

Approved Adrenalin SC booklet (2,4-D re-evaluation [2008-2652]), April 7, 2009

GROUP	2	4	HERBICIDE
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ADRENALIN® SC Herbicide

EMULSIFIABLE CONCENTRATE

FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND
PEACE RIVER AREA OF BRITISH COLUMBIA ONLY
ON IMAZAMOX TOLERANT WHEAT

AGRICULTURAL

GUARANTEE: Imazamox 20 g/L
2,4-D, present as 2-ethylhexyl ester 560 g a.e./L

REGISTRATION NO. 27879 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 2 x 8.0 L

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

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

BASF Canada Inc.
100 Milverton Drive
5th Floor
Mississauga, Ontario
L5R 4H1

1-877-371-2273

ADRENALIN® SC is a registered trademark of BASF.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

DO NOT APPLY BY AIR.

Harmful if absorbed through skin, inhaled or swallowed. Causes eye irritation. May irritate skin.

Avoid contact with skin or clothing. DO NOT get in eyes.

Mixers/loaders must wear coveralls over a long-sleeved shirt, long pants and chemical-resistant gloves.

Applicators must wear coveralls over a long-sleeved shirt, long pants and chemical-resistant gloves. Chemical-resistant gloves must also be worn during clean-up and repair activities.

When handling more than 265 kg a.e per day (approximately 120 hectares at highest agricultural rate – 2.24 kg a.e./ha), workers must also use a closed system.

Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor.

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.

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

TOXICOLOGICAL INFORMATION

This product may cause mild irritation to the eyes. Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea. Treat symptomatically.

This product also contains petroleum distillates. Do not induce vomiting. Vomiting may cause aspiration pneumonia.

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.

STORAGE

Store above 5° C.

Store in a cool, dry place away from children, animals, food, feed or fertilizers.

Keep from freezing.

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.

FOR IMAZAMOX TOLERANT WHEAT¹ (e.g., Wheat varieties with the CLEARFIELD® trait)

ENVIRONMENTAL HAZARDS

This product contains a petroleum distillate which is 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.

A buffer zone of 11 metres is 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, pastures, rangelands, and shrublands) and sensitive aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, and wetlands).

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

To reduce runoff from treated areas into aquatic habitats, consider the characteristics/conditions of the site before treatment. Site characteristics/conditions that may lead to runoff include, but are not limited to: heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g. soils that are compacted, fine textured, or low in organic matter). It is recommended that this product not be applied when heavy rain is forecast. Potential for contamination of aquatic areas as a result of runoff may be reduced by inclusion of a vegetative strip between the treated area and the edge of the water body.

Toxic to small mammals, birds, aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

This product will harm other broadleaved plants in the vicinity of the treatment area. If applying this product using a handheld sprayer, do not directly spray or allow the spray to drift onto ornamentals or gardens.

Do not spray exposed roots of trees and ornamentals.

LEACHING

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or depth to the water table is shallow.

RUN OFF

To reduce runoff from treated areas into aquatic habitats avoid application to areas with moderate to steep slope, compacted soil, or clay.

Avoid application of this product when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a strip of untreated vegetation between the treated area and the edge of the water body.

To prevent runoff, avoid spraying on driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application.

DIRECTIONS FOR USE (Prairie Provinces and Peace River Area of British Columbia)

ADRENALIN SC Herbicide is a selective herbicide that can be applied as an early postemergent treatment in imazamox tolerant wheat. When ADRENALIN SC Herbicide is applied early postemergence, absorption may occur through both the roots and foliage. Susceptible weeds stop growing and eventually die.

Apply using ground equipment only. DO NOT APPLY BY AIR.

Do not apply more than once per year.

DO NOT graze the treated crop within 14 days of application or cut for hay within 42 days of application.

Pre-harvest Interval: Wheat grain and straw can be harvested 79 days after treatment.

Restricted-entry interval (REI) - All liquid or soluble granule products, all crops – 12 hours.

DO NOT apply this product directly to freshwater habitats such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands, estuaries or marine habitats.

DO NOT contaminate irrigation/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) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Buffer Zones to Protect Sensitive Aquatic and Terrestrial Habitats

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment.

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 beds, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Seasonal water bodies require buffer zones if there is water in them during application. Water bodies which do not fill on an annual basis need not be buffered.

Method of Application	Crop	Buffer Zones (metres) Required for the protection of:				
		Freshwater Habitat of Depths		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer*	Wheat	11	11	11	11	11

* For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labeled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labeled buffer zone can be reduced by 30%.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

BROADLEAF WEED and GRASS CONTROL

Application should be made from the extended 3 leaf to the 6-leaf stage of the wheat crop (prior to flag leaf emergence) and after the weeds have emerged. To control broadleaf weeds, apply ADRENALIN SC Herbicide from the cotyledon up to the 4-leaf stage. To control grasses, apply ADRENALIN SC Herbicide from the 1-4 true leaf stage up until early tillering. Initial crop injury may be observed after application but this is outgrown and should not affect yield. Severe crop injury may occur as a result of spray overlap. AVOID SPRAYER OVERLAP.

