#### CONTAINER LABEL

GROUP 13 HERBICIDE

# **CARAVEL HERBICIDE**

# **COMMERCIAL**

# **Microcapsule Suspension**

A Selective Microencapsulated Suspension for:

- Pre-emergent Weed Control in Soybeans, Field Cucumbers, Melons, Squash, and Processing Pumpkins in Eastern Canada.
- Pre-emergent Weed Control in Peppers in Eastern Canada and Manitoba.
- Post-transplant Weed Control in Field Sweet Potatoes in Eastern Canada.
- Pre-plant Weed Control in Herbicide-Tolerant Canola (National)
- Pre-emergent Weed Control in Asparagus (National)

#### **CAUTION**



# POISON POTENTIAL EYE AND SKIN IRRITANT POTENTIAL SKIN SENSITIZER

# READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

REGISTRATION NO. 34429 PEST CONTROL PRODUCTS ACT

**NET CONTENTS:** 1 L - 1000 L

Sipcam Agro USA, Inc. 2525 Meridian Parkway, Suite 350 Durham, NC 27713 USA (919) 226 1195

#### **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 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	Take off contaminated clothing.
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for treatment advice.
If inhaled	Move person to fresh air.
	If person is not breathing, call 911 or an ambulance, then give artificial
	respiration, preferably by mouth-to-mouth, if possible.
	Call a poison control centre or doctor for further treatment advice
Take container, I	abel or product name and Pest Control Product Registration Number with you when
seeking medical	attention.
FOR CHEMICAL 9300.	EMERGENCY: spill, leak, fire, exposure or accident, call CHEMTREC at 1-800-424-

#### **TOXICOLOGICAL INFORMATION**

Treat symptomatically.

#### **PRECAUTIONS**

#### **KEEP OUT OF REACH OF CHILDREN**

Harmful if swallowed or absorbed through the skin. Irritating to eyes and skin. Potential skin sensitizer.

Avoid breathing vapour or mist. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### Personal Protective Equipment (PPE):

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

- 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.
- Wear freshly laundered clothes daily. Clothing should be washed separately from household laundry, before reuse.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Do not apply more than one application per season.

Do not apply when weather conditions favor drift from the area treated. DO NOT APPLY CARAVEL HERBICIDE THROUGH ANY TYPE OF IRRIGATION EQUIPMENT.

DO NOT apply by air.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

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

Foliar contact with spray or vapours may cause foliar whitening or yellowing of sensitive plants. Symptoms are generally temporary but may persist in some plant species.

#### **ENVIRONMENTAL PRECAUTIONS**

Toxic to aquatic organisms. Observe spray 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 filter strip between the treated area and the edge of the water body.

#### **GRAZING/FEEDING RESTRICTION**

Do not graze the treated crop or cut for hay; sufficient data are not available to support such use.

# **STORAGE**

Store this product away from food or feed. If possible, store above 5°C to keep product from freezing. If frozen, thaw before use. If solid crystals are observed, warm material to above 15 °C by placing container in warm location. Shake or roll container periodically to redissolve solids.

Do not use or store near heat or open flame.

Store in original containers only. Store in a dry location. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

#### **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.

#### For returnable containers:

DO NOT reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

#### For refillable containers:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

# 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 clean-up 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.

#### **BOOKLET LABEL**

GROUP 13 HERBICIDE

# **CARAVEL HERBICIDE**

# Commercial

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# READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

REGISTRATION NO. 34429 PEST CONTROL PRODUCTS ACT

NET CONTE NTS: 1-L - 1000 L

Sipcam Agro USA, Inc. 2525 Meridian Parkway, Suite 350 Durham, NC 27713 USA (919) 226 1195

#### WARNING

APPLY THIS PRODUCT ONLY AS SPECIFIED ON THIS LABEL. FAILURE TO FOLLOW LABEL INSTRUCTIONS MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. READ ALL DIRECTIONS CAREFULLY BEFORE APPLYING. Do not apply to peat or muck soils or any containing more than 10% organic matter. If CARAVEL HERBICIDE is to be applied to fields spread with manure, ensure that the manure has been thoroughly disintegrated and mixed into the soil to a depth of 10-15 cm before CARAVEL HERBICIDE application.

