

2019-2223
2019-06-11

GROUP	2	4	HERBICIDE
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Outshine

HERBICIDE

SUSPENSION

For the control of annual broadleaved weeds in spring wheat, durum wheat and spring barley.

**FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND PEACE RIVER REGION OF
BRITISH COLUMBIA ONLY**

AGRICULTURAL

READ THE LABEL AND BOOKLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN

ACTIVE INGREDIENT: florasulam 2.5 g/L
 fluroxypyr 100 g/L (present as 1-methylheptyl ester)

Contains 1,2-benzisothiazoline-3-one at 0.01% as a preservative

REGISTRATION NUMBER 31646 PEST CONTROL PRODUCTS ACT

**WARNING EYE AND SKIN IRRITANT
POTENTIAL SKIN SENSITIZER
HARMFUL IF SWALLOWED**

NET CONTENTS: 1 L- Bulk

ADAMA Agricultural Solutions Canada Ltd.
300 – 191 Lombard Avenue
Winnipeg, Manitoba
R3B 0X1
1-855-264-6262

PRECAUTIONS

**KEEP OUT OF REACH OF CHILDREN
DO NOT APPLY BY AIR**

Harmful if swallowed. Causes eye and skin irritation. Do not get in eyes, on skin or on clothing. At all times wear clean, body-covering coveralls. During mixing and loading, clean-up and repair wear goggles or face shield and chemical-resistant gloves. Wash thoroughly after handling. Wash contaminated clothing before reuse. Destroy contaminated shoes and leather articles.

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 web site at www.croplife.ca.

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

**PHYSICAL OR CHEMICAL HAZARDS
COMBUSTIBLE.**

Do not use or store near heat or open flame.

FIRST AID

If swallowed: 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 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 the container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

No specific antidote. Employ supportive care. Treatment should be based on the judgment of the physician in response to reactions of the patient. This product contains a **PETROLEUM DISTILLATE. DO NOT INDUCE VOMITING.** Vomiting may cause aspiration pneumonia. If burn is present, treat as any thermal burn after decontamination. If swallowed, aspiration may cause chemical pneumonia. When considering emptying the stomach, the danger of chemical pneumonia must be weighed against toxicity. If lavage is performed, a cuffed endotracheal tube should be considered

AGRICULTURAL CHEMICAL

Do not ship or store with food, feeds, drugs or clothing.

ENVIRONMENTAL HAZARDS

Overspray or drift to sensitive habitats should be avoided. A buffer zone of 30 metres is required between the downwind edge of the boom and the closest edge of sensitive terrestrial habitats including forested areas, shelter belts, woodlots, hedgerows, and shrublands. A buffer zone of 15 metres is required between the downwind edge of the boom and the closest edge of sensitive aquatic habitats including sloughs, ponds, prairie potholes, lakes, rivers, streams, wetlands and wildlife habitats at the edge of these bodies of water. Do not contaminate these habitats when cleaning and rinsing spray equipment or containers.

Do not apply during periods of dead calm or when winds are gusty.

This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

STORAGE

Store in original containers in a secure, dry heated storage. If product is frozen, bring to room temperature and agitate before use. Do not allow contamination of seeds, plants, fertilizers or other pesticides. Do not contaminate food, feedstuffs or domestic water supplies. If containers are damaged or spill occurs, use the product immediately or contain the spill with absorbent materials and dispose of waste.

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.

(Booklet)

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

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 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.

GENERAL INFORMATION

Outshine is a selective postemergence herbicide for the control of hard-to-kill annual broadleaved weeds in spring wheat (including durum) and spring barley. Outshine is mixed with water and applied as a uniform broadcast spray.

Outshine **MUST** be applied early postemergence, to the main flush of actively growing broadleaved weeds. Warm, moist growing conditions promote active weed growth and enhance the activity of Outshine by allowing maximum foliar uptake and contact activity. Weeds hardened off by cold weather or drought

stress may not be adequately controlled or suppressed and re-growth may occur. For best results, ensure thorough spray coverage of target weeds. See "DIRECTIONS FOR USE" section of this label for complete use details.

