GROUP 28 INSECTICIDE

## **VERIMARK®** Insecticide

SUSPENSION
FOR SALE FOR USE ON POTATOES, BRASSICA VEGETABLES, TOMATOES AND ROOT VEGETABLES (except sugar beet)

COMMERCIAL (AGRICULTURAL)

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

Contains 1,2-Benzisothiazolin-3-one at 0.0193 %

-OR-

5-Chloro-2-methyl-2H-isothiazol-3-one at 0.00084%, 2-Methyl-2H-isothiazol-3-one at 0.00028% and Bronopol at 0.0088% as preservatives

REGISTRATION NO 30892 PEST CONTROL PRODUCTS ACT

**NET CONTENTS**: 0.5 - 3.79 - 100 LITRES

FMC of Canada Limited 6755 Mississauga Road, Suite 204 Mississauga, ON L5N 7Y2 1-833-362-7722

## PRECAUTIONS:

- KEEP OUT OF REACH OF CHILDREN.
- Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair.
- Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE).
   If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
   Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.
- Apply only to agricultural crops when the potential for drift to areas of human habitation and human activity, such as houses, cottages, schools and recreational areas, is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

#### 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 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.

**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.

For medical emergencies call 1-800-331-3148 (24 hours).

**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

#### **ENVIRONMENTAL PRECAUTIONS:**

- Toxic to aquatic organisms.
- Toxic to bees. This product is systemic and bees can be exposed to product residues in flower, leaves, pollen and/or nectar resulting from soil applications. However, when this product is applied and used according to label directions, risk to bees is expected to be negligible.
- 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.

### STORAGE:

Store this product away from food or feed. Store product in original container only, away from other pesticides, fertilizer, food or feed. Not for use or storage in or around the home. Keep container closed.

## DISPOSAL:

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 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.

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## READ THE LABEL AND THIS BOOKLET BEFORE USING

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**NET CONTENTS**: 0.5 - 3.79 - 100 LITRES

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## **GENERAL INFORMATION**

VERIMARK™ Insecticide is a suspension concentrate that can be applied as an in-furrow spray, transplant water treatment or transplant tray drench, to control many important insect pests. VERIMARK® Insecticide is specially formulated for maximum performance by soil application. VERIMARK® Insecticide is mixed with water for application.

VERIMARK® Insecticide provides early season control of listed insect pests. The length of control will vary depending on the application rate and local conditions. Fields should be scouted regularly. If insect pest populations exceed local threshold levels, apply a registered foliar insecticide.

VERIMARK® Insecticide is a member of the anthranilic diamide class of insecticides which act on insect ryanodine receptors. After exposure to VERIMARK® Insecticide, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days. When pest populations are expected to be high, use the highest listed application rate for that pest.

## **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.

#### **POTATOES**

SITE	PEST	RATE	SPECIFIC
SITE	FE31		
		VERIMARK®	DIRECTIONS
		Insecticide	
POTATOES		In-furrow application:	In-furrow application:
	Colorado potato		Apply as a narrow
	beetle	6.75 to 9 mL/100 m of	band in-furrow. For
		row	best results, direct
			spray on the seed
	Potato flea beetle	or	pieces in the furrow.
	(early season		Thorough coverage of
	control of spring	750 to 1000 mL/ha	seed pieces is
	adults)	(based on 90 cm row	important to obtain
	,	spacing)	optimum control.
		97	- p
		See conversion table	
		for L/Ha rate.	Colorado potato beetle
		lor Emarate.	resistance
			management: DO NOT
			apply any Group 28
			insecticide for Colorado
			potato beetle control if
			VERIMARK®
			Insecticide was used at
			planting as an in-furrow
			treatment.

## **RESTRICTIONS AND PRECAUTIONS: Potatoes**

- Do not make more than 1 soil application per year.
- Do not exceed a total of 1.5 litres VERIMARK® Insecticide per ha per year. Use only a closed treatment system.
- Do not make a subsequent foliar application of any Group 28 insecticide for a minimum of 60 days following an in-furrow application of VERIMARK® Insecticide.