#### **FIRST AID**

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Take container,	label or product name and Pest Control Product Registration Number with you when
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#### **TOXICOLOGICAL INFORMATION**

Treat symptomatically.

#### **PRECAUTIONS**

# **KEEP OUT OF REACH OF CHILDREN**

CAUTION: Harmful if swallowed or absorbed through the skin. Irritating to eyes and skin. Potential skin sensitizer.

Avoid breathing vapour or mist. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### **Personal Protective Equipment (PPE):**

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Foliar contact with spray or vapours may cause foliar whitening or yellowing of sensitive plants. Symptoms are generally temporary but may persist in some plant species.

#### **ENVIRONMENTAL PRECAUTIONS**

Toxic to aquatic organisms. Observe spray 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 filter strip between the treated area and the edge of the water body.

# **GRAZING/FEEDING RESTRICTION**

Do not graze the treated crop or cut for hay; sufficient data are not available to support such use.

#### **STORAGE**

Store this product away from food or feed. If possible, store above 5°C to keep product from freezing. If frozen, thaw before use. If solid crystals are observed, warm material to above 15 °C by placing container in warm location. Shake or roll container periodically to redissolve solids.

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#### DISPOSAL

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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.

# **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.

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

#### **APPLICATION AND DRIFT PRECAUTIONS**

- DO NOT apply more than one application per season
- DO NOT apply during periods of dead calm or when winds are gusty.
- DO NOT apply by air.
- CARAVEL HERBICIDE must be applied as per the directions on this label.
- Failure to properly apply CARAVEL HERBICIDE may result in off-target movement of this product.
- Plants sensitive to foliar damage from CARAVEL HERBICIDE are listed in the following table:

**Trees:** Fruit trees, cherry (fruit, black, pin, choke)\*, poplar\*, willow\*, ash, maple, basswood, walnut, elm, ornamentals, hickory, and spruce

Vegetables and Flowers: All

Cereal Crops: Wheat, oats, barley, winter wheat, rye, and triticale

Forage Crops: Alfalfa

**Shrubs and Vines:** Ornamentals, raspberry\*, grapes\*, roses\*, and strawberry

Off-target movement of CARAVEL HERBICIDE may occur either directly through spray drift at the time of application, or through the volatilization of applied product and subsequent vapour drift. OFF-TARGET DRIFT OF CARAVEL HERBICIDE MUST BE AVOIDED TO PREVENT FOLIAR DAMAGE TO NEIGHBORING VEGETATION.

#### **SPRAY DRIFT MITIGATION MEASURES**

Spray drift is influenced by many factors, including wind speed, spray pressure, particle size, nozzle type, and applicator boom height. To minimize the risk of off-site migration from spray drift:

- Use a low sprayer pressure DO NOT exceed 207kPa spray pressure.
- Select an operating pressure and volume that meet a droplet size classification of coarse or greater.

#### Consider using low-drift nozzles.

Do not apply during periods of dead calm, or when winds are gusty or in excess of 16 km/hr.

- Minimize sprayer boom height while maintaining a uniform spray pattern.
- Apply during calmer periods of the day (e.g., early morning or late in day).
- DO NOT apply during a temperature inversion (see text on TEMPERATURE INVERSIONS).

#### **SPRAY BUFFER ZONES**

<sup>\*</sup>Extremely sensitive plants

To mitigate against off-site movement of spray drift, observe spray buffer zones specified under 'VAPOUR DRIFT MITIGATION'. The specified spray buffer zones 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). For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

#### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. Their presence can be indicated by ground fog or characterized by lateral movement of smoke layers in a concentrated cloud. Application should be avoided during temperature inversions, as insufficient vertical mixing may result in off-target movement of CARAVEL HERBICIDE.

