



Bayer CropScience

GROUP	4D	INSECTICIDE
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Sivanto Prime Insecticide

SOLUTION

For control of listed insect pests in fruit, vegetable and field crops.

AGRICULTURAL

GUARANTEE: Flupyradifurone.....200 g/L

REGISTRATION NUMBER 31452 PEST CONTROL PRODUCTS ACT

READ THE LABEL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

POTENTIAL SKIN SENSITIZER

NET CONTENTS: 1 to 1000 Litres

Bayer CropScience Inc.
200-160 Quarry Park Blvd. SE
Calgary, Alberta T2C 3G3

Product Information: 1-888-283-6847

In case of spills, poisoning or fire, telephone emergency response number
1-800-334-7577 (24 hours a day).

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GENERAL INFORMATION

Section 1: Notices

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.

Section 2: The Product

Sivanto Prime Insecticide is intended for the control of insect pests in a wide variety of vegetable crops, fruit crops and field crops. Sivanto Prime Insecticide is a broad-spectrum insecticide that is acropetally systemic, moving from roots to the leaves in the case of soil applications. Sivanto Prime Insecticide moves translaminarily through the leaf tissue in the case of foliar applications, and can provide control of pests on the underside of leaves. Sivanto Prime Insecticide is readily absorbed into leaf tissue and is considered “rainfast” within 1 hour after spray dries. Sivanto Prime Insecticide can be applied by air-blast, aerial and ground application equipment.

SAFETY AND HANDLING

Section 3: Precautions, Protective Clothing and Equipment

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

Potential skin sensitizer.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Do not use in greenhouses.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours and 24 hours for hand girdling of table grapes.

PROTECTIVE CLOTHING AND EQUIPMENT:

Wear long-sleeved shirt, long pants, chemical resistant gloves, and shoes plus socks during mixing, loading, application, clean up and repair.

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove Personal Protective Equipment immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Bayer CropScience Canada Inc. at 1-888-283-6847 or www.bayercropscience.ca.

Section 4: First Aid and Toxicological Information
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FIRST AID

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

If swallowed	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.• Call a poison control centre or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15 to 20 minutes.• Call a poison control centre or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none">• 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.

TOXICOLOGICAL INFORMATION:

No specific antidote is available. Treat the patient symptomatically.

Section 5: Environmental Precautions and Information

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

Toxic to adult bees in laboratory studies via oral exposure, however, not toxic to bees through contact exposure, and field studies conducted with this product have shown no effects on honeybee colony development. Minimize spray drift to reduce exposure to bees in habitats close to the application site. Application during the crop blooming period, and when flowering weeds are present may only be made in the early morning and the evening when most bees are not foraging. 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.healthcanada.gc.ca/pollinators).

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.

Flupyradifurone is persistent and may carryover. It is recommended that any products containing flupyradifurone not be used in areas treated with this product during the previous season.

Flupyradifurone and its transformation product difluoroacetic acid demonstrate the properties and characteristics associated with chemicals detected in ground water. The use of flupyradifurone in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

To reduce runoff of flupyradifurone and its transformation product difluoroacetic acid 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.

Section 6: Storage

Store in cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of reach of children, preferably in a locked storage area.

Section 7: Disposal

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.

Disposal of Unused, Unwanted Product: 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 cleanup of spills.

DIRECTIONS FOR USE

Section 8: Crops, Pests, Application Rates and Methods
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CROP SUBGROUP 1-B:

Root and tuber vegetables - root vegetables (except sugarbeet): garden beet, edible burdock, carrot, celeriac (celery root), turnip-rooted chervil, chicory, ginseng, horseradish, turnip-rooted parsley, parsnip, radish, oriental radish (daikon), rutabaga, salsify, black salsify, Spanish salsify, skirret, turnip.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids Leafhoppers	500 - 750
Whiteflies	750 - 1000
Pre-Harvest Interval (PHI): 7 days Tops or greens from these crops may not be fed to livestock as feed or used for human consumption. Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground); 20 L/ha (Aerial) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

CROP SUBGROUP 1-C:

Root and tuber vegetables - tuberous and corm vegetables: arrowroot, Chinese artichoke, Jerusalem artichoke, edible canna, chufa, dasheen (taro), potato, sweet potato, true yam.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids Leafhoppers	500 - 750
Whiteflies Colorado potato beetle	750 - 1000
Pre-Harvest Interval (PHI): 7 days Tops or greens from these crops may not be fed to livestock as feed or used for human consumption. Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground); 20 L/ha (Aerial) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