Outshine stops growth of susceptible weeds rapidly. However, typical symptoms (discolouration) of dying weeds may not be noticeable for 1 to 2 weeks after application, depending upon growing conditions and weed susceptibility. Degree of control and duration of effect are dependent on weed sensitivity, weed size, crop competition, growing conditions at and following treatment, and spray coverage.

MODE OF ACTION

Outshine contains a Group 2 and a 4 mode of action herbicide. The Group 2 mode of action herbicide inhibits the production of the ALS enzyme in plants. This enzyme is essential for the production of certain amino acids required for plant growth. The Group 4 mode of action herbicide disrupts normal plant growth regulation resulting in death of susceptible plants.

GENERAL USE PRECAUTIONS

Sensitive Plants

Do not apply Outshine directly to, or otherwise permit it to come in direct contact with susceptible crops or desirable plants including alfalfa, edible beans, canola, flowers and ornamentals, lentils, lettuce, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tomatoes or tobacco.

Non-Target Sites

Do not apply where proximity of susceptible crops or other desirable plants is likely to result in exposure to spray or spray drift. See Environmental Hazards section of the label.

Crop Rotation

Fields previously treated with Outshine can be seeded the following year to barley, canola, oats, peas, or wheat or fields can be summerfallowed.

This product has potential to leach. Do not apply excessive irrigation. Do not use in successive years at the same site.

Tank Mixtures

Do not apply this product with any other additive, pesticide or fertilizer except as specifically recommended on this label. When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the product involved in the tank mixture.

Spray Equipment Precaution

Do not apply through any type of irrigation system.

To Reduce Spray Drift:

1. Use nozzles delivering higher volumes and coarser droplets.
2. Use low pressures (200 to 275 kPa).
3. Use 100 L/ha of spray solution.
4. Spray when the wind velocity is 15 km/hr or less.
5. Spot treatments should only be applied with a calibrated boom to prevent over-application.

Equipment Clean-Up

Equipment used to apply Outshine should not be used to apply other pesticides to sensitive crops without thorough cleaning. To avoid subsequent injury to crops other than cereals, all spraying equipment must be thoroughly cleaned both inside and out, as follows:

1. Immediately after spraying, drain. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.
2. Rinse inside of tank with clean water and flush through booms and hoses using at least one tenth of the spray tank volume. Drain tank completely.
3. Add 1 L of household ammonia (containing a minimum of 3 % ammonia) per 100 L of water while filling the tank with clean water. Agitate and then briefly flush the boom and hoses with the cleaning solution. Top up with water making sure the tank is completely full and allow to stand for 15 minutes with agitation. Flush the boom and hoses and drain tank completely.
4. Remove nozzles and screens and clean separately with an ammonia solution (100 mL in 10 L water).
5. Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume. Drain tank completely.

Note: If it is not possible to drain the tank completely, step 3 must be repeated before going onto step 4.

Caution: Do not use ammonia with chlorine bleach. Using ammonia with chlorine bleach will release a gas with a musty chlorine odour which may cause eye, nose, throat, and lung irritation. Do not clean equipment in an enclosed area.

DIRECTIONS FOR USE

READ THE ENTIRE LABEL BEFORE USE. FAILURE TO FOLLOW LABEL INSTRUCTIONS MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. DO NOT APPLY TO CROPS UNDERSEEDDED WITH LEGUMES.

Do not enter or allow worker re-entry into treated areas until 12 hours after application.

Crops

Spring wheat, durum wheat and spring barley

Application Rate

For control of a wide spectrum of broadleaved weeds, apply a uniform spray containing 1.0 L/ha of Outshine in a minimum of 100 L of water per hectare to thoroughly cover the weeds. Apply to actively growing wheat and spring barley from the 2 leaf expanded to 6 leaf stage. Apply when weeds are actively growing. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from applications made to seedling weeds.

Mixing Instructions

- 1 Fill sprayer tank 1/2 full of water
- 2 Start sprayer tank agitation
- 3 Add the required amount of Outshine
- 4 Complete filling the sprayer tank with sufficient water to spray 100 L of spray mixture per hectare
- 5 Follow sprayer directions and precautions as outlined above, especially when applying next to sensitive crops (e.g. canola and legumes)
- 6 Follow sprayer clean-up directions

Note: Do not add a surfactant to this product unless instructed to do so (see tank mix combinations – Table 3).