#### VAPOUR DRIFT MITIGATION

CARAVEL HERBICIDE will volatilize from soils. To minimize the risk of off-site movement of vapours:

- DO NOT apply CARAVEL HERBICIDE when air temperatures exceed 25° C.
- DO NOT SPRAY CARAVEL HERBICIDE WITHIN 90 METRES OF SENSITIVE PLANTS or SENSITIVE TERRESTRIAL HABITATS.
- DO NOT APPLY CARAVEL HERBICIDE WITHIN 370 METRES OF THE FOLLOWING AREAS:
  - Residential areas of towns and subdivisions
  - Areas of established vegetable production
  - Fruit production, commercial nurseries, or greenhouses

#### RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, CARAVEL HERBICIDE is a Group 13 herbicide. Any weed population may contain or develop plants naturally resistant to CARAVEL HERBICIDE and other Group 13 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. 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 herbicide resistance:

- Where possible, rotate the use of CARAVEL HERBICIDE or other Group 13 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To
  delay resistance, the less resistance-prone partner should control the target weed(s) as
  effectively as the more resistance-prone partner.

- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for the specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Sipcam Agro USA, Inc. at (919) 226 1195

#### **ROTATIONAL CROPPING PRECAUTIONS**

**NOTE:** When using CARAVEL HERBICIDE with other registered herbicides always refer to rotational restrictions and precautions on the other product's label.

Under some conditions, temporary whitening or yellowing of leaves may occur on approved rotational crops where undesirable soil residues of CARAVEL HERBICIDE exist.

Under abnormal conditions, carryover injury to rotational crops can occur. The following factors can contribute to increased risk of injury to rotational crops:

- Exceeding label recommended rates.
- Overapplication resulting from use of worn nozzles, excessive overlapping of spray swaths, failing to shut off spray booms when turning (end row areas), or slowing or stopping sprayer.
- Soil with pH less than or equal to 5.9.
- Extreme dryness in the four months following application.
- Choice of rotational crop hybrid.

Additional recommendations to prevent rotational crop injury may be provided in the form of service bulletins for locations where risk of injury is significantly increased due to extremely dry conditions.

RATE	PLANT BACK INTERVAL	ROTATIONAL CROPS
	Immediately	Soybeans, spring canola
	4 months	Winter wheat
0.25 – 0.33 L/ha	Following spring	Beans (white, kidney, snap), corn (field, sweet), peas, peppers (transplant, plugs), broccoli (transplant, plugs), cucumbers, melons, pumpkins, squash, potatoes, spring wheat, durum wheat, spring barley, oats, lentils
	Immediately	Soybeans
0.78 - 2.35 L/ha	Following Spring	Beans (white, kidney, snap), corn (field, sweet), peas, peppers (transplant, plugs), broccoli (transplant, plugs), cucumbers, melons, pumpkins, squash, potatoes, spring canola, spring wheat
	16 months	All other crops

Under normal conditions, CARAVEL HERBICIDE will not harm approved crops grown in rotation. Compaction, non-uniform tillage, seedling disease, cold weather, deep planting, excessive moisture, or drought may weaken crop seedlings and increase risk of damage from CARAVEL HERBICIDE, resulting in delayed crop development or reduced yield. Drought conditions in the year prior to seeding rotational crops may result in higher levels of CARAVEL HERBICIDE in the soil. To reduce the possibility of injury to rotational crops, use good agronomic practices.

Use a well-maintained, properly calibrated sprayer set to apply CARAVEL HERBICIDE at recommended rates and water volumes specified on this label. **DO NOT** exceed label recommended rates. Avoid overlapping or situations resulting in excessive application, which could result in crop and/or rotational crop injury.

#### SPRAYER CLEANUP

Failure to observe the following may injure sensitive plants or trees.

**DO NOT** park, drain or flush equipment on or near sensitive trees or other plants. Avoid areas in which desirable plant roots may extend into flush and cleaning location.

**DO NOT** rinse and clean in areas where the herbicide may be washed or moved into contact with plant roots.

**DO NOT** contaminate any body of water.

After spraying CARAVEL HERBICIDE and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure:

1. Drain sprayer tank, hoses, and spray boom. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then thoroughly flush all sprayer hoses, booms, and nozzles with clean water.