ADRENALIN SC Herbicide at 1 L product/ha will provide control of the following weeds:

CONTROL

Annual sowthistle	Ragweed
Annual smartweed (smartweed/lady's-thumb)	Redroot pigweed
Barnyard grass	Russian pigweed
Bluebur	Russian thistle
Volunteer canary seed	Shepherd's-purse
Cocklebur	Stinging nettle
Cow cockle	Stinkweed
Daisy fleabane	Sweet clover
False flax	Thyme-leaved spurge
Flixweed	Volunteer barley
Goat's-beard	Volunteer canola (including all HT varieties)
Green and yellow foxtail	Volunteer durum wheat
Kochia	Volunteer tame oat

Lamb's-quarters
Mustards (except dog and tansy)
Narrow-leaved hawk's-beard
Persian dandelion
Plantain
Prickly lettuce

Volunteer wheat (non-imazamox tolerant)
Wild buckwheat
Wild oat
Wild radish
Wild sunflower

ADRENALIN SC Herbicide at 1 L product/ha will provide suppression and/or top growth control of the following weeds:

SUPPRESSION AND/OR TOP GROWTH* CONTROL

Biennial wormwood	Hoary cress*
Blue lettuce	Horsetail
Bull thistle*	Japanese Brome Grass
Burdock*	Knotweed
Buttercup*	Leafy spurge
Canada thistle*	Oak-leaved goosefoot
Chickweed	Peppergrass
Cleavers	Perennial sowthistle*
Common groundsel	Pineappleweed
Curled dock (young)	Prostrate pigweed
Dandelion	Purslane
Dog and tansy mustard	Russian knapweed
Field bindweed*	Sheep sorrel
Gumweed	Tartary buckwheat*
Hawkweed	Tumble pigweed
Heal-all	Velvetleaf
Hedge bindweed	Yellow rocket
Hempnettle	

Apply in 100 L/ha of water with a NONIONIC SURFACTANT (e.g., AGRAL 90, AGSURF or SURF 92) at the rate of 0.25% v/v.

MIXING INSTRUCTIONS

Use 100 L/ha of water. Use a 50-mesh (or coarser) filter screen. Fill the spray tank with three-quarters of the required amount of clean water, start agitation and continue agitation throughout the entire mixing and spraying procedure. Add the required amount of ADRENALIN SC Herbicide into the sprayer through the tank opening and continue agitating. After the herbicide is thoroughly mixed, continue agitation and add the required amount of non-ionic surfactant. If excess foaming occurs, a silicone anti-foaming agent may be added (e.g., HALT). Complete filling the tank to the desired level with water. If agitation is stopped for more than 5 minutes, re-suspend spray solution by full agitation prior to commencing spraying again. Between loads of ADRENALIN SC Herbicide, check in-line and nozzle screens and rinse and clean if necessary.

Upon completion of spraying ADRENALIN SC Herbicide, thoroughly flush tank, boom, hoses and in-line and nozzle screens with clean water to avoid possible injury to other crops.

Maximum Application Rates, Maximum Seasonal Application Rates, Maximum Number of Applications per Year or Maximum Amount of Pesticide to be Handled per Person per Day

Site	Maximum Rate for a Single Application (g a.e. of 2,4-D/ha)	Cumulative Maximum Rate per Season (g a.e. of 2,4-D/ha)	Maximum Number of Applications per Year
Wheat – post emergence treatment in conventional tillage	880	880	1

FOLLOW CROPPING

Initial crop injury to non-imazethapyr tolerant canola (non-CLEARFIELD canola) may be observed. Avoid spray overlap as yield reduction may result. The following crops may be grown safely the year following an application:

- Canary seed
- Field peas
- Field corn
- Imazethapyr tolerant canola¹ (CLEARFIELD canola)
- Non-imazethapyr tolerant canola (non-CLEARFIELD canola)
- Lentils
- Spring wheat
- Durum wheat
- Spring barley
- Tame oats
- Sunflower
- Flax
- Chickpea

The following crop may be grown safely two years following an application:

- Mustard (condiment type only)

There are insufficient data for other follow crops. Conduct a field bioassay (a test strip grown to maturity) the year before growing any crop other than those listed above.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, ADRENALIN SC Herbicide is both a Group 2 and a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to ADRENALIN SC Herbicide and other Group 2 and/or 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 ADRENALIN SC Herbicide or other Group 2 and 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 BASF at 1-877-371-2273 or at www.agsolutions.ca.

CLEARFIELD® is a registered trademark of BASF.

® All other products listed are registered trademarks of their respective companies.

¹*Methods of growing plants which are resistant to certain acetohydroxyacid synthase (AHAS) herbicides are protected by Canadian Patent No. 1341465. The use of this product in the practice of patented methods could constitute patent infringement. The purchase of this product conveys no license to the purchaser to practice the patented methods. Further information can be obtained by contacting BASF Canada at 1-877-371-2273.*

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(Back panel of jug)

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