

2022-0975
2022-03-04

Container

GROUP	14	HERBICIDE
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Vulcarus™

HERBICIDE

SUSPENSION CONCENTRATE

COMMERCIAL (AGRICULTURAL)

ACTIVE INGREDIENT: Trifludimoxazin500 g/L

Contains 2-bromo-2-nitropropane-1,3-diol at 0.024%, 1,2-benzisothiazolin-3-one at 0.04%,
5-chloro-2-methyl-4-isothiazolin-3-one at 0.0011% and 2-methyl-4-isothiazolin-3-one
at 0.00037%, as preservatives

Warning, contains the allergen soy

REGISTRATION NO. 33967

PEST CONTROL PRODUCTS ACT

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT
1-800-454-2673**

NET CONTENTS: 1 L – 1000 L, Bulk

BASF Canada Inc.
5025 Creekbank Road
Building A, 2nd Floor
Mississauga, Ontario L4W 0B6

1-877-371-2273

VULCARUS is a trade-mark of BASF SE, used with permission by BASF Canada Inc.

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PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

DO NOT take internally. Harmful if swallowed.

Avoid contact with skin, eyes or clothing.

Avoid breathing spray and mist. Use with adequate ventilation.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, smoking or using the toilet. Take a shower immediately after work.

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

If clothing becomes contaminated, remove immediately and wash separately from household laundry before reuse.

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

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.

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

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TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic organisms and 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 filter strip between the treated area and the edge of the water body.

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

STORAGE

Prevent from freezing. However, in the instance that the product freezes, allow to thaw at room temperature for 24 hours and agitate well prior to use.

Store in original container in a cool, secure and well-ventilated area separately from fertilizer, feed or food. Avoid cross-contamination with other pesticides. To prevent contamination, store this product away from food or feed.

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 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.

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Returnable-Refillable Containers

For disposal, this empty 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.

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NOTICE TO USER

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Booklet Label

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DIRECTIONS FOR USE

Vulcarus[™] is a water-based suspension concentrate herbicide for pre-seed, pre-emergent and chemfallow application for control of broadleaf weeds. **Vulcarus** provides both post-emergence control (i.e. foliar contact burndown) of emerged weeds and rate-dependent residual pre-emergence control of germinating weeds.

Vulcarus is recommended for pre-seed and pre-emergent applications to the crop. **Vulcarus** must be applied before crop emergence (ground cracking) has occurred or injury will result. For broad spectrum weed control, apply **Vulcarus** in tank mix with glyphosate.

Vulcarus is rapidly absorbed by root and foliar uptake. **Vulcarus** is a potent inhibitor of protoporphyrinogen oxidase (PPO). Cell membrane damage induced by inhibition of PPO leads to plant death. Under active growing conditions, susceptible emerged weeds develop injury symptoms within hours of application; plant death occurs within 3 to 5 days depending upon growing conditions. Susceptible emerging weed seedlings will usually die as they reach the soil surface or shortly after emergence.

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

DO NOT apply using aerial application equipment.

SPRAY BUFFER ZONES

Spot treatments using hand-held equipment DO NOT require a buffer zone.

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), and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:		
		Freshwater Habitat of Depths:		Terrestrial Habitat:
		Less than 1 m	Greater than 1 m	
Field sprayer	Barley, field corn, peas (dried field), soybeans, wheat (including durum, spring, and winter) and chemfallow	3	2	10

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

1.0 Registered Crops

Vulcarus is registered for use prior to the following crops as a pre-seed or pre-emergent application. **Vulcarus** may also be applied as a chemfallow application for control of broadleaf weeds.

- Barley
- Field corn
- Peas (dried field)
- Soybeans
- Wheat (including durum, spring and winter wheat)

2.0 Application Rates

Uniformly apply **Vulcarus** as a broadcast spray by ground at rates indicated below. Thorough spray coverage is required for optimum weed control. Always apply with MERGE® Adjuvant at 0.5% v/v (i.e., 5 L MERGE Adjuvant in 1000 L spray solution). Refer to **Crop Specific Recommendations** section for detailed use instructions, as well as recommendations on tank mixing with glyphosate.

Crop	Vulcarus (mL/ha)	Water Volume (L/ha)	MERGE Adjuvant (% v/v)
Barley, field corn, peas (dried field), soybeans, wheat (including durum, spring and winter) and chemfallow	50 – 75	50 – 100	0.5

3.0 Weeds Controlled

Vulcarus applied pre-seed or pre-emergence to select crops will control weeds as listed below. For broad spectrum weed control including grass weeds, apply in combination with glyphosate. When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions.

Rapid Burndown (Pre-seed or Pre-emergent)

Vulcarus applied at 50 to 75 mL/ha provides rapid burndown control of weeds listed in the table below. Apply **Vulcarus** at higher rates when weed populations are high and/or weed staging is late.

Use Rate: 50 – 75 mL/ha

Weed	Maximum Weed Stage
Cleavers	4-whorl stage
Kochia (suppression only)	15 cm
Lamb's-quarters	5 leaf
Volunteer canola (all types including Roundup® Ready)	8 leaf
Wild buckwheat (suppression only at 75 mL/ha)	8 leaf

Rapid Burndown and Suppression of Secondary Weed Flushes (Pre-seed or Pre-emergent)

Vulcarus applied at 50 to 75 mL/ha provides rapid burndown of all weeds listed above and suppression of secondary flushes of weeds listed in the table below. Apply **Vulcarus** at higher rates when high weed populations are expected or for longer residual control.