# Root Vegetables (except Sugar Beet) - Crop Subgroup 1B

SITE	PEST	RATE VERIMARK® Insecticide	SPECIFIC DIRECTIONS
ROOT VEGETABLES (except sugar beet)  Beet, garden, Burdock, Carrot, Celeriac (celery root) Chervil, Chicory, Ginseng, Horse radish**	Flea beetle (early season damage reduction)	6.75 to 9 mL/100 m of row  or  750 to 1000 mL/ha (based on 90 cm row spacing)	In-furrow application: Apply as a narrow band in-furrow. For best results, direct spray on the seed in the furrow. Thorough coverage of seed is important to obtain optimum control.
Parsley, turnip-footed, Parsnip, Radish** Radish, oriental** Rutabaga, Salsify, Salsify, black Salsify, spanish Skirret, Turnip	Cabbage maggot	10 – 15 mL/ 100 m of row  See conversion table for L/Ha rate.	

<sup>\*\*</sup>Seasonal use rate based on 100 m of row

# **RESTRICTIONS AND PRECAUTIONS: Root Vegetables (except sugar beet)**

- Do not make more than 1 soil application per year.
- Do not exceed a total of 15 ml of VERIMARK® Insecticide per 100m of row per year or 1.7 L/ha (based on 90 cm row spacing).
- Do not apply less than 21 days before harvest. Observe a 21-day PHI.
- Do not make a subsequent foliar application of any Group 28 insecticide for a minimum of 60 days following an in-furrow application of VERIMARK® Insecticide.

# **BRASSICA VEGETABLES**

OUTE	1 5555	T 5 4 7 5	00501510	
SITE	PEST	RATE	SPECIFIC	
		VERIMARK®	DIRECTIONS	
		Insecticide		
BRASSICA	Imported cabbage	750 to 1000 mL/ha	In-furrow application:	
VEGETABLES	worm		Apply specified	
		See conversion table	dosage as an in-	
Broccoli,	Diamondback moth	for L/Ha rate.	furrow spray, in the	
Broccoli (Chinese),			transplant water at the	
Broccoli raab,	Cabbage looper		time of transplanting.	
Brussels Sprouts,				
Cabbage,	Flea beetles (early			
Cabbage (Chinese,	season damage			
bok choy),	reduction)			
Cabbage (Chinese,	,			
napa),	Swede Midge (early			
Cabbage (Chinese	season damage			
mustard, gai choy),	reduction)			
Cauliflower,	,			
Cavalo broccolo,	Cabbage Maggot	10 – 15 mL/ 100 m of		
Collards,		row		
Kale,				
Kohlrabi,		Or		
Mizuna, <sup>′</sup>				
Mustard Greens,		1,100 to 1,700 mL/ Ha		
Mustard Spinach,		(based on 90 cm row		
Rape Greens		spacing)		
•		1 3/		

# **RESTRICTIONS AND PRECAUTIONS: Brassica Vegetables**

- Do not make more than 1 soil application per year. Do not apply as an in-furrow treatment if VERIMARK Insecticide was applied as a transplant tray drench.
- Do not exceed a total of 1.7 litres of VERIMARK® Insecticide per ha per year.
- Do not make a subsequent foliar application of any Group 28 insecticide for a minimum of 60 days following any soil application of VERIMARK® Insecticide.

# **GREENHOUSE TRANSPLANTS OF BRASSICA VEGETABLES**

SITE	PEST RATE		SPECIFIC		
		VERIMARK® Insecticide	DIRECTIONS		
GREENHOUSE TRANSPLANTS OF BRASSICA VEGETABLES Broccoli, Broccoli (Chinese),	Imported cabbage worm  Diamondback moth  Cabbage looper	24-32 mL/1000 plants	Transplant tray drench application: Apply Verimark Insecticide as a transplant tray drench before transplanting into the field. Apply		
Broccoli raab, Brussels Sprouts, Cabbage, Cabbage (Chinese, bok choy), Cabbage (Chinese, napa), Cabbage (Chinese mustard, gai choy),	Flea beetles (early season damage reduction)  Swede Midge (early season damage reduction)		Verimark Insecticide as a transplant tray drench in 2 L of water per 1000 plants at the rate for listed pests. Immediately after applying, apply 2 L of water per 1000 plants to rinse the product off		
Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach,	Cabbage Maggot	35-54 mL/1000 plants	the plants and into the soil. Do not rinse the product out of the transplant medium.  Verimark Insecticide may be applied as a transplant tray drench		
Rape Greens			no earlier than 72 hours prior to planting in the field.  See "transplant tray drench" section for details on transplant tray application directions.		