CROP GROUP 4-13:

Leafy vegetables: Chinese amaranth, leafy amaranth, arugula, Indian aster, blackjack, broccoli raab, Chinese broccoli, Abyssinian cabbage, seakale cabbage, cat's whiskers, cham-chwi, cham-na-mul, fresh chervil leaves, bok choy (Chinese cabbage), chipilin, garland chrysanthemum, fresh cilantro leaves, collards, corn salad, cosmos, garden cress, upland cress, dandelion leaves, dang-gwi, fresh dillweed leaves, dock, dol-nam-mul, ebolo, endive, escarole, fameflower, feather cockscomb, Good King Henry, Hanover salad, huauzontle, jute leaves, kale, bitter lettuce, head lettuce, leaf lettuce, maca, mizuna, mustard greens, orach, fresh parsley leaves, buckhorn plantain, English primrose, garden purslane, winter purslane, radicchio (red chicory), radish leaves, rape greens, wild rocket, shepherd's purse, spinach, Malabar spinach, New Zealand spinach, tree spinach (giant lambsquater), Swiss chard, tanier spinach, turnip greens, Chinese violet, watercress.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids	500 - 750
Whiteflies	750 - 1000
Pre-Harvest Interval (PHI): 1 day Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.	

CROP GROUP 22-B:

Leaf petiole vegetables: cardoon, celery, Chinese celery, fuki, rhubarb, udo, zuiki.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids	500 - 750
Whiteflies	750 - 1000
Pre-Harvest Interval (PHI): 1 day Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.	

CROP GROUP 5-13:

Brassica head and stem vegetables: broccoli, Brussels sprouts, cabbage, Chinese cabbage (napa), cauliflower.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids	500 - 750
Whiteflies	750 - 1000
Pre-Harvest Interval (PHI): 1 day Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.	

CROP GROUP 6:

Legume vegetables (succulent or dried): bean (includes grain lupin, sweet lupin, white lupin and white sweet lupin), bean (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean and wax bean), bean (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, yardlong bean), broad bean (fava bean), chickpea (garbanzo bean), guar, jackbean, lablab bean (hyacinth bean), lentil, pea (includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea), pigeon pea, soybean (includes immature seed), sword bean.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids Leafhoppers	500 - 750
Whiteflies	750 - 1000
Pre-Harvest Interval (PHI): 7 days - Forage, Leaves, Vines, Pods, Cutting for Hay, or Seed (fresh or dry, except dry soybean seed); 21 days – dry soybean seed. Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground); 20 L/ha (Aerial) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.	

CROP GROUP 8-09:

Fruiting vegetables: eggplant, African eggplant, pea eggplant, scarlet eggplant, garden huckleberries, goji berry, groundcherry, martynia, okra, pepino, bell pepper, non-bell pepper, sunberry, tomatillo, tomato, currant tomato, and cultivars, varieties and/or hybrids of these.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids Leafhoppers	500 - 750
Whiteflies Colorado potato beetle	750 - 1000
<p>Pre-Harvest Interval (PHI): 1 day Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.</p>	
Soil application	
Pests controlled	Application rate mL/10,000 plants
Aphids Whiteflies	750 – 1000
<p>Pre-Harvest Interval (PHI): 45 days Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Do not make any application of Sivanto Prime Insecticide following a soil, in-furrow, or seed treatment application of a Group 4D Insecticide. Soil Application Notes: Plant population per hectare cannot exceed 26,650 when application rate used is 750 mL/10,000 plants, or 20,000 plants per hectare when application rate used is 1000 mL/10,000 plants. Application should be made with sufficient water to ensure incorporation into the root zone. DO NOT apply this product through any other type of irrigation system. Apply specified dosage by the following method:</p> <ol style="list-style-type: none"> 1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. DO NOT apply this product through any other type of irrigation system. 2. Injection below the eventual seed-line prior to planting. Place SivantoPrime Insecticide 7-10 cm below seed-line 	

CROP GROUP 9:

Cucurbit vegetables Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkin, edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Momordica (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), muskmelon* (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), pumpkin, summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), winter squash (includes butternut squash, calabaza, hubbard squash, *C. mixta*, *C. pepo*, acorn squash, spaghetti squash), watermelon.

