

PMRA Approved English Label (MR)

Sub. No. 2008-1342

Dec. 3, 2010

<b>GROUP</b>	<b>9C</b>	<b>INSECTICIDE</b>
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## **Beleaf<sup>TM</sup> 50SG Insecticide**

**COMMERCIAL**

**SOLUBLE GRANULES**

**READ THE LABEL BEFORE USING**

**GUARANTEE: Flonicamid 50.0%**

Warning, contains the allergens milk and sulfites

Contains 500 grams of Flonicamid per kilogram of formulated product

U.S. Patent No. 5360806

**CAUTION – EYE IRRITANT**

**REGISTRATION NO: 29796    PEST CONTROL PRODUCTS ACT**

Net Contents: 1 – 100 kg

ISK Biosciences Corporation  
7470 Auburn Road  
Suite A  
Concord, Ohio 44077 U.S.A.  
1-440-357-4650 Outside Canada  
(Long distance charges apply)

Beleaf<sup>TM</sup> is a trademark of Ishihara Sangyo Kaisha, Ltd

## PRECAUTIONS

### KEEP OUT OF REACH OF CHILDREN

**DO NOT** take internally. Harmful if swallowed.

May irritate eyes.

Avoid contact with eyes.

Avoid prolonged contact with skin. Wash exposed areas of skin thoroughly with soap and warm water after handling or using. Remove contaminated clothing and wash before re-use.

Avoid breathing spray mist.

During mixing, loading, clean up and repair: worker must wear a long sleeve shirt, long pants, chemical-resistant gloves and goggles.

During application: worker must wear a long sleeve shirt and long pants.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. For pome fruit, stone fruit and hops please refer to the individual use descriptions for activity-specific restricted entry intervals.

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

**Pesticide Storage:** Store product in original container, in a secured, dry place separate from other pesticides, fertilizer, food, and feed.

### ENVIRONMENTAL HAZARDS

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.

**TOXIC** to non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

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.

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.

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) 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.

DO NOT apply by air.

**Buffer zones:**

The 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).

Method of application	Crop		Buffer Zones (metres) Required for the Protection of:
			Terrestrial habitat
Field sprayer	Brassica leafy vegetables, fruiting vegetables, hop, leafy vegetables, tuberous and corm vegetables, root vegetables		1
Airblast	Pome fruit and stone fruit	Early growth stage	1
		Late growth stage	1

**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 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.

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**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.

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

In Case of Emergency: Call 1-888-484-7546.

## **TOXICOLOGICAL INFORMATION**

Treat symptomatically.

## **DISPOSAL**

Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.

Follow provincial instruction for any required additional cleaning of the container prior to its disposal.

Make the empty container unsuitable for further use.

Dispose of the container in accordance with provincial requirements.

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.

## **DIRECTIONS FOR USE**

Beleaf™ 50SG Insecticide is a 50 percent water dispersible granular formulation of the insecticide flonicamid.

Beleaf™ 50SG Insecticide controls aphids in Brassica (cole) leafy vegetables, cucurbit vegetables, fruiting vegetables and leafy vegetables (excluding Brassica), hop, tuberous and corm vegetables, root vegetables (excluding sugar beets), pome fruit and stone fruit.

The rate of application is dependent upon the insect species present, the level of insect pressure, and the amount of foliage present. Begin applications before populations begin to build or at economic thresholds according to local economic guidelines. Refer to local Cooperative Extension Guideline and/or time applications for scouting results. Thorough plant coverage is essential for good performance.

### **Mode of Action**

Beleaf™ 50SG Insecticide is a member of the pyridinecarboxamide class of chemistry. Beleaf™ 50SG Insecticide controls target pests by contact and ingestion provoking rapid and irreversible feeding cessation. Aphids could remain on the plant until they desiccate.

