

Thiophanate-Methyl 500 SC Fungicide

GROUP

1

FUNGICIDE

**COMMERCIAL
Suspension Concentrate**

ACTIVE INGREDIENT:

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.: 31784 PEST CONTROL PRODUCTS ACT

WARNING – POISON



Warning, contains the allergen soy.

Registrant:
Nippon Soda Co., Ltd
JP Tower 10th Floor, 7-2 Marunouchi 2-chome, Chiyoda-ku,
Tokyo, Japan, 100-7010
USA Contact Number: (212) 490-0350

Canadian Representative:
Nailor Regulatory Consulting Inc.
935 Rosinke Drive, Kincardine, Ontario
N2Z 2X3
(519) 829-5422

Net Contents: 1 L to 1060 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.

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.

Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

DO NOT apply in greenhouses, unless otherwise specified in the crop-specific use directions.

STORAGE:

Store this product away from food or feed.

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.

For recyclable containers:

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 refillable containers: 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.

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

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GENERAL INFORMATION:

THIOPHANATE-METHYL 500 SC Fungicide is a systemic fungicide for control of certain fungus diseases. It is effective against certain diseases of apples, pears, lowbush blueberries, grapes, peaches, nectarines, plums, prunes, cherries, strawberries, raspberries, white beans, sugar beets, potato seed pieces, ornamentals, turf, greenhouse tobacco seedlings and mushroom casing.

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.

FIRST AID:

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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.

Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

DO NOT apply in greenhouses, unless otherwise specified in the crop-specific use directions.

DO NOT enter or allow worker entry into treated areas to perform post-application activities during the intervals specified in the following table.

Crop	Post-Application Activity	REI and/or PHI
Apples, pears	Harvesting (hand, mechanical)	7 days
	All other activities	12 hours
Lowbush blueberry	Harvesting (hand, mechanical)	60 days
	Hand set/ hand line irrigation related activities involving foliar contact	1 day
	All other activities	12 hours
Cherry, nectarine, peach, plum, prune	Hand thinning fruit	4 days
	Harvesting (hand, mechanical)	1 day
	All other activities	12 hours

Raspberry	Harvesting (hand, mechanical), tying/training (full foliage), hand set/ hand line irrigation related activities involving foliar contact	1 day
	All other activities	12 hours
Grape	Harvesting (hand, mechanical)	45 days
	All other activities	12 hours
Strawberry	Harvesting (hand, mechanical)	1 day
	All other activities	12 hours
Sugarbeet	Harvesting (hand, mechanical)	21 days
	All other activities	12 hours
Outdoor roses and outdoor ornamentals grown for cut flower production	Hand harvesting, hand pruning, disbudding	2 days
	All other activities	12 hours
Outdoor roses and ornamentals not grown for cut flower production	All other activities	12 hours
Greenhouse ornamentals (soil drench)	All activities	12 hours
Greenhouse ornamentals <u>not</u> grown for cut flower production (foliar application)	All activities	12 hours
Aspen, poplar	All activities	12 hours
White button mushrooms (casing)	Harvesting (hand, mechanical)	17 days
Greenhouse tobacco seedlings (foliar, drench)	Harvesting (hand, mechanical)	65 days
	Activities with foliar contact	6 days
	Activities with no foliar contact	12 hours
White Bean	Harvesting (hand, mechanical)	21 days
	Scouting, hand set/ hand line irrigation related activities involving foliar contact	2 days
	All other activities	12 hours
Sod farms	All activities	12 hours
Golf courses	All activities	Until sprays have dried

REI = restricted entry interval; PHI = pre-harvest interval

After handling Thiophanate-Methyl 500 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.

DO NOT apply using handheld mistblower/airblast or handheld fogging equipment.

Personal Protective Equipment (PPE):

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, shoes and socks during mixing, loading, application, clean-up and repair. In addition, wear chemical-resistant headgear during open cab airblast application. Chemical-resistant headgear includes Sou'Wester hat, chemical-resistant rain hat or large brimmed waterproof hat and hood with sufficient neck protection. Gloves are not required during application within a closed cab or cockpit.

If mixing and loading more than 520 L in a day, a closed mixing/loading system is required.

For groundboom application, if applying more than 520 L in a day, a closed cab tractor is required.

