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MAINSRING X Insecticide

INSECTICIDE

COMMERCIAL

WETTABLE GRANULE

Broad spectrum insecticide for control of listed insect pests in greenhouse and outdoor ornamentals.

ACTIVE INGREDIENTS:

Thiamethoxam20%
Cyantraniliprole20%

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

REGISTRATION NO.: **30901**
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **1 L to 1050 L**

Syngenta Canada Inc.
140 Research Lane, Research Park
Guelph, ON N1G 4Z3
Telephone: 1-877-964-3682

Label

1.0 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.

2.0 FIRST AID

IF POISONING IS SUSPECTED, call a doctor or poison control centre **IMMEDIATELY**. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

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 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 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.

3.0 TOXICOLOGICAL INFORMATION

There is no specific antidote for this product if ingested. Treat symptomatically.

4.0 PRECAUTIONS

Safety Precautions

Hazard to humans and domestic animals.

KEEP OUT OF THE REACH OF CHILDREN and domestic animals.

Wash hands and face after handling and before eating or smoking.

Avoid contamination of feed and foodstuffs.

RESTRICTED ENTRY INTERVAL (REI): Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

If this pest control product is to be used on a commodity that may be exported to other countries in the world and you require information on acceptable residue levels in these countries, please contact Syngenta Canada Inc. at 1-87-SYNGENTA / 1-877-964-3682.

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Wear long-sleeved shirt, long pants, chemical resistant gloves, socks and boots and safety glasses or goggles when mixing and loading this product. Wear long-sleeved shirt, long pants, socks and boots during application. Chemical resistant gloves must also be worn when applying this product when using hand-held equipment.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves with soap and water before removing. As soon as possible, wash thoroughly and change into clean clothing. After spraying, wash hands and shower thoroughly with soap and water.

Wash personal protective equipment (PPE) after each use. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

Wear freshly laundered clothes daily.

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

6.0 ENVIRONMENTAL PRECAUTIONS

Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Toxic to bees. Bees may be exposed directly, through spray drift, or to residues on/in leaves, pollen and nectar in flowering crops and weeds. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. DO NOT apply this product during bloom or when bees are present.

This product is toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.
Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

Greenhouse Use:

Toxic to bees and other beneficial insects. Avoid foliar application when bees or other beneficial insects are actively visiting the treatment area. This product is systemic and residues from soil may be transported through plants into leaves, pollen, and nectar. Residues in/on plants or soil may harm bees and other beneficial insects used in greenhouse production.

7.0 STORAGE

To prevent contamination, store this product away from food or feed.

Store in a cool, dry place.

8.0 DISPOSAL

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.

FOR DISPOSAL OF PLASTIC JUGS:

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.

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***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,
CALL 1-800-327-8633 (1-800-FASTMED)***

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Pamphlet

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9.0 PRODUCT INFORMATION

MAINSRING X Insecticide is a soil and foliar insecticide with dual modes of action that controls listed lepidopteran, sucking and chewing insect pests on listed outdoor and greenhouse ornamentals. MAINSPRING X Insecticide also provides residual control of key insect pests on ornamentals.

MAINSRING X Insecticide is taken up into foliage after application. Thorough spray coverage is essential for best performance. Apply MAINSPRING X Insecticide in sufficient water to ensure good coverage. The use of higher water volumes will generally result in better coverage, especially under adverse conditions (e.g. hot, dry weather) or where a dense plant canopy exists.

When MAINSPRING X Insecticide is applied to the soil, it is readily taken up by the roots of germinating seedlings or transplants and is rapidly translocated throughout the plant.

Plant Safety:

MAINSRING X Insecticide is safe on most ornamental plants. Due to the large number of species and varieties of ornamentals and nursery plants, it is impossible to test every one for tolerance to MAINSPRING X Insecticide. The user should determine if MAINSPRING X Insecticide can be used safely prior to commercial use. In a small area, test the recommended rates on a small number of plants for phytotoxicity prior to widespread use.

Do not use MAINSPRING X Insecticide on Yellow Honey Locust varieties.

10.0 DIRECTIONS FOR USE

10.1. General Information

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 use a foliar application of a product containing a Group 4 (neonicotinoid) or Group 28 (diamide) insecticide following a soil application of MAINSPRING X Insecticide.

Do not use as a foliar application to greenhouse cut flowers.

When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

10.2. Application Methods

10.2.1. Foliar Application

Spray nozzles should be selected that will provide accurate and uniform spray deposition. Use spray nozzles that provide medium-sized droplets and reduce drift. To help ensure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult sprayer manufacturers.

Spray nozzles should provide accurate and uniform spray deposition. To help ensure accuracy, calibrate sprayer before each use. Apply MAINSPRING X Insecticide using sufficient water volume to provide thorough and uniform coverage. Use the higher concentration for higher pest pressure. Avoid making applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. Avoid spray overlap.

10.2.2. Soil Drench Application

Apply a maximum of 1 application at the low rate (37.5 g product/100 L). Allow 14 days between applications.

10.2.3. Ground Application

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) fine classification. Boom height must be 60 cm or less above the crop or ground.

DO NOT apply by air.

10.3. Mixing Instructions

1. Add 1/2 of the required amount of water to the mix tank.
2. With the agitator running, add the MAINSPRING X Insecticide to the tank.
3. Continue agitation while adding the remainder of the water.
4. Begin application of the solution after the MAINSPRING X Insecticide has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Prepare no more spray mixture than is needed for the immediate operation. Thoroughly clean spray equipment before using this product. Vigorous agitation is necessary for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation. Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area. Keep product container tightly closed when not in use.