- 2. Prepare a sprayer cleaning solution by adding heavy-duty detergent or three litres of ammonia (containing at least 3% active) per 100 litres of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
- 3. Convenient and thorough cleaning of the sprayer can be achieved if the cleaning solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
- 4. Drain the sprayer system. Rinse the tank with clean water and flush through the hoses, boom, and nozzles. Remove and clean spray tips and all strainers and screens separately in an ammonia solution.
- 5. When switching from water dilutions to applications utilizing crop oil or liquid fertilizer as a carrier, a small volume of crop oil or liquid fertilizer should be flushed through the tank, pump, hoses, and boom prior to the next use.
- 6. Properly dispose of all cleaning solution and rinsate, including crop oil or liquid fertilizer rinsate, in accordance with provincial guidelines and regulations.

#### **GENERAL MIXING INSTRUCTIONS**

Avoid mixing in areas adjacent to desirable plants.

It is important that spray equipment is clean and free of existing pesticide deposits before using this product. Follow the spray tank clean-out procedures specified on the label of the product previously applied before adding CARAVEL HERBICIDE to the tank.

**CARAVEL HERBICIDE Alone:** Mix CARAVEL HERBICIDE with water or liquid fertilizer in the following manner: Fill the spray tank one-half to three-fourths full of water or liquid fertilizer, add the proper amount of CARAVEL HERBICIDE, then add the rest of the water or liquid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture. Apply spray solution immediately after mixing.

**Tank Mixtures:** Fill spray tank one-half to two-thirds full with water; with agitator operating add the recommended amount of ingredients using the following order:

- Wettable powders and dispersible granules
- Agitate tank mix thoroughly
- Micro-encapsulated suspensions (e.g. CARAVEL HERBICDE)
- Liquid flowables and suspensions
- Emulsifiable concentrate formulations.
  - o Fill spray tank nearly full with water
- Glyphosate formulations
- Surfactants.
  - o Complete filling the spray tank to the desired level

Maintain agitation during filling, mixing and application. When using drift reducing agents, follow specific product label instructions for order of addition to spray tank.

# GENERAL APPLICATION INSTRUCTIONS GROUND APPLICATION ONLY

Use a well-maintained, properly calibrated sprayer set to apply CARAVEL HERBICIDE at recommended rates and water volumes specified on this label. Apply CARAVEL HERBICIDE by ground equipment using a finished spray volume of 95 to 375 L of water per hectare. Coarse sprays are less likely to drift out of target area than fine sprays. See "APPLICATION AND DRIFT PRECAUTIONS" and "SPRAY DRIFT MITIGATION MEASURES" sections for specific recommendations to reduce spray drift. Do not exceed label recommended application rates. Avoid overlapping or situations resulting in excessive application, which could result in crop and/or rotational crop injury.

CARAVEL HERBICIDE may be used as a preemergent soil surface applied treatment from 30 days before planting to just prior to crop emergence. If field conditions indicate the need for additional seedbed preparation, the use of equipment, which will move the herbicide no deeper than 5 cm, is acceptable.

Crops growing under stress from adverse environmental conditions such as excess moisture, drought, disease, etc. or adverse agronomic practices such as poor seed placement, poor fertility, soil compaction, etc. may exhibit injury symptoms from CARAVEL HERBICIDE. Such effects are often observed as transient whitening of crop leaves but under severe conditions may contribute to crop loss. Following good agronomic practices, as recommended by local provincial extension personnel, will reduce the risk of crop injury

# **Banded Applications**

Calculate the rates and volumes required by using the following formulas:

Band width <u>in</u> X = Band rate <u>centimetres</u> Broadcast per hectare Row width Rate Per In centimetres hectare

Band width in centimetres

Row width
In centimetres

Broadcast
Volume
Per hectare

Band
Volume
Per hectare

Per hectare

# **Cultivation After Planting**

If cultivation is necessary because of soil crusting, compaction, or weed emergence, soil treated with CARAVEL HERBICIDE may be shallow-cultivated (no deeper than 5 cm) or rotary-hoed without reducing the weed control activity of CARAVEL HERBICIDE. Avoid deep cultivation which may bring untreated soil to the surface and result in poor weed control.