*soil application only – refer to use directions below

Foliar application	
Pests controlled	Application rate mL/ha
Aphids Leafhoppers	500 – 750
Whiteflies	750 - 1000
Pre-Harvest Interval (PHI): 1 day Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage. Foliar Application Crop Response/Phytotoxicity: Certain varieties of Muskmelon have been shown to be sensitive to foliar application of Sivanto Prime Insecticide potentially resulting in significant leaf necrosis. Do not make foliar applications of Sivanto Prime Insecticide on muskmelon.	
Soil Application	
Pests controlled	Application rate mL/10,000 plants
Aphids Leafhoppers Whiteflies	750 – 1000
Pre-Harvest Interval (PHI): 21 days Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Do not make any application of Sivanto Prime Insecticide following a soil, in-furrow, or seed treatment application of a Group 4D Insecticide. Soil Application Notes: Plant population per hectare cannot exceed 26,650 when application rate used is 750 mL/10,000 plants, or 20,000 plants per hectare when application rate used is 1000 mL/10,000 plants.	

Application should be made with sufficient water to ensure incorporation into the root zone.

Apply specified dosage in the following method:

1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. DO NOT apply this product through any other type of irrigation system.
2. Injection below the eventual seed-line prior to planting. Place Sivanto Prime Insecticide 7-10 cm below seed-line.

CROP GROUP 11-09:

Pome Fruits: apple, azarole, crabapple, mayhaw, medlar, pear, Asian pear, quince, Chinese quince, Japanese quince, tejocote, and cultivars, varieties and/or hybrids of these.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids (except wooly apple aphid) Leafhoppers	500 - 750
Pear psylla (Suppression) San Jose Scale Oystershell scale	750 – 1000 + horticultural oil *
<p>Pre-Harvest Interval (PHI): 14 days Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage. Horticultural oil: Apply at a rate of 0.25 % vol/vol.</p> <p>* Note: Oil when mixed with Sivanto Prime may cause fruit injury to certain varieties of pears, particularly d’Anjou and other sensitive varieties, when used alone or when other products are applied sequentially. The Directions for Use and Precautions on oil labels, as well as precautions in official Spray Guides, should be followed carefully when using oil as an adjuvant. Certain conditions, including but not limited to, application when temperatures are expected to exceed 30°C within 24 hours of application may result in fruit injury after the use of oil. Do not make applications of oil mixed with Sivanto Prime under conditions that would favour runoff.</p>	

CROP GROUP 12-09:

Stone Fruit: Apricot, Apricot (Japanese), Cherry (Black, Nanking, Sweet, Tart), Nectarine, Peach, Plum, Plum (American, Beach, Canada, Cherry, Chickasaw, Damson, Japanese, Klamath, Prune), Plumcot, Sloe, and cultivars, varieties, and/or hybrids of these.

Foliar application	
Pests controlled	Application rate mL/ha
Aphids	500 - 750
Pre-Harvest Interval (PHI): 14 days Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.	

CROP SUBGROUP 13-07A:

Caneberry Subgroup: Blackberry (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora); Loganberry; Raspberry, black and red; Wild raspberry; and cultivars, varieties and/or hybrids of these).

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids	500 - 750
Pre-Harvest Interval (PHI): 0 days Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

CROP SUBGROUP 13-07B:

Berry and small fruit - bushberry (except highbush cranberry): aronia berry, highbush blueberry, lowbush blueberry, buffalo currant, Chilean guava, black currant, red currant, elderberry, European barberry, gooseberry, edible honeysuckle, huckleberry, jostaberry, Saskatoon berry (Juneberry), lingonberry, native currant, salal, sea buckthorn.

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids	500 - 750
Blueberry maggot	750 -1000
Pre-Harvest Interval (PHI): 3 days Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

CROP SUBGROUP 13-07F:

Berry and small fruit - small fruit vine climbing, except fuzzy kiwifruit: Amur river grape, gooseberry, grape, hardy kiwifruit, maypop, schisandra berry.