## RESTRICTIONS AND PRECAUTIONS: Transplant tray drench for greenhouse Brassica Veg.

- Do not make more than 1 application per year. Do not make a sequential application of VERIMARK® Insecticide as an in-furrow treatment.
- Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.
- Do not apply earlier than 72 hours prior to planting in the field.
- Do not allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.
- Do not make a subsequent foliar application of any Group 28 insecticide for a minimum of 60 days following a tray drench application of VERIMARK® Insecticide.
- See "transplant tray drench" section for details on transplant tray application directions.

# **TOMATOES**

SITE	PEST	RATE VERIMARK® Insecticide	SPECIFIC DIRECTIONS
TOMATO	Colorado potato beetle	7- 10 mL/100 m of row  Typical row spacing for tomatoes is 90 cm. See conversion table for L/Ha rate.	In-furrow application: Apply specified dosage as an in- furrow spray, in the transplant water at the time of transplanting.

# **RESTRICTIONS AND PRECAUTIONS: Tomato**

- Do not make more than 1 soil application per year.
- Do not exceed a total of 1.7 litres of product per ha per year.
- Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.
- Do not make a subsequent foliar application of any Group 28 insecticide for a minimum of 60 days following an in-furrow application of VERIMARK® insecticide.

## **CONVERSION TABLE**

Rate in mL of product/Ha based on planted row spacing in cm

		Row spacing in cm						
		50	65	75	85	90	95	100
	6.75	1350	1038	900	794	750	711	675
	7.0	1400	1077	933	824	778	737	700
	7.5	1500	1154	1000	882	833	789	750
>	8.0	1600	1231	1067	941	889	842	800
row	8.5	1700	1308	1133	1000	944	895	850
in mL/100	9.0	1800	1385	1200	1059	1000	947	900
mL/	9.5	1900	1462	1267	1118	1056	1000	950
i	10.0	2000	1538	1333	1176	1111	1053	1000
Rate	11.0	2200	1692	1467	1294	1222	1158	1100
ш.	12.0		1846	1600	1412	1333	1263	1200
	13.0		2000	1733	1529	1444	1368	1300
	14.0		2154	1867	1647	1556	1474	1400
	15.0		2308	2000	1765	1667	1579	1500

## **SOIL APPLICATIONS:**

VERIMARK® Insecticide must be applied in a manner that ensures the product is in the root zone. VERIMARK® Insecticide is designed to optimize root uptake. When applied to the root zone before, during, or soon after sowing or transplanting, VERIMARK® Insecticide prevents feeding of early season pests listed above. Unless directed otherwise in the specific crop sections of this label, only one soil application of VERIMARK® Insecticide may be made per crop year.

## In-Furrow Spray at Planting:

Apply as a narrow band spray into the furrow at the seeding depth.

## Transplant water treatment:

Transplants should be adequately watered before transplanting. Apply at transplanting in a minimum of 45 mL of treatment solution per transplant. Ensure water volume is sufficient to thoroughly wet the root zone.

#### TRANSPLANT TRAY DRENCH:

This application method is allowed for use by growers or commercial transplant producers in the greenhouse no earlier than 72 hours prior to planting transplants in the field. Use only on transplants grown in soil/potting media. Ensure that the level of moisture in soil or growth media is at optimal field capacity.

If possible discontinue watering 24 hours before treatment so spray solution is absorbed quickly. Apply as a broadcast, low pressure course high volume spray at 2L per 1000 plants to ensure VERIMARK® Insecticide reaches the root zone but does not runoff through the bottom of the tray. If necessary, make a second pass with fresh water at 2L per 1000 plants before the spray solution has dried to wash treatment solution from foliage into the soil. Allow tray to dry before transporting to the field for transplanting, and DO NOT handle trays for a minimum of 12 hours after application without personal protective equipment as described in the precautions section of this label. Do not tank mix any other products with VERIMARK® Insecticide when making transplant tray drench applications.