# **CROP-SPECIFIC USE DIRECTIONS**

FIELD CUCUMBERS (EASTERN CANADA ONLY)			
WEEDS SUPPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS	
	0.78 – 1.17 L/ha	Apply as a single, soil-applied, pre-emergent treatment after seeding and prior to crop and weed emergence.	
		Apply in 95 - 375 L of water per hectare.	
Broadleaf weeds¹: Velvetleaf Lambsquarters (including triazine –resistant biotypes)  Grass weeds¹: Barnyardgrass		Broadcast application. Use the lower recommended rate on light (coarse) <sup>2</sup> soils and the higher recommended rate on heavy (fine) <sup>3</sup> soils.	
		Temporary whitening and/or yellowing of the crop may occur when emerging from the treated soil. If environmental conditions are unfavourable for plant growth (e.g., cool weather, extreme moisture, compacted soil, poor agronomic practices), the crop's ability to fully recover from this initial herbicide response may be negatively affected.	
		Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.	

#### **RESTRICTIONS**

- **DO NOT** make more than one application per season.
- Apply after seeding but prior to cucumbers emergence.
- **DO NOT** apply within 30 days of harvest for cucumbers.
- DO NOT incorporate CARAVEL HERBICIDE.
- DO NOT apply to sandy soil.

Medium soils: loam, silt loam, silt, sandy clay loam.

<sup>&</sup>lt;sup>1</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

<sup>&</sup>lt;sup>2</sup>Light (coarse) soils: sandy loam

<sup>&</sup>lt;sup>3</sup>Heavy (fine) soils: silty clay, clay loam, silty clay, clay

MELONS (MUSKMELONS, WATERMELONS) EASTERN CANADA ONLY			
WEEDS SUPPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS	
		Apply as a single, soil-applied, pre-emergent treatment after seeding and prior to crop and weed emergence.	
		Apply in 95 - 375 L of water per hectare.	
Broadleaf weeds <sup>1</sup> :  Velvetleaf  Lambsquarters (including triazine –resistant biotypes)  Grass weeds <sup>1</sup> : Barnyardgrass	0.78 L/ha (All soil types)	CARAVEL HERBICIDE may cause unacceptable injury symptoms to muskmelon and watermelon that may lead to a yield loss. Consult your seed supplier or local crop production specialist for information on the tolerance of muskmelon and watermelon to CARAVEL HERBICIDE.	
		Temporary whitening and/or yellowing of the crop may occur when emerging from the treated soil. If environmental conditions are unfavourable for plant growth (e.g., cool weather, extreme moisture, compacted soil, poor agronomic practices), the crop's ability to fully recover from this initial herbicide response may be negatively affected.	
		Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.	

- **DO NOT** make more than one application per season.
- Apply after seeding but prior to melon emergence.
- DO NOT apply within 60 days of harvest for melons.
- **DO NOT** incorporate CARAVEL HERBICIDE.
- DO NOT apply to sandy soil.

<sup>1</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

PEPPERS (EASTERN CANADA AND MANITOBA ONLY)				
WEEDS CONTROLLED/SUPPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS		
Broadleaf weeds:  Velvetleaf Lambsquarters (including triazine –resistant biotypes) Lady's thumb (smartweed) Eastern black nightshade Redroot pigweed <sup>1,2</sup> Common ragweed <sup>1,2</sup> Common ragweed <sup>1,2</sup> Grass weeds: Barnyardgrass Green foxtail Yellow foxtail (controlled at 2.35 L/ha when not tankmixed)	1.55 L/ha (Light³) 1.95 L/ha (Medium⁴) 2.35 L/ha (Heavy⁵)	Apply as a single, soil-applied, pre-emergent treatment before transplanting and prior to weed emergence.  Place roots of the transplants below the chemical barrier when planting.  Apply in a minimum of 95 L of water per hectare by ground ONLY.  Broadcast application. Use the lower recommended rate on light (coarse) <sup>3</sup> soils and the higher recommended rate on heavy (fine) <sup>5</sup> soils.  Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.		

- DO NOT use on banana peppers.
- **DO NOT** make more than 1 application per season.
- Apply before transplant and prior to weed emergence.
- **DO NOT** apply within 70 days of harvest for peppers.
- DO NOT incorporate CARAVEL HERBICIDE.
- DO NOT apply to sandy soil.
- Ground equipment only.

