14 days later. Do not make more than 2 applications per crop. DO NOT apply within 65 days of harvest.

**DIRECTION FOR USE: For Control of *Trichoderma* Green Mould on White Button Mushrooms**

A maximum of one application of SENATOR 50 SC Fungicide per crop cycle may be made as a drench application to the casing. Please note that the drench application to the casing will not control the aggressive species of *Trichoderma* (*Trichoderma aggressivum* f. *agressivum*).

**Resistance Management**

Do not make sequential applications of Group 1 (Benzimidazoles) fungicides. If an application of a Group 1 fungicide has been made to the casings, use a registered fungicide with a different mode of action before applying another Group 1 fungicide.

**Specific Limitations for Drench Application to the Casings:**

Any one person can only apply a casing drench containing SENATOR 50 SC Fungicide to a maximum of 500 m<sup>2</sup> of bed surface per day (426 mL SENATOR 50 SC Fungicide) when using hand held equipment.

**Environmental Hazards:**

By-products from this product are toxic to aquatic organisms. Do not store waste piles of treated mushroom compost in an area which will allow runoff into surface waters. Do not contaminate any body of water or groundwater when disposing of equipment wash water. DO NOT allow effluent or runoff from the mushroom houses containing this product to enter lakes, streams, ponds or other waters.

**For Control of *Trichoderma* Green Mould on White Button Mushrooms (CASING)**

Mix 85 mL of SENATOR 50 SC Fungicide with approximately 75 L of water and apply as a drench to 100 m<sup>2</sup> of bed surface. Make application shortly after casing. Do not make more than one application to the mushroom bed as a drench. Do not apply within 17 days of first harvest. Do not apply after harvesting has started.

SENATOR is a registered trademark of Nippon Soda Co., Ltd.