

ALION Herbicide



SUSPENSION

GROUP 29 HERBICIDE

FOR CONTROL OF ANNUAL GRASS AND BROADLEAF WEEDS
IN POME FRUIT, STONE FRUIT, GRAPES AND TREE NUTS

FOR SALE FOR USE IN EASTERN CANADA
AND BRITISH COLUMBIA ONLY

COMMERCIAL

GUARANTEE: Indaziflam 200 g/L

CONTAINS

1,2-BENZISOTHIAZOLIN-3-ONE AT 0.04%, or
1,2-BENZISOTHIAZOLIN-3-ONE (PRESENT AS SODIUM SALTS) AT 0.04% or
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AT 0.0022%, or
2-METHYL-4-ISOTHIAZOLIN-3-ONE AT 0.00074%
AS A PRESERVATIVE

REGISTRATION NO. 30451 PEST CONTROL PRODUCTS ACT

READ THE LABEL AND BOOKLET BEFORE USING

NET CONTENTS: 1 L to 20 L

Product Information: 1-888-283-6847

Bayer CropScience Inc.
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Calgary, AB T2C 3G3

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

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GENERAL INFORMATION

SECTION 1: NOTICES

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

SECTION 2: THE PRODUCT

ALION Herbicide is a selective herbicide for season long control of important broadleaf and grass weeds in apples, pears, peaches, nectarines, plums, cherries (sweet/sour), apricots, grapes and tree nuts grown in Eastern Canada and British Columbia.

SAFETY AND HANDLING

SECTION 3: PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.

Harmful if swallowed, absorbed through the skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using toilet. Remove and wash contaminated clothing before reuse.

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

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 inversions, application equipment and sprayer settings.

DO NOT apply in greenhouses or indoors.

Do not enter or allow worker entry into treated areas within 12 hours of application.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

During mixing, loading, clean-up and repair, workers must wear a long-sleeved shirt, long pants, shoes plus socks and chemical resistant gloves. During application, workers must wear a long-sleeved shirt, long pants and shoes plus socks. 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.

USER SAFETY RECOMMENDATIONS:

Users should wash hands before eating, drinking, smoking, chewing gum or using the toilet. Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change clothing.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada’s website at: www.croplife.ca.

SECTION 4: FIRST AID AND TOXICOLOGICAL INFORMATION

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

IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control centre or doctor immediately for treatment advice. • Do not induce vomiting unless told to do so by a poison control centre or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	<ul style="list-style-type: none"> • 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 CLOTHING:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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 treatment advice.

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

SECTION 5: ENVIRONMENTAL HAZARDS

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

SECTION 6: STORAGE

- SHAKE WELL BEFORE USING.
- CANNOT be stored below freezing.
- Keep in original container during storage.
- Store the tightly closed container away from feeds, seeds, fertilizers, plants and foodstuffs.
- To prevent contamination, store this product away from food or feed.
- Do not use or store in or around the home.

SECTION 7: DISPOSAL/DECONTAMINATION

Recyclable Container

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

Returnable Container: Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

Returnable-Refillable Container: 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 use 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 cleanup of spills.

DIRECTIONS FOR USE

SECTION 8: CROPS AND WEEDS

8.1 CROPS AND APPLICATION TIMING

ALION Herbicide is a selective preemergence herbicide for control of many annual grasses and broadleaf weeds in apple, pear, peach, nectarine, plum, cherry (sweet/sour), apricot, grapes, almond, hazelnut, filbert, walnut, chestnut and Japanese heartnut. ALION Herbicide may be applied at anytime throughout the growing season when the ground is not frozen or covered with snow. **APPLY ONLY ONCE PER YEAR OR IN A 12 MONTH PERIOD.** Refer to Section 9 for additional application and use limitations.