Use Rate: 50 – 75 mL/ha

Weed
Kochia
Lamb's-quarters
Redroot pigweed
Volunteer canola (all types including Roundup Ready)
Wild mustard

4.0 Crop Specific Recommendations

Vulcarus should be applied in tank mix with glyphosate for additional weed control. **Vulcarus** is compatible with all liquid glyphosate formulations in which glyphosate is present as isopropylamine salt, di-ammonium salt or potassium salt. When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions.

Corn (field), Peas (dried field), Soybeans, Wheat (spring, durum and winter) and Barley

Timing	Pre-seed or Pre-emergent
Rate	50 – 75 mL/ha of Vulcarus + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + MERGE Adjuvant at 0.5% v/v
Water Volume	50 – 100 L/ha
Weeds Controlled	See Weeds Controlled section of this label for a complete list of weeds controlled by Vulcarus . Refer to the glyphosate label for weeds controlled in addition to those controlled by Vulcarus .
Remarks	The application of Vulcarus may result in injury to field pea, but should not affect grain yield.

Chemfallow

Timing	Chemfallow
Rate	50 – 75 mL/ha of Vulcarus + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + MERGE Adjuvant at 0.5% v/v
Water Volume	50 – 100 L/ha
Weeds Controlled	See Weeds Controlled section of this label for a complete list of weeds controlled by Vulcarus . Refer to the glyphosate label for weeds controlled in addition to those controlled by Vulcarus .

Remarks	Apply to actively growing weeds less than 15 cm in height. Better coverage of the product results in enhanced control of weeds. For application to larger weeds or dense weed infestations, use minimum water volume of 100 L per hectare. If applying to chemfallow after August 1st, rotate only to the plant back crops listed in Section 8.0 of this label.
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5.0 Mixing Instructions

1. Thoroughly clean the sprayer prior to use by flushing the system with water containing detergent. Refer to previously applied product labels for specific cleaning instructions.
2. Fill clean spray tank half full with clean water. Start agitation system. Agitation should be running during the entire mixing procedure.
3. Add the correct amount of **Vulcarus** and continue to agitate until thoroughly mixed.
4. Prior to adding glyphosate, add the correct amount of herbicide tank mix partner if required.
5. Add in glyphosate.
6. Add the correct amount of MERGE Adjuvant.
7. Continue agitation while filling the remainder of the tank with water necessary to fill the spray tank.
8. Maintain continuous and constant agitation throughout application until spraying is complete.
9. After any break in spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to remix the spray materials. Do not allow the mixture to sit overnight.
10. If a white residue starts to build up in the tank, drain it and clean the tank with strong detergent solution.
11. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

Dispose of rinsate in accordance with provincial regulations.

6.0 Spraying Instructions

For best results, use sprayers equipped with standard air induction or similar nozzles to ensure coverage. Apply in a water volume of 50-100 L/ha. For applications to dense weed infestations and thick canopies, use a higher water volume. Better coverage of the product results in enhanced control of weeds.

7.0 Livestock Feeding and Pre-harvest Intervals

Pre-harvest Interval (PHI)

There is no required preharvest interval between a pre-seed or pre-emergent application of **Vulcarus** and the harvest of barley, field corn, peas, soybeans and wheat.

Livestock Feeding After an Application of Vulcarus

- Field corn forage and silage can be harvested, used as feed or grazed.
- Legume forage (field peas) may be used as feed or grazed.
- Wheat and barley forage and hay may be used as feed or grazed.
- Soybeans may be used as feed or grazed.

8.0 FOLLOW CROPPING

The crops listed can be safely grown after a spring application **of Vulcarus**. If applying to chemfallow after August 1st, rotate only to plant back crops.

<p align="center">Plant Back Crops In case of crop failure, the following crops can be planted in the same season ¹</p>	<p align="center">Rotational Crops ONLY the following crops can be planted anytime in the following season</p>
<p align="center">Barley Field corn Dry field peas Soybean Wheat (spring, winter & durum)</p>	<p align="center">Barley Canola Dry common beans Dry field peas Field corn Flax Lentils Mustard Soybean Wheat (spring, durum) Winter wheat may be grown 3 months after application</p>

¹ A second application of **Vulcarus** cannot be made in the rescue crop.

9.0 Restrictions and Limitations

1. Wash sprayer thoroughly after use to avoid damage to the next crop sprayed.
2. Apply using ground equipment only. **DO NOT** apply using aerial application equipment.

3. **DO NOT** apply directly to water. **DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
4. 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.
5. As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.
6. 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 BASF at 1-877-371-2273 or www.agsolutions.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

10.0 Resistance-Management Recommendations

For resistance management, **Vulcarus** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Vulcarus** and other Group 14 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 **Vulcarus** or other Group 14 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.

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- 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 specific crops and weed biotypes.
- For further information or to report suspected resistance, contact BASF at 1-877-371-2273 or at www.agsolutions.ca.

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