### **Resistance Management Recommendations**

For resistance management, please note that Beleaf 50SG Insecticide contains a Group 9C insecticide. Any insect population may contain individuals naturally resistant to Beleaf 50SG Insecticide and other Group 9C insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific

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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 Beleaf 50SG Insecticide or other Group 9C insecticides with different groups that control the same pests in a field. Avoid application of more than 3 and consecutive sprays of Beleaf 50SG Insecticide or other insecticides in the same group in a season.
- Use tank mixtures with insecticides from a different group when such use is permitted.
- Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- 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 ISK Biosciences Corporation at 1-440-357-4650 (Long distance charges apply).

**Use Restrictions**

Do not use this product in greenhouses.

Do not use this product in home gardens.

**Crop Rotation Restrictions**

Following application of Beleaf™ 50SG Insecticide, any crop listed on this label may be planted at any time. All other crops may be planted 30 days after the last application of Beleaf™ 50SG Insecticide.

**Pre-Harvest Intervals**

<b>Crop</b>	<b>PHI Days</b>
Brassica (Cole) Leafy Vegetables	0
Cucurbit Vegetables	0
Fruiting Vegetables (except cucurbits)	0
Hop	31
Leafy Vegetables (except Brassica)	0
Tuberous and Corm Vegetables	7
Root Vegetables (except sugar beets)	3
Pome Fruit	21
Stone Fruit	14

**Mixing and Loading Instructions**

Ensure the spray system is clean and free of residues from previous applications. Fill the spray tank 1/2 full with clean water. Ensure the agitation system is operating and sufficient to provide uniform spray mixing during application and until the spray tank has been emptied. Complete filling the spray tank to the desired level.

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Avoid the overnight storage of Beleaf™ 50SG Insecticide spray mixtures.

Premixing Beleaf™ 50SG Insecticide solutions in nurse tanks is not recommended. Prepare no more spray mixture than is needed for the immediate application.

Do not use liquid fertilizer as a carrier for Beleaf™ 50SG Insecticide.

### **Adjuvant Use Requirements and Precautions**

Beleaf™ 50SG Insecticide should not be used with spray adjuvants.

### **Spray Equipment Clean Out**

After spraying Beleaf™ 50SG Insecticide and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned.

### **Application Information**

All ground application equipment must be properly maintained and calibrated using appropriate carriers. Use the largest droplet size consistent with good pest control.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage. Finished spray volumes should be increased under extreme pest populations or dense plant foliage.

### **Ground Application**

Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Utilize nozzles that produce minimal amounts of fine spray droplets. Do not exceed 205 kPa (30 psi) spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Sprayers should be adjusted to position spray tips a minimum of 46 cm (18 inches) above the crop. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in higher application rates.

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**Brassica (Cole) Leafy Vegetables (0 day PHI)**

**Crop Group 5**

**Broccoli; Chinese broccoli; Broccoli raab (rapini); Brussels sprouts; Cabbage; Chinese cabbage (bok choy); Chinese cabbage (napa); Chinese mustard cabbage; Cauliflower; Cavalo broccoli; Collards; Kale; Kohlrabi; Mizuna; Mustard greens; Mustard spinach; Rape greens.**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.

Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.

Allow a minimum of 7 days between applications.

Do not apply more than 3 applications per year.

Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.

**Cucurbit Vegetables (0 day PHI)**

**Crop Group 9**

**Chayote (fruit); Chinese waxgourd (Chinese preserving melon); Citron melon; Cucumber; Gherkin; Gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); Momordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber); Muskmelon (hybrids and/or cultivars of Cucumis melo) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon); Pumpkin; Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); Squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); Watermelon (includes hybrids and/or varieties of Citrullus spp.).**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.

Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.

Allow a minimum of 7 days between applications.

Do not apply more than 3 applications per year.

Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.