Foliar application	
Pests Controlled	Application Rate mL/ha
Leafhoppers	500 – 750
<p>Pre-Harvest Interval (PHI): 0 day Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage. DO NOT allow workers to enter fields before the REI of 24 hours for hand girdling of table grapes.</p>	
Soil application	
Pests Controlled	Application rate mL/ha
Leafhoppers	1500 -- 2000
<p>Pre-Harvest Interval (PHI): 30 days Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Do not make any application of Sivanto Prime Insecticide following a soil, in-furrow, or seed treatment application of a Group 4D Insecticide. Soil Application Notes: Application should be made with sufficient water to ensure incorporation into the root zone.</p> <p>Apply specified dosage in the following method:</p> <ul style="list-style-type: none"> • Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. DO NOT apply this product through any other type of irrigation system. 	

CROP SUBGROUP 13-07G:

Berry and small fruit - low growing berry (except cranberry and lowbush blueberry):
bearberry, bilberry, cloudberry, lingonberry, muntries, partridgeberry, strawberry.

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids	500 - 750
Blueberry maggot	750 - 1000
Pre-Harvest Interval (PHI): 0 day Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

CROP GROUP 14-11:

Tree nuts: almond, beech nut, black walnuts, bur oak nuts, butternuts, chestnuts,
chinquapin nuts, English walnuts, ginkgo nuts, hazel nuts (filberts), heartnuts, hickory
nuts, Japanese horse-chestnuts, monkey puzzle nuts, pecan, pine nuts, yellowhorn
nuts.

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids	500 – 750
Pre-Harvest Interval (PHI): 7 days Minimum interval between applications: 14 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

CORN (field, sweet, pop, seed)

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids	500 – 750
<p>Pre-Harvest Interval (PHI): 7 days – Sweet corn, forage, silage, hay cutting Pre-Harvest Interval (PHI): 21 days – Grain, stover Minimum interval between applications: 7 days Minimum application volumes: 100 L/ha (Ground); 20 L/ha (Aerial) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.</p>	

ALFALFA (forage, silage and hay production only)

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids Leafhoppers	500 - 750
<p>Pre-Harvest Interval (PHI): 7 days – Forage, silage, hay cutting Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Notes: Apply as a directed foliar spray ensuring thorough coverage.</p>	

PEANUT

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids Leafhoppers	500 - 750
Whiteflies	750 - 1000
<p>Pre-Harvest Interval (PHI) for immature nuts, green vines or cutting for hay and dry, threshed nuts: 7 days Minimum interval between applications: 10 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.</p>	

HOPS

Foliar application	
Pests Controlled	Application Rate mL/ha
Aphids	500 - 750
Pre-Harvest Interval (PHI): 21 days Minimum application volumes: 100 L/ha (Ground) Maximum Sivanto Prime Insecticide allowed per crop season: 750 mL/ha Foliar Application Note: Apply as a directed foliar spray ensuring thorough coverage.	

Section 9: Application Instructions and Limitations

Do not make any application of Sivanto Prime Insecticide following a soil, in-furrow, or seed treatment application of a Group 4D Insecticide.

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.

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) fine classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

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.

Buffer zones:

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment, soil drench and soil incorporation.

The 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		Buffer Zones (metres) Required for the Protection of:			
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:	
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m
Field sprayer	Crop Groups: 1-B, 1-C, 4-13, 5-13, 6, 8-09, 9, 22-B, and corn, alfalfa, peanut		1	1	1	1
Airblast	Crop Groups: 11-09, 12-09, 13-07A, 13-07B, 13-07F, 13-07G, 14-11 and hops	Early growth stage	5	2	3	1
		Late growth stage	2	1	2	1
Aerial	Crop Groups: 1-B, 1-C, 6 and corn	Fixed wing	10	1	5	1
		Rotary wing	5	1	1	1

For tank mixes, 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 buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

Section 10: Mixing Instructions

If Sivanto Prime Insecticide is to be tank mixed with other registered pesticides, compatibility should be tested prior to mixing.

When applied as a tank-mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations 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.

COMPATIBILITY

When considering mixing Sivanto Prime Insecticide with other registered pesticides, first contact your supplier for advice. For further information, contact your local Bayer CropScience Representative. If you have no experience with the combination you are considering, you should conduct a test to determine physical compatibility.