For potato seed piece treatment, wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, shoes and socks when treating, planting and otherwise handling treated potato seed pieces. Use a closed-cab tractor when planting. Gloves are not required within the cab. If it is necessary for a worker to ride at the back of the planter to monitor planting, then they must also wear chemical-resistant footwear, and a NIOSH-approved N95 (minimum) filtering facepiece respirator (dust mask) that is properly fit tested. In addition, only 50,000 kg of potato seed pieces can be planted per day. These restrictions are required to minimize exposure to the worker on the back of the planter.

Planting may need to be performed over multiple days, or using different workers in the back of the planter who have not already been exposed that day to Thiophanate-Methyl 500 SC Fungicide by performing another task.

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.

ENVIRONMENTAL PRECAUTIONS

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

Toxic to birds.

Toxic to small wild mammals.

Toxic to earthworms.

Toxic to bees. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. Avoid applications when bees are foraging in the treatment area in ground cover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying – Best Management Practices" on the Health Canada website (www.canada.ca/pollinators). Follow crop specific directions for application timing.

For white beans cherry, peach, nectarine, plum, prune:

Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to the evening when most bees are not foraging.

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.

STORAGE:

Store this product away from food or feed.

DISPOSAL:

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RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, please note that THIOPHANATE-METHYL 500 SC Fungicide contains a Group 1 fungicide. Any fungal population may contain individuals naturally resistant to THIOPHANATE-METHYL 500 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 THIOPHANATE-METHYL 500 SC Fungicide or other Group 1 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicides 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. Notify Nisso America Inc. if reduced sensitivity of the pathogen to THIOPHANATE-METHYL 500 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 Nisso America 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 THIOPHANATE-METHYL 500 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 THIOPHANATE-METHYL 500 SC Fungicide is recommended. Add required volume amount of THIOPHANATE-METHYL 500 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.

This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Nisso America at (212) 490-0350 for information before applying any tank mix that is not specifically recommended on this label.

Tank mixing instructions: THIOPHANATE-METHYL 500 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. THIOPHANATE-METHYL 500 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.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

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

To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.

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 S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

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.

Aerial application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing - or rotorspan.

Spray Buffer Zones:

A spray buffer zone is NOT required for:

- uses with hand-held application equipment permitted on this label

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.

Method of application	Crop		Spray Buffer Zones (metres) Required for the Protection of:			
			Freshwater Habitat of Depths:		Estuarine/Marine Habitat of Depths:	
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m
Field sprayer	White bean		4	2	0	0
	Sugarbeet		1	1	0	0
	Lowbush blueberry, aspen, poplar, roses, ornamental plants, strawberry, raspberry		2	1	0	0
	Grape		3	1	0	0
	Turf		15	10	1	0
Airblast	Roses, ornamental plants	Early growth stage	20	15	0	0
		Late growth stage	15	5	0	0
	Lowbush blueberry, aspen, poplar, raspberry	Early growth stage	25	15	0	0
		Late growth stage	15	10	0	0
	Grape	Early growth stage	30	20	0	0
	Cherry, prune, peach, nectarine, plum	Early growth stage	30	20	0	0
		Late growth stage	20	10	0	0
	Apple, pear	Early growth stage	20	10	0	0
Late growth stage		10	5	0	0	
Aerial	White bean	Fixed-wing	150	40	0	0
		Rotary-wing	100	35	0	0
		Fixed Wing	45	15	0	0

	Lowbush Blueberry	Rotary Wing	40	15	0	0
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When tank mixes are permitted, 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 Buffer Zone Calculator on the Pesticides portion of the Canada.ca web site.

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.

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 THIOPHANATE-METHYL 500 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. For potato seed piece treatment, use a minimum of 1.3 L water per 280 mL of THIOPHANATE-METHYL 500 SC Fungicide. On turf, use at least 8 litres of water per 100 m² of area to be sprayed for dollar spot, brown patch and pink snow. Use the recommended rate and reduce spray intervals under conditions of severe disease pressure.

Compatibility:

THIOPHANATE-METHYL 500 SC Fungicide is compatible with most pesticides; do not mix with lime or other alkaline materials.

DIRECTIONS FOR USE

APPLES AND PEARS:

Apple Scab (*Venturia inaequalis*), Powdery Mildew (*Podosphaera leucotricha*): Spray with ground application equipment using sufficient volume for thorough coverage.

DO NOT APPLY BY AIR.

