14-NOV-2003 07-JUN-2007 Notification - Change in Registrant Address.

# GROUP 2 HERBICIDE

# ANTHEM™ HERBICIDE

#### WATER DISPERSIBLE GRANULE

#### FOR SALE FOR USE IN ALBERTA, SASKATCHEWAN AND MANITOBA

Anthem is a selective herbicide for the control and suppression of listed grass and broadleaf weeds in spring wheat and Kyle, Plenty, Avonlea and Morse durum wheat in the brown and dark brown soils of Alberta, Saskatchewan and Manitoba with organic matter less than 4%.

#### AGRICULTURAL

GUARANTEE: Sulfosulfuron......75.0%

# **REGISTRATION NO. 25836 PEST CONTROL PRODUCTS ACT**

# **READ THE LABEL AND BROCHURE BEFORE USING**

Read NOTICE before buying or using. If NOTICE terms are not acceptable, return at once unopened.

REFORMULATION OR REPACKAGING IS PROHIBITED.

Anthem, Monsanto and the Vine symbol are trademarks of Monsanto Technology LLC. Monsanto Canada Inc. - Licensee. © Monsanto Company 2002

In case of emergency involving this product, Call Monsanto collect, day or night: Accidents/Spills or Medical Emergency ...... (314) 694-4000 or ..... 1-800-332-3111 or CANUTEC ..... (613) 996-6666

Monsanto Canada Inc.	000 One Dessereh Dead	
<del>67 Scurfield Blvd.</del>	900 - One Research Road	
Winnipeg, MB R3Y 1G4	Winnipeg, MB R3T 6E3	Notification Change

For information on this or other Monsanto agricultural products, call the Monsanto Canada Custom Care Line at: 1-800-667-4944.

NET CONTENTS: 432 grams

#### PRECAUTIONS CAUTION! KEEP OUT OF REACH OF CHILDREN.

Wash thoroughly with soap and water after handling.

Applicators and other handlers must wear a long-sleeved shirt and long pants and shoes plus socks. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Wear a long-sleeved shirt, long pants, shoes and socks while mixing/loading or applying this product. In addition, wear chemical resistant gloves while mixing/loading.

If this 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., contact 1-866-375-4648 or www.cropro.org/.

# FIRST AID

**IF IN EYES**, IMMEDIATELY flush with water. Get medical attention IMMEDIATELY.

IN CASE OF SKIN CONTACT, wash exposed area with soap and water.

**IF SWALLOWED**, remove visible particles from mouth and rinse mouth thoroughly with water. Swallow water to dilute. Get medical attention. Contact a physician or a poison control centre IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

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

# TOXICOLOGICAL INFORMATION

Treat symptomatically.

# **ENVIRONMENTAL HAZARDS**

Do not apply directly to water. Do not contaminate water when disposing of equipment washwaters.

Maintain a buffer zone of 30 m between the last spray swath and the edge of sensitive areas such as shelter belts and woodlots. To protect aquatic habitats, a buffer zone of 6 m should be observed between the last swath and the edge of sensitive areas such as wetlands or ponds.

# STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

# STORAGE

Store under cool, dry conditions (below 50° C). Do not store under moist conditions. Keep TIGHTLY sealed to prevent moisture from damaging any unused product.

# DISPOSAL

#### FOIL POUCH

Completely dissolve contents of container in application equipment. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial requirements.

#### 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 the 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.

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or, in accordance with provincial regulations, DILUTED AND SPRAYED ON SUMMERFALLOW OR A WHEAT FIELD.

Emptied foil pouch or bottle and cardboard box retain vapour and product residue. Observe all labeled safeguards until containers are destroyed.

**NOTICE TO BUYER:** Seller's guarantee shall be limited to the terms set out on the label and, subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

**NOTICE TO USER:** This control product is to be used only in accordance with the directions on this label. It is an offence under the *Pest Control Products Act* to use a control product under unsafe conditions.

14-NOV-2003

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# **GENERAL INFORMATION**

# **APPLICATION EQUIPMENT**

# DO NOT APPLY BY AIR.

This product must be applied through ground application equipment only. Calibrate spray equipment before use. Thorough coverage is necessary to provide good weed control. Use equipment which is capable of continuous and vigorous tank agitation. When tank is full, the agitation system should be capable of creating a rippling or rolling action on the liquid surface.

Apply Anthem uniformly with properly calibrated ground equipment in 50 to 100 litres of water per hectare as a broadcast spray unless otherwise specified. Select spray volumes that ensure thorough and uniform weed coverage. Choose nozzles which provide optimum spray distribution and coverage at the appropriate spray pressure. Do not use flood jet nozzles or controlled droplet application equipment. Do not apply Anthem herbicide under conditions where uniform coverage at label rates cannot be obtained. Avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to prevent crop injury from excess application.