Table 1: Weeds Controlled by Outshine at 1.0 L/ha

cleavers	volunteer flax
common chickweed	wild buckwheat

kochia ♦

♦ including ALS resistant biotypes

Pre-Harvest/Grazing Intervals

1. Do not cut the treated crop for hay or graze treated crop within 7 days after application.
2. Do not harvest the treated crop within 60 days after application.

TANK-MIX COMBINATIONS WITH OUTSHINE

Crops Registered

spring wheat, durum wheat and spring barley (see Table 3 for exclusions)

Tank mixtures of Outshine with other herbicides will provide control of additional broadleaved weeds and specified annual grasses. Apply when crops and weeds are actively growing. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from applications made to seedling weeds. Follow all precautions, minimum interval to harvest and directions for use on the Outshine and tank-mix partner labels.

Mixing Instructions

1. Fill sprayer tank 1/2 full of water.
2. Start sprayer tank agitation.
3. Add the required amount of Outshine and continue to agitate.
4. Add the required amount of tank-mix partner.
5. Fill the sprayer tank with sufficient water to spray 100 L of spray mixture per hectare.

Note: Add only the adjuvant recommended below. Follow tank-mix partner label for order of mixing.

Table 2: Outshine Tank Mix Combinations for Broadleaf Weed Control

Herbicide Tank mix Partner	Crops Registered	Rate (Product/ha)	Additional Weeds Controlled or Suppression (S)
2,4-D Ester†	spring wheat, durum wheat & spring barley	530-636 mL/ha 2,4-D 700 (350-420 g a.e./ha)	flixweed, lamb's-quarters, redroot pigweed, ragweed (S), shepherd's purse, stinkweed, stork's-bill, sunflower (annual), volunteer canola, wild mustard
MCPA Ester†	spring wheat, durum wheat & spring barley	580-700 mL/ha MCPA 600 (350-420 g a.e./ha)	flixweed, hemp-nettle, lamb's-quarters, ragweed, redroot pigweed, shepherd's-purse, smartweed, stork's-bill (S), sunflower (annual), volunteer canola, wild mustard
Express Toss-N-Go Dry Flowable 75% Herbicide	spring wheat, durum wheat & spring barley	10 g/ha	Lamb's-quarters, redroot pigweed (S), Russian thistle (S)

Table 3: Outshine Broadleaf Tank Mix Combinations plus Other Herbicides for Annual Grass Control

Herbicide Tank mix Partner	Crops Registered	Rate (Product/ha)	Adjuvant and rate	Additional Weeds Controlled or Suppression (S)
Assert 300 SC Herbicide*	spring wheat, durum wheat & spring barley	1.6 L	Refer to the Assert 300 SC Herbicide label	Wild Oat
Axial 100 EC Herbicide♦	spring wheat, & spring barley	600 mL/ha	Adigor 700 mL/ha	Wild oats & green foxtail
Everest Solupak 70DF Herbicide♦♦‡	spring wheat, durum wheat	43 g/ha	Non-ionic surfactant (see label) 0.25% v/v	Wild oats & green foxtail

†Use higher rates for weeds in the bud stage, dry or cold weather or heavy infestations

‡Warning: control of green foxtail may be reduced with the tank mix of Outshine + Express Toss-N-Go Dry Flowable 75% Herbicide.

♦Do not apply Axial 100 EC Herbicide in tank mixes containing 2,4-D.

♦♦Wheat (including durum) exposed to water-logged or saturated soils, or temperature extremes such as heat or freezing weather, or drought, low fertility or plant disease at application time could show unacceptable injury symptoms. Weed control may also be reduced by these same conditions.

*Do not apply Everest Solupak 70DF Herbicide or Assert 300 SC Herbicide in tank mixes containing

Express Toss-N-Go Dry Fowable 75% Herbicide.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, Outshine is a Group 2 and Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Outshine and other Group 2 and Group 4 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 Outshine or other Group 2 and Group 4 herbicides 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.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- 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 ADAMA Agricultural Solutions Canada Inc. 1-855-264-6262

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