Tank-mix with Maestro 80 WSP, Captan 80 WSP or Supra Captan 80 WSP Fungicide:

Apply at the concentration of 250 mL of THIOPHANATE-METHYL 500 SC Fungicide plus 0.625 kg of Maestro 80 WSP, Captan 80 WSP or Supra Captan 80 WSP Fungicide per 1000 L of water. Based on a volume of 3500 L of water per hectare, this rate is 875 mL of THIOPHANATE-METHYL 500 SC Fungicide (0.437 kg ai) + 2.18 kg of Maestro 80 WSP, Captan 80 WSP or Supra Captan 80 WSP Fungicide per hectare for a single application. Do not exceed a spray volume of 3500 L/ha (875 mL product per hectare). Do not exceed 2 applications per year. Observe a minimum re-application interval of 7 days.

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

LOWBUSH BLUEBERRIES:

Blossom and Twig Blight (*Phomopsis vaccinii*): Apply 1.54 L of THIOPHANATE-METHYL 500 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 to 14-day interval. Exact interval used depends on weather conditions and disease development. Contact local extension officials. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare.

PEACHES, NECTARINES, PLUMS, PRUNES, CHERRIES:

Brown Rot (*Monilinia fructicola*): Apply 700 mL of THIOPHANATE-METHYL 500 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. Do not exceed a spray volume of 3500 L/ha (2.45 L product per hectare). Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to the evening when most bees are not foraging. A second application may be made if wet weather conditions prevail. Do not exceed 2 applications per year. Observe a minimum re-application interval of 7 days. The maximum seasonal rate is 4.9 L of product (2.45 kg ai) per hectare for peaches, nectarines, plums, prunes, and cherries. DO NOT APPLY BY AIR

PLUMS, PRUNES, CHERRIES:

Black knot (*Dibotryon morbosum* syn. *Apiosporina morbosa*): Apply 700 mL of THIOPHANATE-METHYL 500 SC Fungicide per 1000 L of water, using ground application equipment, apply 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. Observe a minimum spray volume of 1000 L water/ha (0.7 L product/ha). Do not exceed a spray volume of 3500 L/ha (2.45 L product per hectare). Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to the evening when most bees are not foraging. A second application may be made after 7 – 14 days if wet weather conditions prevail. Do not exceed 2 applications per year for peaches, nectarines, plums, prunes, and cherries. The maximum seasonal rate is 4.9 L of product (2.45 kg ai) per hectare for plums, prunes, and cherries. DO NOT APPLY BY AIR

RASPBERRIES:

Powdery Mildew (*Podosphaera macularis*), Fruit Rots (*Botrytis cinerea*): Apply 700 mL of THIOPHANATE-METHYL 500 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. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare. Do not exceed a spray volume of 2200 L/ha (1.54 L product per hectare). Observe a minimum re-application interval of 7 days. Do not exceed 2 applications per year.
DO NOT APPLY BY AIR.

STRAWBERRIES:

Fruit Rot (*Botrytis cinerea*), Leaf Spot (*Mycosphaerella fragariae*): Apply 700 mL of THIOPHANATE-METHYL 500 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. Do not exceed a spray volume of 2200 L/ha (1.54 L product per hectare). Repeat once after 7 - 10 days as required. A second application may be made if wet weather conditions prevail. Observe a minimum re-application interval of 7 days. Do not exceed 2 applications per year. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare. DO NOT APPLY BY AIR.

WHITE BEANS:

White mould (*Sclerotinia sclerotiorum*): Apply 2.45 – 3.15 L THIOPHANATE-METHYL 500 SC Fungicide per 1000 L of water per hectare when using ground application equipment, or 50 – 60 L of water for aerial applications. This rate is equivalent to 1.225 – 1.575 kg ai per hectare for a single application. Commence when conditions favouring development of disease exist (e.g., warm, humid weather combined with heavy, dense crop foliage). This usually occurs during the early stages of bloom prior to the rows closing in. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to the evening when most bees are not foraging. Spray to achieve optimum coverage and penetration on all parts of the plant. If disease conditions persist, a second application may be warranted with a minimal retreatment interval of 7 days. Do not apply within 21 days of harvest. The maximum seasonal rate is 6.3 L of product (3.15 kg ai) per hectare.
NOTE: Do not feed or allow livestock to graze on treated crops.