10.4. Spray buffer zones

A spray buffer zone is NOT required for:

- uses with hand-held application equipment permitted on this label,
- soil drench applications.

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:		
		Freshwater Habitat of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	
Field sprayer	Outdoor Ornamentals	10	5	2

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) 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 Pesticides portion of the Canada.ca website.

11.0 CROP USE DIRECTIONS

11.1. Outdoor Ornamentals – Foliar Application

OUTDOOR ORNAMENTALS (CONIFEROUS EVERGREENS AND ORNAMENTAL GRASSES ONLY) – FOLIAR APPLICATION	
PEST	Control of aphids, black vine weevil, dipteran leafminers, lace bugs, leafhoppers, mealybugs, psyllids and soft scales and suppression of thrips.
USE RATE	37.5 - 75 g product/100 L Apply a maximum spray volume of 1000 L/ha.
APPLICATION METHOD	Foliar application.
APPLICATION TIMING	Make the first application before pest populations cause significant damage to the host plant. Apply higher concentrations for longer control or high insect populations. For black vine weevil, apply to foliage of plants when adult feeding damage is first observed. Make only one application per generation.
NUMBER OF APPLICATIONS	Apply a maximum of 1 application at the high rate (75 g product/100L) OR Apply a maximum of 2 applications at the low rate (37.5 g product/100L). Allow 14 days between applications.
NOTES	DO NOT use a foliar application of a product containing a Group 4 (neonicotinoid) or Group 28 (diamide) insecticide following application of MAINSPRING X Insecticide. MAINSRING X Insecticide can be applied with a non-ionic surfactant at 0.5% v/v to improve wetting of foliage and to smooth out spray deposits. Spreading and penetrating non-ionic surfactants can improve insect control. Do not use binder or sticker-type surfactants. Although MAINSPRING X Insecticide has been tested in combination with non-ionic surfactants for safety to ornamentals, it is impossible to test on all varieties under the variety of conditions that may cause crop injury. Therefore, when using MAINSPRING X Insecticide in combination with a non-ionic surfactant, carefully follow the Directions for Use and Precautions on the non-ionic surfactant label.

11.2. Greenhouse Ornamentals – Foliar Application

GREENHOUSE ORNAMENTALS (CONIFEROUS EVERGREENS, ORNAMENTAL GRASSES, PLANTS GROWN FOR INDOOR USE ONLY) – FOLIAR APPLICATION	
PEST	Control of aphids, dipteran leafminers, mealybugs and soft scales and suppression of thrips and whiteflies.
USE RATE	37.5 - 75 g product/100 L Apply a maximum spray volume of 1000 L/ha.
APPLICATION METHOD	Foliar application.
APPLICATION TIMING	Make the first application before pest populations cause significant damage to the host plant. Apply higher concentrations for longer control or high insect populations.
NUMBER OF APPLICATIONS	Apply a maximum of 2 applications. Allow 14 days between applications.
NOTES	DO NOT use a foliar application of a product containing a Group 4 (neonicotinoid) or Group 28 (diamide) insecticide following application of MAINSPRING X Insecticide. MAINSRING X Insecticide can be applied with a non-ionic surfactant at 0.5% v/v to improve wetting of foliage and to smooth out spray deposits. Spreading and penetrating non-ionic surfactants can improve insect control. Do not use binder or sticker-type surfactants. Although MAINSPRING X Insecticide has been tested in combination with non-ionic surfactants for safety to ornamentals, it is impossible to test on all varieties under the variety of conditions that may cause crop injury. Therefore, when using MAINSPRING X Insecticide in combination with a non-ionic surfactant, carefully follow the Directions for Use and Precautions on the non-ionic surfactant label.

11.3. Greenhouse Ornamentals – Drench Application

GREENHOUSE ORNAMENTALS (CONIFEROUS EVERGREENS, CUT FLOWERS, ORNAMENTAL GRASSES, PLANTS GROWN FOR INDOOR USE ONLY) – DRENCH APPLICATION	
PEST	Control of aphids, dipteran leafminers, mealybugs, soft scales, fungus gnats, root aphid and whiteflies and suppression of thrips.
USE RATE	50 – 75 g product/100 L Apply in sufficient water volume to ensure uniform application and incorporation at least 5 cm (2 in) into the soil. Apply a maximum spray volume of 1000 L/ha.
APPLICATION METHOD	Drench application (indoor use only)
APPLICATION TIMING	Apply before pest populations cause significant damage to the host plant.
NUMBER OF APPLICATIONS	Apply a maximum of 1 application.
NOTES	DO NOT use a foliar application of a product containing a Group 4 (neonicotinoid) or Group 28 (diamide) insecticide following a soil application of MAINSPRING X Insecticide.

12.0 RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, please note that MAINSPRING X Insecticide contains a Group 4A insecticide (thiamethoxam, belonging to the neonicotinoid class of chemistry) and a Group 28 insecticide (cyantraniliprole, belonging to the diamide class of chemistry). Any insect population may contain individuals naturally resistant to MAINSPRING X Insecticide and other Group 4 or 28 insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area.

To delay insecticide resistance:

Where possible, rotate the use of MAINSPRING X Insecticide or other Group 4 or 28 insecticides with different groups that control the same pests.

Use tank mixtures with miticides/insecticides from a different group that is effective on the target pest when such use is permitted.

Insecticide use should be based on an integrated pest management program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.

Monitor treated pest populations for resistance development. If resistance is suspected, do not reapply MAINSPRING X Insecticide or other Group 4A or Group 28 insecticides.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

For further information or to report suspected resistance, contact company representatives at 1-877-SYNGENTA (1-877-964-3682) or at www.syngenta.ca.