ORDER-OF-MIXING

The proper mixing procedure for Sivanto Prime Insecticide alone or in tank mix combinations with other pesticides is:

- 1) Fill the spray tank 1/4 to 1/3 full with clean water;
- 2) While recirculating and with the agitator running, add any products in PVA bags (See Note*). Allow time for thorough mixing;
- 3) Continue to fill spray tank with water until 1/2 full;
- 4) Add any wettable powder (WP), water dispersible granule (WG/WDG) products, or "flowable" (FL/SC) type products;
- 5) Allow enough time for thorough mixing of each product added to tank;
- 6) Add required amount of Sivanto Prime Insecticide, and;
- 7) If applicable, add any remaining tank mix components: emulsifiable concentrates (EC), fertilizers and micronutrients.
- 8) Fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

*NOTE: Do not use PVA packets in a tank mix with products that contain boron or release free chlorine. The resultant reaction of PVA and boron or free chlorine is a plastic that is not soluble in water or solvents.

TANK MIX RECOMMENDATIONS

Do not tank mix with azole fungicides during bloom.

Section 11: Rotational Crops

Treated areas may be replanted with any crop specified on this label, or any crop for which a Maximum Residue Limit (MRL) for the active ingredient has been established, as soon as practical following the last application.

Immediate plant-back applies to the following crops:

Cereal grains (except rice), alfalfa, peanut, root vegetables (except sugarbeets), tuberous and corm vegetables, leafy vegetables, leaf petiole vegetables, brassica head and stem vegetables, legume vegetables (succulent or dried), fruiting vegetables, cucurbit vegetables, hop, pome fruit, stone fruit, berry and small fruit – bushberry (except highbush cranberry), berry and small fruit – vine including grapes, berry and small fruit – low growing berries including strawberries, caneberries, tree nuts.

An immediate plant-back also applies for plants of Crop Group 3-07 including: fresh Chinese chive leaves, fresh chive leaves, daylily, elegans hosta, fritillaria, garlic, great headed garlic, serpent garlic, kurrat, lady's leek, leek, lily, Beltsville bunching onion,

bulb onion, Chinese bulb onion, fresh onion, green onion, macrostem onion, pearl onion, potato bulb onion, tree onion tops, Welsh onion tops, shallots, wild leek.

Green manure and other cover crops not intended for human or animal consumption are acceptable rotational crops which do not require a plant-back interval following treatment. Do not graze or harvest such cover crops for food or feed.

For all other crops, a 12-month plant-back interval should be observed.

Section 12: Pre-Harvest Interval

Crop	Pre-harvest Interval (days)
Crop Sub-Group 1-B: Root vegetables (except sugarbeets)	7
Crop Sub-Group 1-C: Tuberous and corm vegetables	7
Crop Group 4-13: Leafy vegetables	1
Crop Group 22-B: Leaf petiole vegetables	1
Crop Group 5-13: Brassica head and stem vegetables	1
Crop Group 6: Legume vegetables (succulent or dried)	7 foliar, 21 dry soybean
Crop Group 8-09: Fruiting vegetables	1 foliar, 45 soil
Crop Group 9: Cucurbit vegetables	1 foliar, 21 soil
Crop Group 11-09: Pome fruit	14
Crop Group 12-09: Stone Fruit	14
Crop Subgroup 13-07A: Caneberry	0
Crop Sub-Group 13-07B: Berry and small fruit – bushberry (except highbush cranberry)	3
Crop Subgroup 13-07F: Berry and small fruit – vine including grapes	0 foliar, 30 soil
Crop Sub-Group 13-07G: Berry and small fruit – low growing berries including strawberries	0
Crop Group 14-11: Tree nuts	7
Corn: Sweet, field, pop, seed	7 days – sweet corn, forage, silage, hay cutting 21 days – grain, stover
Alfalfa	7
Hops	21
Peanuts	7

Section 13: Resistance Management Recommendations

For resistance management, please note that Sivanto Prime Insecticide contains a Group 4D insecticide. Any insect population may contain individuals naturally resistant to Sivanto Prime Insecticide and other Group 4D insecticides. The resistant individuals may dominate the insect population if this group of insecticides is 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 insecticide resistance:

- Where possible, rotate the use of Sivanto Prime Insecticide or other Group 4D insecticides with different groups that control the same pests in a field.
- Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- Before spraying Sivanto Prime Insecticide, correctly identify the pest and ensure economic and agronomic thresholds are met as recommended by local provincial or IPM specialists.
- Monitor treated pest populations for resistance development.
- 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 Bayer CropScience Inc. via internet at www.bayercropscience.ca or phone 1-888-283-6847.

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