SUGARBEETS:

Leaf Spot (*Cercospora beticola*) of Sugarbeets: Apply THIOPHANATE-METHYL 500 SC Fungicide at 588 – 784 mL of product (0.294 – 0.392 kg ai) per hectare, using ground application equipment, when disease first appears. Apply in a recommended spray volume of 50-100 L/ha. Repeat once 14 – 21 days later if required. The maximum seasonal rate is 1.57 L of product (0.784 kg ai) per hectare. DO NOT APPLY BY AIR.

- DO NOT APPLY WITHIN 21 DAYS OF HARVEST.
- FOR SUGARBEETS GROWN FOR EXPORT ONLY.
- NO SUGARBEETS OR PARTS OF SUGARBEETS ARE TO BE USED AS FODDER OR FEED IN CANADA.
- TO DELAY THE SELECTION OF RESISTANT STRAINS OF FUNGI, THIOPHANATE-METHYL 500 SC FUNGICIDE SHOULD ALWAYS BE ALTERNATED WITH A FUNGICIDE OF DIFFERENT CHEMISTRY

TURF:

THIOPHANATE-METHYL 500 SC Fungicide can be applied to golf course greens, tees, fairways and sod farms only. DO NOT apply to turf in other residential areas including lawns, gardens, parks, playing fields, cemeteries and schools. For use on all fine turf applications of cool and warm season grasses (such as Bentgrass, Blue grass, Fescues, Rye Grass) or their mixtures. THIOPHANATE-METHYL 500 SC Fungicide is not phytotoxic to any of the above-mentioned grasses when used in accordance with the label. Apply after mowing or avoid mowing for twelve hours after application. Begin applications, using ground application equipment, when diseases first appear. When disease

pressure is severe, apply at the higher recommended rate. Do not exceed 20.65 kg ai/ha per year. DO NOT APPLY BY AIR.

Disease	Rate of Product (mL/100 m ²)	Rate of Active Ingredient (kg ai/ha) ^a	Spray Volume (per 100 m ²)	Spray Schedule	Maximum Seasonal Rate (kg ai/ha)
Dollar Spot (<i>Sclerotinia homoeocarpa</i>)	35 – 42	1.75 – 2.10	Minimum 8 L	Apply when diseases first appear. A second application may be made 10-14 days later if required.	4.20
Brown Patch (<i>Rhizoctonia solani</i>)	42 – 84	2.10 – 4.20	Minimum 8 L	Apply when diseases first appear. If applying at the minimum rate, a second application may be made if required. Allow a minimum interval of 7 days.	8.40
Pink Snow Mould (<i>Fusarium nivale</i>)	175 – 245	8.75 – 12.25	Minimum 8 L	Apply once per season in the late fall, before snowfall for the control of pink snow mould.	12.25

^a Based on 10 000 m²/ha, 1 L/1000mL, and the guarantee of 0.500 kg ai/L.

OUTDOOR ROSES AND ORNAMENTAL PLANTS:

Black Spot of Roses (*Diplocarpon rosae*) and Powdery Mildew (*Podosphaera* spp.): Apply THIOPHANATE-METHYL 500 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 exceed a spray volume of 1000 L of water/ha (525 g a.i./ha) in a single application. Do not exceed 2 applications per year. DO NOT APPLY BY AIR.

NON-BEARING ORNAMENTAL *PRUNUS* SPECIES:

Black knot (*Dibotryon morbosum* syn. *Apiosporina morbosum*): Apply THIOPHANATE-METHYL 500 SC Fungicide at 700 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 kg ai/ha for a single application. Repeat once after 7 – 14 days.

Do not exceed a spray volume of 1000 L of water/ha (350g a.i./ha) in a single application. Do not exceed 2 applications per year. DO NOT APPLY BY AIR.

GREENHOUSE ORNAMENTAL PLANTS:

DO NOT apply as a foliar spray to ornamentals grown for cut flowers. DO NOT allow pesticide solution to contact foliage of ornamentals grown for cut flowers.

Powdery mildew (*Podosphaera* spp.), Botrytis blight /grey mold (*Botrytis cinerea*) and leaf spot (*Alternaria* spp., *Cercospora* spp.): Apply THIOPHANATE-METHYL 500 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. Do not exceed a spray volume of 1000 L/ha (595 g a.i./ha) in a single application. Do not exceed 2 applications per year. The maximum seasonal rate is 1.19 kg ai per hectare.

Stem, Crown and Root Rots caused by *Fusarium* and *Rhizoctonia*: Apply Thiophanate-Methyl 500 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. A spray volume of 1000-3000 L/ha is recommended. Do not exceed 7.14 L product/ha (3570 g a.i./ha) per year. Do not exceed 2 applications per year. The maximum seasonal rate is 1.19 kg ai per hectare.