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**Fruiting Vegetables (except cucurbits) (0 day PHI)**

**Crop Group 8**

**Eggplant; Groundcherry; Okra; Pepino; Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper); Tomatillo; Tomato.**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.
<p>Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.</p> <p>Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.</p> <p>Allow a minimum of 7 days between applications.</p> <p>Do not apply more than 3 applications per year.</p> <p>Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.</p>			

**Hop (31 day PHI):**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.
<p>Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.</p> <p>Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.</p> <p>Allow a minimum of 7 days between applications.</p> <p>Do not apply more than 3 applications per year.</p> <p>Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.</p> <p>For hops, do not enter or allow worker entry for the purpose of performing stripping and training activities in treated areas during the restricted entry interval (REI) of 31 days.</p>			

**Leafy Vegetables (except *Brassica*) (0 day PHI)**

**Crop Group 4**

**Amaranth (leafy amaranth, Chinese spinach, tampala); Arugula (Roquette); Cardoon; Celery; Celery, Chinese; Celtuce; Chervil; Chrysanthemum, edible- leaved and garland; Corn salad; Cress, garden; Cress, upland (yellow rocket, winter cress); Dandelion; Dock (sorrel); Endive (escarole); Fennel, Florence (finocchio); Lettuce, head and leaf; Orach; Parsley; Purslane, garden; Purslane, winter; Radicchio (red chicory); Rhubarb; Spinach, New Zealand; Spinach, vine (Malabar spinach, Indian spinach); Swiss chard.**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.

Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.

Allow a minimum of 7 days between applications.

Do not apply more than 3 applications per year.

Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.

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**Tuberous and Corm Vegetables (7 day PHI)**

**Crop Subgroup 1C**

**Artichoke, Chinese; Artichoke, Jerusalem; Casava, bitter and sweet; Chayote (root); Chufa; Dasheen (taro); Ginger; Potato; Sweet potato; Yam (true).**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.

Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.

Allow a minimum of 7 days between applications.

Do not apply more than 3 applications per year.

Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.

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**Root Vegetables (except sugar beets) (3 day PHI)**

**Crop Subgroup 1B**

**Beet, garden; Burdock, edible; Carrot; Celeriac; Chervil, turnip-rooted; Chicory; Ginseng; Horseradish; Parsley, turnip-rooted; Parsnip (*Pastinaca sativa*); Radish; Radish, oriental; Rutabaga; Salsify; Salsify, black; Salsify, Spanish; Skirret; Turnip.**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.

Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.

Allow a minimum of 7 days between applications.

Do not apply more than 3 applications per year.

Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.

**Pome Fruit (21 day PHI)**

**Crop Group 11**

**Apple; Crabapple; Loquat; Mayhaw; Pear; Pear, oriental; Quince.**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.

Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.

Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.

Allow a minimum of 7 days between applications.

Do not apply more than 3 applications per year.

Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.

Do not enter or allow worker entry for the purpose of performing thinning activities in treated areas during the restricted entry interval (REI) of 2 days.

**Stone Fruit (14 day PHI)**

**Crop Group 12**

**Apricot; Cherry, sweet; Cherry, tart; Nectarine; Peach; Plum; Plum, Chickasaw ; Plum Damson; Plum, Japanese; Plumcot; Prune (fresh).**

PESTS	RATE OF APPLICATION		COMMENTS
	Kilograms Beleaf™ 50SG Insecticide per Hectare	Kilograms Active Ingredient per Hectare	
Aphids	0.12 to 0.16	0.06 to 0.08	Use higher rates for greater pest populations and/or dense foliage.
<p>Thorough spray coverage of plant foliage is essential for optimum control. Apply in sufficient water to ensure good coverage; use a minimum of 94 litres per hectare when applied by ground. Finished spray volumes should be increased when plant foliage is dense.</p> <p>Apply before populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary.</p> <p>Allow a minimum of 7 days between applications.</p> <p>Do not apply more than 3 applications per year.</p> <p>Do not apply more than 0.16 kilograms per hectare Beleaf™ 50SG Insecticide (0.08 kilograms a.i. per hectare) per application. Do not apply more than 0.48 kilograms per hectare Beleaf™ 50SG Insecticide (0.24 kilograms a.i. per hectare) per season.</p> <p>Do not enter or allow worker entry for the purpose of performing thinning activities in treated areas during the restricted entry interval (REI) of 2 days.</p>			

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## 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.