CROP	APPLICATION TIMING	REMARKS
Apples, Pears, Peaches, Nectarines, Plums, Cherries (sweet/sour), Apricots, Almonds, Hazelnuts, Filberts, Walnuts, Chestnuts, Japanese heartnuts	Preemergence	<p>DO NOT apply ALION Herbicide to trees that have been established for less than three full growing seasons after transplanting.</p> <p>Do not apply prior to any type of soil disturbance. If application is to be made after soil disturbance, apply only after the soil settles.</p>
Grapes	Preemergence	<p>DO NOT apply ALION Herbicide to grapes that have been established for less than five full growing seasons after transplanting.</p> <p>Do not apply prior to any type of soil disturbance, including hilling/dehilling operations. If application is to be made after soil disturbance, including hilling/dehilling operations, apply only after the soil settles.</p> <p>Do not apply in grapes grown on sand or loamy-sand soils.</p> <p>Ensure that the grapes have been planted at least 30 cm deep or that there is 30 cm of soil barrier (berm) between the soil surface and the major portion of the root system prior to using ALION Herbicide or injury may occur.</p>

8.2 WEEDS CONTROLLED AND APPLICATION RATE

ALION Herbicide provides residual control of susceptible grass and broadleaf weeds when applied preemergence to the soil. A single application of ALION Herbicide will control the following annual broadleaf and grassy weeds:

APPLICATION RATE	WEED SPECIES
375 mL/ha	Barnyard grass
	Bluestem broomsedge
	Brome grasses including downy brome, riggut brome, and cheat
	Giant foxtail
	Green foxtail
	Italian ryegrass
	Large crabgrass
	Medusa head
	Wild proso millet
	Yellow foxtail
	Volunteer common rye
	Wild barley
	Wild oats
	Witchgrass
	Annual sow-thistle
	Black mustard
	Common groundsel
	Cudweed
	Dog fennel
	Field bindweed
	Kochia ¹
	Lamb's-quarters
	Morning glory
	Prickly lettuce ¹
	Redroot pigweed ¹
	Shepherd's purse
Smooth hawk's-beard	
Spotted spurge	
St. John's wort	
Stork's-bill	
White sweetclover	
Wild mustard	
Yellow starthistle	

¹ Suppression only

8.3 TANK MIXTURES

For burndown of emerged weeds and residual control of species listed for ALION Herbicide alone, ALION Herbicide may be tank mixed with one of the following herbicides:

RECOMMENDED TANK-MIXTURES

PRODUCTS	PRODUCT RATES	CROP	WEEDS CONTROLLED	REMARKS
ALION Herbicide + Ignite SN Herbicide	375 mL/ha + 2.7 - 5 L/ha	Apple, Pear, Peach, Plum, Cherry (sweet/sour) Grapes	Weed species controlled by ALION Herbicide alone plus burndown control of emerged weeds.	Consult the label of the tank mix partner(s) for further instructions regarding directions for use, restrictions, PPE, and precautions, and always observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.
ALION Herbicide + Glyphosate (present as an isopropylamine salt, dimethylamine salt or potassium salt)	375 mL/ha + 800 – 4300 g a.e./ha	Apple, Pear, Apricot, Cherry (sweet/sour), Peach, Plum, Grapes, Chestnut, Walnut, Japanese heartnut		
	375 mL + 800 – 1250 g a.e./ha	Filbert, Hazelnut		
ALION Herbicide + Gramoxone Liquid Herbicide with Wetting Agent	375 mL/ha + 5.5 L/ha	Apple, Pear, Apricot, Cherry (sweet/sour), Peach, Plum, Grapes		

ALION Herbicide + Sencor 480 F <i>or</i> Sencor 75DF	375 mL/ha + 1.5 L/ha <i>or</i> 1.0 kg/ha	Apple, Pear, Apricot, Cherry (sweet/sour) Peach, Plum	Weed species controlled by ALION Herbicide alone plus improved residual control of annual broadleaf weeds
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SECTION 9: APPLICATION INSTRUCTIONS AND USE LIMITATIONS