### **MIXING INSTRUCTIONS:**

Application equipment must be clean and free of previous pesticide deposits before applying VERIMARK® Insecticide. Always add the VERIMARK® Insecticide to water, never put VERIMARK® Insecticide into a dry tank or other mixing equipment without first adding water. Mix thoroughly to fully disperse the insecticide; once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Spray mix should not be stored overnight in spray tank.

<u>Tank Mixing Sequence - when making tank mixtures with other agricultural products, add different formulation types in the sequence indicated below\*. Allow time for complete mixing and dispersion after addition of each product.</u>

- 1. Water soluble bags (WSB)
- 2. Water soluble granules (SG)
- 3. Water dispersible granules (WG, XP, DF)
- 4. Wettable powders (WP)
- 5. DuPont™ VERIMARK™ and other water-based suspension concentrates (aqueous flowables) (SC)
- 6. Water soluble concentrates (SL)
- 7. Suspoemulsions (SE)
- 8. Oil based suspension concentrates (OD)
- 9. Emulsifiable concentrates (EC)
- 10. Surfactants, oils, adjuvants
- 11. Soluble fertilizers
- 12. Drift retardants
- \* Unless otherwise specified by manufacturer directions for use or by local experience.

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact FMC of Canada Limited at 1-833-362-7722 for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

# Acidification of Spray Tank:

All soil applications of VERIMARK® Insecticide should be adjusted to approximately pH 4 - 6. For at-plant soil applications, adjust the pH of the application spray tank using a commercially available acidifier. Adjust the pH of the application solution after all products being applied have been added to the tank. Once prepared, an application solution may be held for up to 8 hours before starting the application. Do not store the application solution overnight.

#### SPRAYER CLEANUP:

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation.

Dispose of waste rinse water in accordance with local regulations.

#### PRECAUTIONS:

- KEEP OUT OF REACH OF CHILDREN.
- Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair.
- Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
   Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.
- Apply only to agricultural crops when the potential for drift to areas of human habitation and human activity, such as houses, cottages, schools and recreational areas, is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

## 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 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.

**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.

For medical emergencies call 1-800-331-3148 (24 hours).

**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

#### **ENVIRONMENTAL PRECAUTIONS:**

- Toxic to aquatic organisms.
- Toxic to bees. This product is systemic and bees can be exposed to product residues in flower, leaves, pollen and/or nectar resulting from soil applications. However, when this product is applied and used according to label directions, risk to bees is expected to be negligible.
- 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.

## **ROTATIONAL CROP RESTRICTIONS:**

Recommended Plant-Back Intervals (PBI) for Rotational Crops.

PBI	CROPS
0 days	Crop Subgroup 1C (Tuberous and corm vegetables); Crop Group 3-07 (Bulb vegetables); Crop Group 4 (Leafy vegetables; except <i>Brassica</i> vegetables); <i>Brassica</i> vegetables; Crop Group 8-09 (Fruiting vegetables); Crop Group 9 (Cucurbit vegetables); Crop Subgroup 13-07B (Bushberry subgroup); Crop Group 20 (Oilseed); Crop Subgroup 1B: Root vegetables
30 days	Crop Group 6 (Legume vegetables (succulent or dried); Crop Group 7 (Foliage of legume vegetables); Crop Subgroup 13-07G (Low growing berry subgroup); Crop Group 15 (Cereal grains); Crop Group 16 (Forage, fodder, and straw of cereal grains); Crop Group 17 (Grass forage, fodder, and hay); Crop Group 18 (Nongrass animal feeds: (Forage, fodder, straw and hay)
365 days	Other crops

### RESISTANCE-MANAGEMENT RECOMMENDATIONS:

For resistance management, please note that VERIMARK® Insecticide contains a Group 28 insecticide. Any insect population may contain individuals naturally resistant to VERIMARK® Insecticide and other Group 28 insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but 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, rotate the use of VERIMARK® Insecticide or other Group 28 insecticides with different groups that control the same pests.
- Avoid using the same mode of action (same IRAC group number) on consecutive generations of insect pests.
- For short cycle crops (< 50 days), alternate to different modes of action during subsequent planting at the same farm location.
- 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 and 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 FMC of Canada Limited at 1-833-362-7722.

## STORAGE:

Store this product away from food or feed. Store product in original container only, away from other pesticides, fertilizer, food or feed. Not for use or storage in or around the home. Keep container closed.

#### **DISPOSAL:**

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 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:**

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