<sup>&</sup>lt;sup>1</sup>Suppression only

<sup>&</sup>lt;sup>2</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

<sup>&</sup>lt;sup>3</sup>Light (coarse) soils: sandy loam

<sup>&</sup>lt;sup>4</sup>Medium soils: loam, silt loam, silt, sandy clay loam.

<sup>&</sup>lt;sup>5</sup>Heavy (fine) soils: silty clay, clay loam, silty clay, clay

SOYBEANS (EASTERN CANADA ONLY)			
WEEDS CONTROLLED/SUPPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS	
Broadleaf weeds:  Velvetleaf Lambsquarters (including triazine –resistant biotypes) Lady's thumb (smartweed) Eastern black nightshade Redroot pigweed <sup>1,2</sup> Common ragweed <sup>1,2</sup> Common ragweed <sup>1,2</sup> Grass weeds: Barnyardgrass Green foxtail Yellow foxtail (controlled at 2.35 L/ha when not tankmixed)	1.55 L/ha (Light³) 1.95 L/ha (Medium⁴) 2.35 L/ha (Heavy⁵)	Apply between seeding and when the soybeans emerge.  Apply in a minimum of 95 L of water per hectare.  Broadcast application. Use the lower recommended rate on light (coarse) <sup>3</sup> soils and the higher recommended rate on heavy (fine) <sup>5</sup> soils.  Natto soybean varieties have demonstrated injury from CARAVEL HERBICIDE and are not recommended for planting into soils treated with CARAVEL HERBICIDE. Check with the seed supplier for the tolerance of new varieties (particularly for specifically bred cultivars) to CARAVEL HERBICIDE.  Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.	

- DO NOT incorporate CARAVEL HERBICIDE or tank mixes of CARAVEL HERBICIDE.
- DO NOT allow livestock to graze on treated soybean vines or feed treated vines or vine trash to livestock.

#### **REPLANTING INSTRUCTIONS**

- If initial seeding of soybeans fails to produce a stand, soybeans may be replanted in fields treated with CARAVEL HERBICIDE alone (or with recommended tank mixtures).
- **DO NOT** retreat field with a second application of CARAVEL HERBICIDE.
- When tank mixing with a labeled product refer to the soybean replant instructions for that product.
- **DO NOT** replant treated fields with any crop at intervals, which are inconsistent with the Rotational Crop Guidelines on this label.

#### TANK MIXTURES-SOYBEANS (EASTERN CANADA ONLY)

CARAVEL HERBICIDE may be tank mixed with the following herbicides to broaden the weed control spectrum.

When applying mixtures of CARAVEL HERBICIDE with other herbicides, observe all precautions and limitations appearing on the labels of each product.

**DO NOT** incorporate tank mixtures of CARAVEL HERBICIDE and other products.

Observe all application precautions, rotational guidelines and replanting instructions of each product's label when using tank mixes.

**Pre-emergence ONLY** (conventional tillage, reduced tillage and no-till operations).

<sup>&</sup>lt;sup>1</sup>Suppression only

<sup>&</sup>lt;sup>2</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

<sup>&</sup>lt;sup>3</sup>Light (coarse) soils: sandy loam

<sup>&</sup>lt;sup>4</sup>Medium soils: loam, silt loam, silt, sandy clay loam.

<sup>&</sup>lt;sup>5</sup>Heavy (fine) soils: silty clay, clay loam, silty clay, clay

Postemergence herbicides approved for use on soybeans may be applied following treatments of CARAVEL HERBICIDE alone or in tank mix combinations for control of emerged weeds as listed on the postemergence product labels. Read and follow the precautionary statements, directions for use, rates of application and all other information appearing on the product labels.

Apply tank mixtures to the soil surface after seeding but before the soybeans emerge.

The rate of CARAVEL HERVBICIDE in soybean tank mixtures is 1.55 L/ha on Light<sup>1</sup> soils, 1.95 L/ha on Medium<sup>2</sup> soils and 2.35 L/ha on Heavy<sup>3</sup> soils.

