



****CONTAINER LABEL****

GROUP	3, 4D	INSECTICIDES
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Sivanto Energy

Insecticide

EMULSIFIABLE CONCENTRATE

For control of listed insect pests on rapeseed, canola, mustard seed (oilseed and condiment), oil radish and *Brassica carinata* (oilseed production only).

COMMERCIAL

ACTIVE INGREDIENTS:	Flupyradifurone	75 g/L
	Deltamethrin	10 g/L

REGISTRATION NO. 35668 PEST CONTROL PRODUCTS ACT

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN



POISON
CORROSIVE TO EYES
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
www.cropscience.bayer.ca

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

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN.

Harmful if swallowed or inhaled. Avoid breathing spray. Potential skin sensitizer. Corrosive to the eyes. **DO NOT** get in eyes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum/tobacco, smoking/vaping or using the toilet. Remove and wash contaminated clothing before reuse.

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 allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system. It is desirable that the pilot have communication capabilities at each treatment site at the time of application. 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.

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 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.cropscience.bayer.ca.

PROTECTIVE CLOTHING AND EQUIPMENT: Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair. Gloves are not required during application within a closed-cab or cockpit.

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/tobacco, smoking/vaping 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.

FIRST AID: 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 five 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 to 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.

TOXICOLOGICAL INFORMATION: No specific antidote is available. Treat the patient symptomatically.

ENVIRONMENTAL PRECAUTIONS:

Toxic to small wild mammals.

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

Toxic to bees. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. 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. 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).

Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland. Deltamethrin may impact predatory and parasitic arthropod species used in IPM programs within the treatment area. Unsprayed refugia for beneficial species of at least 1 metre from treatment area will help maintain beneficial arthropod populations.

The residues of flupyradifurone are persistent and may carry over. It is recommended that this product not be used in areas treated with any products containing flupyradifurone during the previous year.

This product demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soil is permeable, particularly where the water table is shallow, may result in groundwater contamination.

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. Additional guidance can be found on the Runoff Mitigation portion of the Canada.ca website.

STORAGE: Store this product away from food or feed. 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.

DISPOSAL:

For Recyclable Containers:

Disposal of container: 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 or territorial requirements.

Disposal of unused, unwanted product: For information on disposal of unused, unwanted product, contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for cleanup of spills.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.



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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.

Section 2: The Product

Sivanto Energy is a dual mode of action product containing the Group 3 insecticide deltamethrin and the Group 4D insecticide flupyradifurone. Deltamethrin controls insects through contact and/or ingestion. Flupyradifurone is systemic and acts on insects by both contact and ingestion but is more potent via ingestion.

SAFETY AND HANDLING

Section 3: Precautions, Protective Clothing and Equipment

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed or inhaled. Avoid breathing spray. Potential skin sensitizer. Corrosive to the eyes. DO NOT get in eyes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum/tobacco, smoking/vaping or using the toilet. Remove and wash contaminated clothing before reuse.

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 allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system. It is desirable that the pilot have communication capabilities at each treatment site at the time of application. 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.

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 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.cropscience.bayer.ca.

PROTECTIVE CLOTHING AND EQUIPMENT:

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair. Gloves are not required during application within a closed-cab or cockpit.

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/ tobacco, smoking/vaping 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.

Section 4: First Aid and Toxicological Information

FIRST AID

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 five 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 to 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.

TOXICOLOGICAL INFORMATION:

No specific antidote is available. Treat the patient symptomatically.

Section 5: ENVIRONMENTAL PRECAUTIONS

Toxic to small wild mammals.

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

Toxic to bees. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. 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. 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).

Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland. Deltamethrin may impact predatory and parasitic arthropod species used in IPM programs within the treatment area. Unsprayed refugia for beneficial species of at least 1 metre from treatment area will help maintain beneficial arthropod populations.

The residues of flupyradifurone are persistent and may carry over. It is recommended that this product not be used in areas treated with any products containing flupyradifurone during the previous year.

This product demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soil is permeable, particularly where the water table is shallow, may result in groundwater contamination.

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. Additional guidance can be found on the Runoff Mitigation portion of the Canada.ca website.

Section 6: Storage

Store this product away from food or feed. 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:

Disposal of container: 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 or territorial requirements.

Disposal of unused, unwanted product: For information on disposal of unused, unwanted product, contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for cleanup of spills.

DIRECTIONS FOR USE

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.

Section 8: Crops, Pests, Application Rates and Methods

Rapeseed, canola, mustard seed (oilseed and condiment), oil radish, *Brassica carinata* (oilseed production only), cultivars and/or hybrids of these.

Foliar application	
Pests Controlled	Application Rate

	mL/ha
Flea beetles	750
Do not apply after 6-leaf stage. Minimum application volumes: 100 L/ha (Ground); 20 L/ha (Aerial). Maximum Sivanto Energy allowed per crop per year: 750 mL/ha. Maximum flupyradifurone allowed per crop per year: 100 g a.i./ha Foliar Application Notes: Apply when pest pressure necessitates treatment. Apply as a directed foliar spray ensuring thorough coverage. DO NOT harvest or use leaves, stems, or other plant parts of <i>Brassica carinata</i> for food or feed.	

Section 9: Application Instructions and Limitations

Field sprayer application: DO NOT apply when wind speed is less than 1 km/h. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 8 km/h at the site of application. DO NOT apply with sprays finer than the American Society of Agricultural and Biological Engineers (ASABE) S572 (572.1 to 572.3) medium classification. Air-induction nozzles must be used for the ground application of this product. Boom height must be 60 cm or less above the crop or ground.