Note: THIOPHANATE-METHYL 500 SC does not control *Pythium* or *Phytophthora*.

ASPEN AND POPLAR:

Marssonina Leaf Spot, Septoria Leaf Spot: Apply THIOPHANATE-METHYL 500 SC Fungicide at 1.54 L product per 1000 L of water (0.770 kg ai) per hectare, using ground application equipment. Begin in mid-June and repeat once after 10 days if required. The maximum seasonal rate is 3.08 L of product (1.54 kg ai) per hectare. DO NOT APPLY BY AIR.

POTATO SEED PIECE TREATMENT:

Thiophanate-Methyl 500 SC is a systemic fungicide formulated as a sprayable potato seed piece treatment.

The active ingredient in Thiophanate Methyl 500 SC Fungicide controls verticillium wilt (*Verticillium albo-atrum*), fusarium rot (*Fusarium* spp.), Silver Scurf (*Helminthosporium solani*), and suppresses seed piece decay (*Rhizoctonia solani*, *Fusarium* spp., *Erwinia carotovora*, *Pythium* spp.) and blackleg (*Erwinia carotovora*). Use standard potato seed treatment equipment designed to apply sprayable seed treatments.

RATE: Mix 1.4 L of THIOPHANATE-METHYL 500 SC Fungicide in 6.5 L of water. Do not exceed a treatment rate of 1.4 L of THIOPHANATE-METHYL 500 SC per 1400 kg of seed pieces. Based on the guarantee of 0.5 kg ai/L product, this is equivalent to 0.5 g ai/ kg of seed pieces. Use a total volume of water carrier that is adequate for complete coverage of seed pieces. Engage agitation and ensure water and product are completely mixed in the spray tank prior to beginning seed piece treatment. Maintain constant agitation during treatment.

Apply spray solution using standard equipment with calibrated spray nozzle, mounted over a belt which tumbles the seed pieces. If required, add a drying agent after treatment. Seed pieces which are pre-cut should be treated within 6 hours of cutting. If planting is to be delayed more than 1 to 2 days, the treated pieces should be stored for 2 - 3 days in open crates before bagging.

NOTE:

For optimum control of Silver Scurf, ensure that seed tubers are completely free of soil. *Total skin coverage is essential*. Reduced control can be expected in fields where volunteers from the previous year's crop act as a source of infection. Consult your provincial Production Guides for recommendations.

This product contains no colourant. An appropriate colourant must be added when this product is applied. Regulations pertaining to the 'Seeds Act' must be strictly adhered to when using this product.

GRAPES (Wine and Fresh):

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Nippon Soda Co., Ltd. under the User Requested Minor Use Label Expansion program. For these uses, Nippon Soda Co., Ltd. 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.

Control of grape vine decline (*Eutypa lata*, *Diplodia seriata*, *Neofusicoccum parvum*, *Phomopsis viticola*):

Apply THIOPHANATE-METHYL 500 SC Fungicide at 2.352 L/ha in a minimum water volume of 467.5 L/ha as a directed spray (airblast or with over-the-row sprayer). Apply from dormancy (initiate soon after pruning) to bud break for up to 2 applications per crop season at a 14- to 21-day interval. Do not apply after bud break

GREENHOUSE TOBACCO SEEDLINGS AND WHITE BUTTON MUSHROOMS:

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Nippon Soda Co., Ltd. under the User Requested Minor Use Label Expansion program. For these uses, Nippon Soda Co., Ltd. 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.

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

Apply 126 mL of THIOPHANATE-METHYL 500 SC Fungicide in 300 L water to 100 m² 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.

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

A maximum of one application of THIOPHANATE-METHYL 500 SC Fungicide per crop cycle may be made as a drench application to the casing. Do not exceed 8 applications per year. Please note that the drench application to the casing will not control the aggressive species of *Trichoderma* (*Trichoderma aggressivum* f. *aggressivum*).

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 THIOPHANATE-METHYL 500 SC Fungicide to a maximum of 500 m² of bed surface per day (426 mL THIOPHANATE-METHYL 500 SC Fungicide) when using hand held equipment.

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

Mix 85 mL of THIOPHANATE-METHYL 500 SC Fungicide with approximately 75 L of water and apply as a drench to 100 m² 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.