Tank-mix	Weeds	Rate of Tank-mix Product for		<b>5</b>
Product	Controlled/Suppressed <sup>4</sup>	Light <sup>1</sup>	ach Soil Type Medium <sup>2</sup> Heavy <sup>3</sup>	Restrictions/Instructions
Sencor 75DF (A.I. metribuzin)	Broadleaf weeds: Velvetleaf Lambsquarters (including triazine –	375 L/ha	530 L/ha	<b>DO NOT</b> apply on light <sup>1</sup> soils containing less than 2% organic matter.
Lexone DF (A.I. metribuzin)	resistant biotypes) Lady's thumb (smartweed) Eastern black nightshade Redroot pigweed Common ragweed Grass weeds:	375 L/ha	530 L/ha	DO NOT use when planting metribuzin sensitive soybean varieties.  Increased metribuzin activity (crop injury) is possible on high pH soils and/or soils with atrazine residues.  On variable soil with light sandy
	Barnyardgrass Green foxtail Yellow foxtail			areas, some injury may occur on sandy areas if the rate used is for the heavier soil types in the field.
Pursuit 240 (A.I. imazethapyr)	All of the weeds listed above plus: Wild mustard Old witchgrass Proso millet <sup>4</sup>		312 mL/ha	
Dual II Magnum (A.I. s- metolachlor)	Broadleaf weeds: Velvetleaf Lambsquarters (including triazine – resistant biotypes) Lady's thumb (smartweed) Eastern black nightshade Redroot pigweed Common ragweed <sup>4</sup> Grass weeds: Barnyardgrass Green foxtail Yellow foxtail Giant foxtail Old witchgrass		1.75 L/ha	

<sup>&</sup>lt;sup>1</sup>Light (coarse) soils: sandy loam

<sup>&</sup>lt;sup>2</sup>Medium soils: loam, silt loam, silt, sandy clay loam. <sup>3</sup>Heavy (fine) soils: silty clay, clay loam, silty clay, clay

<sup>4</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

SQUASH AND PROCESSING PUMPKINS (EASTERN CANADA ONLY)			
WEEDS SUPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS	
		Apply as a single, soil-applied, pre-emergent treatment after seeding and prior to crop or transplanting and prior to weed emergence.	
	0.78 – 1.17 L/ha	Apply in 95 - 375 L of water per hectare.	
Broadleaf weeds1: Velvetleaf Lambsquarters (including		Broadcast application. Use the lower recommended rate on light (coarse) <sup>2</sup> soils and the higher recommended rate on fine (heavy) <sup>3</sup> soils.	
triazine –resistant biotypes) <u>Grass weeds¹:</u> Barnyardgrass		Temporary whitening and/or yellowing of the crop may occur when emerging from the treated soil. If environmental conditions are unfavourable for plant growth (e.g., cool weather, extreme moisture, compacted soil, poor agronomic practices), the crop's ability to fully recover from this initial herbicide response may be negatively affected.	
		Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.	

#### **RESTRICTIONS**

- **DO NOT** make more than one application per season.
- Apply after seeding but prior to squash or pumpkin emergence.
- **DO NOT** apply within 30 days of harvest for squash or processing pumpkins.
- DO NOT incorporate CARAVEL HERBICIDE.
- DO NOT apply to sandy soil.
- DO NOT use on Jack-O-Lantern Pumpkins.
- **DO NOT** use on the following cultivars or varieties as unacceptable whitening of the fruit may occur: NK530, NK580, Turks Turban, Golden Delicious, all Banana types, and all other *Curcurbita maxima* types that have a pink or burnt orange coloration at harvest.

<sup>1</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

<sup>2</sup>Light (coarse) soils: sandy loam

Medium soils: loam, silt loam, silt, sandy clay loam. <sup>3</sup>Heavy (fine) soils: silty clay, clay loam, silty clay, clay

SWEET POTATOES (EASTERN CANADA ONLY)			
WEEDS CONTROLLED/SUPPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS	
Broadleaf weeds: Velvetleaf Lambsquarters (including triazine –resistant biotypes)	1.55 L/ha	Apply as a single, soil-applied application after transplanting and prior to weed emergence.  Apply in a minimum of 95 L of water per hectare.	