Aerial application with conventionally piloted aircraft application: DO NOT apply when wind speed is less than 1 km/h. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 8 km/h at flying height at the site of application. DO NOT apply with sprays finer than the American Society of Agricultural and Biological Engineers (ASABE) S572 (572.1 to 572.3) medium-coarse classification. DO NOT apply under weather conditions of less than 50% relative humidity and temperatures greater than 20°C. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotorspan.

Apply only by aircraft equipment which 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 specified for aerial application 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 or a Global Positioning System (GPS).

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.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the registrant at 1-888-283-6847 or obtain technical advice from the distributor or your provincial or territorial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: Apply the specified rate in a minimum spray volume of 20 litres per hectare for conventionally piloted aircraft.

TANK MIX RECOMMENDATIONS:

This product may be tank mixed 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 Bayer CropScience Inc. at 1-888-283-6847 or www.cropscience.bayer.ca for information before applying any tank mix that is not specifically recommended on this label.

Bayer CropScience Inc. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) of all potential tank mixes under all environmental conditions or for all crop varieties. Tank mixes that are not specifically listed on this label should be tested on a small area first, under local conditions and using standard practices, to confirm the tank mix is suitable for widespread application.

To determine the physical compatibility of this product with other products, use a jar test.

SPRAY BUFFER ZONES:

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), 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/Site		Spray Buffer Zones (metres) Required for the Protection of:				
			Freshwater Habitat of Depths:		Estuarine/Marine Habitat of Depths:		Terrestrial Habitat:
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Rapeseed, canola, mustard seed (oilseed and condiment), oil radish, <i>Brassica carinata</i> (oilseed production only), cultivars and/or hybrids of these		1	1	20	10	0
Aerial	Rapeseed, canola, mustard seed (oilseed and condiment), oil radish, <i>Brassica carinata</i> (oilseed production only), cultivars and/or hybrids of these	Fixed wing	25	10	800	725	0
		Rotary wing	15	10	750	450	0

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 (ASABE) category indicated on the labels for those tank mix partners.

The spray buffer zones for this product CANNOT be modified using the Spray Buffer Zone Calculator on the Drift Mitigation portion of the Canada.ca website.

Section 10: Mixing Instructions

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

- 1) Fill the spray tank 1/2 full with clean water;
- 2) While recirculating and with the agitator running, add required amount of Sivanto Energy and any permitted tank mix partners following the WAMLEGS mixing order;
- 3) Fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

Section 11: Rotational Crops

Treated areas may be replanted with the following crops as soon as practical following application Sivanto Energy : Crop Sub-Group 1B (Root vegetables, except sugarbeets), Crop Sub-Group 1C (Tuberous and corm vegetables), Crop Group 4-13 (Leafy vegetables), Crop Group 5-13 (Brassica head and stem vegetables), Crop Group 6 (Legume vegetables, succulent or dried), Crop Group 8-09 (Fruiting vegetables), Crop Group 9 (Cucurbit vegetables), Crop Group 11-09 (Pome fruit), Crop Group 12-09 (Stone Fruit), Crop Subgroup 13-07A (Caneberry), Crop Sub-Group 13-07B (Berry and small fruit – bushberry, except highbush cranberry), Crop Subgroup 13-07F (Berry and small fruit – vine including grapes), Crop Sub-Group 13-07G (Berry and small fruit – low growing berries including strawberries), Crop Group 14-11 (Tree nuts), Crop Group 15 (Cereal grains, except rice), Crop Subgroup 20A (Rapeseeds), Crop Subgroup 22B (Leaf petiole vegetables), Alfalfa, Hops, Peanuts, Asparagus.

A 6-month plant-back interval applies to sugar beet.

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

Do not apply after the 6-leaf stage of crop development.

Section 13: Resistance Management Recommendations

For resistance management, please note that Sivanto Energy contains a Group 3 and 4D insecticide. Any insect population may contain individuals naturally resistant to Sivanto Energy and other Group 3 and 4D insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same sites. Other resistance mechanisms that are not linked to site of action, but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance:

- Where possible, do not exclusively use Sivanto Energy or other Group 3 or 4D insecticides to control the same pest throughout the season.
- Ideally, following seed treatment insecticide usage, alternate subsequent foliar applications with different mode of action insecticides. Use of the same mode of action insecticide in a subsequent foliar application is permitted if the selection pressure is confined to the same insect generation or treatment window¹

- Beyond 20 days (about 3 weeks) after crop emergence, avoid making foliar applications with the same mode of action as the seed treatment to prevent extended residual of any mode of action product beyond the approximate treatment window¹
- Subsequent treatments on following generations of the same insect pest should include treatment with other effective products from different modes of action before returning again to Group 4D products.
- Insecticide use should be based on an IPM program that includes scouting and record keeping, and considers cultural, biological and other chemical control practices.
- Before spraying Sivanto Energy, correctly identify the pest and ensure economic and agronomic thresholds are met as recommended by local provincial or territorial 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.

¹A window is defined by the length of an insect generation, or if unknown, the period of residual activity provided by a single or sequential application of products with the same mode of action within an approximate 30-day period.

For further information or to report suspected resistance contact Bayer CropScience Inc. via internet at www.cropscience.bayer.ca or phone 1-888-283-6847.

Sivanto Energy is a registered trademark of Bayer CropScience.