9.1 GENERAL REMINDERS FOR SUCCESSFUL OPERATION

- ALION Herbicide provides preemergence, residual control of weeds. Apply to soil before weeds germinate.
- Uniform, thorough spray coverage is important to achieve consistent weed control. ALION Herbicide should be applied to the soil as a uniform broadcast or band application.
- ALION Herbicide applied alone will not control weeds that are already emerged. If weeds have emerged, a foliar active herbicide may be added. Refer to Section 8.3 “Tank Mixtures” for recommendations.
- ALION Herbicide treatments are most effective in controlling weeds when adequate moisture is present and the application is followed by rain or an irrigation event prior to weed seed germination. Dry soil conditions following the application of ALION Herbicide may result in reduced weed control.
- Weed seeds and seedlings must come into contact with ALION Herbicide prior to emergence to be controlled. If sufficient moisture is present, some weeds may germinate and emerge from below the treated layer of soil.
- Excessive crop or weed debris present on the soil surface at time of application may prevent uniform product distribution reaching the soil and reduce weed control. Performance may be improved by removing excessive debris prior to product application.
- Avoid disturbing treated soil after application of ALION Herbicide. If treated soil is moved during tillage practices or other manner in such a way that the herbicide barrier is no longer intact, weeds may emerge from areas where treated soil has been disturbed.
- Use of spot spraying around desired plants is not recommended due to the variability of the actual application rate. Excessive application rates may result in severe crop injury or death. DO NOT apply using hand held or backpack sprayers.

- Crops that are stressed may be more sensitive to herbicide application. Do not use in crops that exhibit low vigor or poor health as they may be more susceptible to crop injury. Causes of reduced vigor may include such things as previous pesticide applications, excess fertilizer or salt, diseases, insects, nematodes, drought, flooding, wind damage, frost, nutrient deficiency, or mechanical damage.
- DO NOT allow spray or spray drift to contact crop foliage, green bark, roots or fruit of the crop being treated it may cause localized crop injury or death.
- DO NOT apply ALION Herbicide to apple, pear, peach, nectarine, plum, cherry (sweet/sour), apricot, almond, hazelnut, filbert, walnut, chestnut and Japanese heartnut that have been established for less than three full growing seasons after transplanting.
- DO NOT apply ALION Herbicide to grapes that have been established for less than **five** full growing seasons after transplanting.
- Do not apply to grapes prior to hilling or dehilling operations, or to any crop prior to any type of soil disturbance. If application is to be made after soil disturbance, including hilling/dehilling operations, apply only after the soil settles.
- Only use in vineyards where the grapes have been planted at least 30 cm deep or where there is 30 cm of soil barrier (berm) between the soil surface and the major portion of the root system or crop injury may occur.
- Do not use on soils with 20% or more gravel content or less than 1% organic matter content.
- CAUTION: The soil surface where ALION Herbicide is to be applied should not have open channels or cracks in the soil. This is to prevent the product from reaching the crop roots either through direct contact from the spray application or water movement from rain or irrigation as this may cause crop injury. If depressions in the soil such as from settling following transplanting exist around the base of the crop, fill them in with soil prior to application of ALION Herbicide.
- Avoid applications under drought conditions, where soil may be cracked, or where regular irrigation may reduce the depth between soil surface and the major portion of the root system.
- CAUTION: Only crops listed on this label may be replanted within 24 months after the last application of ALION Herbicide. Individual plants within an orchard may be replanted anytime by removing all treated soil from the transplant hole and refilling around the plant with soil that has not received any application of ALION Herbicide. Allow at least 12 months between the last application of ALION Herbicide and replanting an orchard or vineyard with labeled tree or vine crops. Treated soil must be thoroughly mixed to a depth of at least 15 cm prior to planting. This may be accomplished through any combination of tillage operations such as ripping, disking, or plowing.
- Contact your Bayer CropScience representative for advice prior to planting other crops (i.e. other than those appearing on this label) following removal of an orchard or vineyard that was previously treated with ALION Herbicide.
- Follow directions under Section 8 for the correct rate and timing of application.

9.2 GROUND APPLICATION

- Apply ALION Herbicide alone or in tank-mixtures, by ground equipment only. DO NOT APPLY BY AIR. DO NOT apply using hand held or backpack sprayers.
- DO NOT apply ALION Herbicide through any type of irrigation system.
- DO NOT use ALION Herbicide in flood-irrigated orchards or vineyards.
- Apply ALION Herbicide as a broadcast spray in a minimum of 93 litres of water per hectare.
- For best results use flat fan nozzles or comparable nozzles to achieve uniform spray distribution. DO NOT apply with hollow cone nozzles or with other application equipment which does not provide uniform coverage.
- Maintain adequate agitation at all times, including momentary stops.
- 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 and do not apply irrigation water within 48 hours of application.
- 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.
- 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.