2023-2823 2023-06-28

Last approved 2022-0646, 2022-02-24

Yellow foxtail <sup>1</sup>
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#### **RESTRICTIONS**

- **DO NOT** make more than one application per season.
- Apply post transplant to sweet potatoes.
- **DO NOT** apply within 95 days of harvest for sweet potatoes.
- DO NOT incorporate CARAVEL HERBICIDE.

<sup>1</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

<sup>2</sup>Light (coarse) soils: sandy loam

# **ASPARAGUS (NATIONAL)**

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Sipcam Agro USA, Inc. (Sipcam) under the User Requested Minor Use Label Expansion program. For these uses, Sipcam Agro USA, Inc. (Sipcam) has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

WEEDS CONTROLLED/SUPPRESSED <sup>1</sup>	PRODUCT RATE	APPLICATION DIRECTIONS
Broadleaf weeds: Velvetleaf Lambsquarters (including	1.55 L/ha (Light²) 1.95 L/ha (Medium³) 2.35 L/ha (Heavy⁴)	CARAVEL HERBICIDE may be applied as a soil applied treatment prior to weed emergence for suppression or control of annual grass and broadleaf weeds in asparagus.
triazine –resistant biotypes) Lady's thumb (smartweed) Eastern black nightshade Redroot pigweed¹ Common ragweed¹  Grass weeds: Barnyardgrass Green foxtail Yellow foxtail (controlled at 2.35 L/ha when not tankmixed)		Apply as a broadcast application to the soil prior to spear emergence. If spears have emerged, make an application after a clean harvest. Cover exposed plants with soil prior to application.
		Use the lower recommended rate on light (coarse) <sup>2</sup> soils and the higher recommended rate on heavy (fine) <sup>4</sup> soils.
		Make a single herbicide application in a volume of 95 – 375 L of water per hectare by ground equipment ONLY.
		Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.

#### **RESTRICTIONS**

- DO NOT make more than one application per season.
- **DO NOT** apply within 14 days of harvest for asparagus.
- DO NOT incorporate CARAVEL HERBICIDE.

<sup>&</sup>lt;sup>1</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

<sup>&</sup>lt;sup>2</sup>Light (coarse) soils: sandy loam.

<sup>&</sup>lt;sup>3</sup>Medium soils: loam, silt loam, silt, sandy clay loam.

<sup>&</sup>lt;sup>4</sup>Heavy (fine) soils: silty clay, clay loam, silty clay, clay

#### **CANOLA (NATIONAL)**

CARAVEL HERBICIDE is to be used as part of an integrated approach for the control of cleavers as a soil-applied preplant application in all Herbicide Tolerant canola varieties. Application of a post-emergence herbicide that is effective on cleavers, e.g. a herbicide to which the canola variety is tolerant, is recommended.

WEEDS CONTROLLED	PRODUCT RATE	APPLICATION DIRECTIONS
Broadleaf weeds: Cleavers¹ (early-season control)	0.25 - 0.33 L/ha	Apply as a single, soil-applied application prior to seeding canola and prior to weed emergence.
		Apply in a minimum of 100 L of water per hectare.
		<sup>1</sup> Application of 0.25 L/ha will suppress cleavers and can be used if cleaver populations are light.
		Temporary whitening and/or yellowing of the crop may occur when emerging from the treated soil. If environmental conditions are unfavourable for plant growth (e.g., cool weather, extreme moisture, compacted soil, poor agronomic practices), the crop's ability to fully recover from this initial herbicide response may be negatively affected.
		Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.

#### **RESTRICTIONS**

- DO NOT make more than one application per season.
- Apply prior to seeding canola.
- DO NOT incorporate CARAVEL HERBICIDE.
- DO NOT apply to sandy soil.
- Control may be reduced in high organic matter soils.

<sup>1</sup>Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

Dual II Magnum<sup>®</sup> is a trademark of a Syngenta Group Company Lexone<sup>®</sup> is a trademark of Production AgriScience Canada Company SENCOR<sup>®</sup> is a trademark of Bayer PURSUIT<sup>®</sup> is a trademark of BASF