9.3 APPLICATION METHOD

Broadcast Applications:

For all crops listed on this label, apply ALION Herbicide at the rate described in Section 8.2, **WEEDS CONTROLLED AND APPLICATION RATE**.

Banded Applications:

When making banded applications, use the same dosage rate as for broadcast applications but use proportionately less spray water and ALION Herbicide. The use rate provided in Section 8.2, **WEEDS CONTROLLED AND APPLICATION RATE**, is for the treated area of the field regardless of the portion of the field that it represents. Banded applications may be made using the following formula to calculate the amount of herbicide and water volume needed for orchard or vineyard strip sprays:

$$\frac{\text{Treated Band width in Metres}}{\text{Row width in Metres}} \times \text{HERBICIDE RATE per Treated Hectare} = \text{Amount of HERBICIDE required for banded application}$$
$$\frac{\text{Treated Band width in metres}}{\text{Row width in Metres}} \times \text{WATER VOLUME per Treated Hectare} = \text{Amount of WATER VOLUME required for banded application}$$

9.4 BUFFER ZONES

Use of the following spray methods or equipment **DO NOT** require a buffer zone: low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage.

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

Method of Application	Crop	Buffer Zones (metres) Required for the Protection of:		
		Freshwater Habitat of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	
Field Sprayer	All crops	1	1	15

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.

SECTION 10: PRE-HARVEST-, PRE-GRAZING/FEEDING AND RESTRICTED ENTRY INTERVALS

- DO NOT harvest treated crops within 14 days of ALION Herbicide application.
- If tank mixing, always respect the maximum pre-harvest/-grazing interval stated on the labels of all the tank mix products.
- Do not enter or allow worker entry into treated areas within 12 hours of application.

SECTION 11: MIXING INSTRUCTIONS

ALION Herbicide must be applied with clean and properly calibrated equipment. Prior to adding ALION Herbicide, ensure that the spray tank, filters and nozzles have been thoroughly cleaned and that agitation system is properly working.

1. Fill spray tank with $\frac{1}{4}$ to $\frac{1}{2}$ of the required volume of water prior to the addition of ALION Herbicide.
2. Add the proper amount of ALION Herbicide slowly to the tank and agitate.
3. If ALION Herbicide is applied in tank-mixtures with other pesticides, add ALION Herbicide to the spray tank first and ensure that it is thoroughly dispersed before continuing to fill the spray tank and adding other pesticides.
4. Continue to fill the tank with water to the desired volume while agitating.

Proper agitation should be maintained while applying to ensure a uniform spray mixture.

ALION Herbicide will settle if left standing without agitation. Reagitate the spray solution for a minimum of 10 minutes before application.

SECTION 12: SPRAYER CLEANUP

Before and after using ALION Herbicide, thoroughly clean all mixing and spray equipment, including tanks, pumps, nozzles, lines, filters, screens and nozzles with a good quality tank cleaner.

- Completely drain the spray and mixing tanks.
- Rinse the spray tank inside and outside and all lines and screens. A rotating cleaning nozzle may be beneficial to dislodge any product from the sides of the tank.
- Fill the tank with water and cleaner then circulate solution to ensure that the pumps, valves, and all lines are flushed.
- Remove and clean all filters, screens and nozzles.
- Drain all cleaning solution and then rinse once more with clean water.
- Visually inspect the filters, screens, and tank walls to ensure no product remains.

Any ALION Herbicide left in the spray equipment and subsequently applied to another crop has the potential to injure the crop.

SECTION 13: RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, ALION Herbicide is a Group 29 herbicide. Any weed population may contain or develop plants naturally resistant to ALION Herbicide and other Group 29 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 ALION Herbicide or other Group 29 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 specific crops and weed biotypes.
- For further information or to report suspected resistance contact Bayer CropScience Inc. via internet at www.bayercropscience.ca or telephone at 1-888-283-6847.

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