To avoid subsequent injury to crops other than wheat, immediately after Anthem herbicide use and prior to spraying other crops, thoroughly clean all mixing and spray equipment as follows:

- Drain tank; then flush tank, boom and hoses with clean water for a minimum of ten minutes. Visually inspect tank to ensure removal of all visible residues of ANTHEM HERBICIDE. It may be necessary to repeat Step 1. DO NOT CLEAN SPRAYER NEAR WELL OR WATER SOURCES OR NEAR TO DESIRABLE VEGETATION. DISPOSE OF ANY RINSATE BY SPRAYING IN A WASTE AREA OR ON THE TREATED FIELD.
- 2. Fill the tank with clean water, then add 1 litre household ammonia (containing minimum of 3% ammonia) per 100 litres of water. Flush solution through boom and hoses, and then add more water to ensure the tank is completely filled. Allow to sit for 15 minutes with agitation. Again flush the hoses, boom and nozzles with the cleaning solution and drain tank.
- 3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
- 4. Repeat Step 2.
- 5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing water through the hoses and boom.

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.

Do not apply this product through any type of irrigation system. Do not spray if there is a forecast for rain during or soon after application.

# ATTENTION

AVOID DRIFT. Care must be used when applying this product to prevent injury to desirable plants and crops. Do not allow the herbicide solution to mist, drift, or splash onto desirable vegetation or soil areas where sensitive crops will be planted since minute quantities of this product can cause severe damage or destruction to plants on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or when other conditions, including lesser wind velocities, will allow spray drift to occur. Apply only in wind conditions in compliance with local and/or provincial regulations. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. Avoid applying at excessive speed or pressure.

Anthem herbicide is an ALS inhibitor and thus rapidly inhibits the growth of susceptible weeds. However, typical symptoms (discoloration) of dying weeds may not be noticeable for 1 to 3 weeks after application, depending upon growing conditions and weed susceptibility. Degree of control and duration of effect depend on weed sensitivity, weed size, growing conditions, and spray coverage.

Prior to using Anthem Herbicide, careful consideration should be given to crop rotation plans. Crops other than those listed in the "**ROTATIONAL CROP INFORMATION**" section can be sensitive to low concentrations of Anthem in the soil. The degradation of Anthem Herbicide in the soil is affected by rainfall, soil temperature and soil pH. Refer to the "**ROTATIONAL CROP INFORMATION**" section of this label to plan your Anthem use and crop rotations before crop planting.

Do not allow spray or spray mist to drift onto adjacent sensitive crops or onto land which will be rotated to sensitive crops in the future (see "**ROTATIONAL CROP INFORMATION**" section).

# **MIXING INSTRUCTIONS**

Thoroughly clean equipment prior to mixing spray solution.

Fill the spray tank to about three-fourths of the desired volume prior to mixing.

First, adjust the pH of the spray water prior to any mixing of Anthem herbicide by adding 1 litre of a 7% solution of ammonia for every 400 litres of spray solution. This will ensure that when the Anthem herbicide granules are added they will be completely

dissolved. Failure to adjust the pH of the spray solution may result in precipitate and tank cleanout problems and possible injury to sensitive crops in subsequent spray applications.

Second, Slowly add the recommended amount of Anthem herbicide, as listed in the Weeds Controlled Section of this label, to the spray tank during agitation.

Third, if desired, add a broadleaf herbicide that is registered for mixing with Anthem herbicide, and fourth, then add the surfactant provided. Complete the filling process while maintaining agitation. Maintain an air gap during filling and remove the hose from the mixing tank immediately after filling to avoid siphoning back into the carrier source.

Spray solutions should be applied within 24 hours of mixing. If spraying is interrupted, sufficient agitation must be conducted to completely resuspend any precipitated product.

Surfactant: Use 0.5 L/ha of Merge® in 50 to 100 liters of spray solution per hectare.

# WEEDS CONTROLLED

**Grassy Weed Species** wild oat foxtail barley

#### **Broadleaf Weed Species**

common chickweed wild mustard redroot pigweed stinkweed volunteer canola\* cleavers

\* including glyphosate tolerant canola i.e. Roundup Ready® canola; WILL NOT control imazethapyr tolerant canola i.e. Clearfield® canola

# WEEDS SUPPRESSED

green foxtail quackgrass barnyardgrass dandelion perennial sow-thistle

# For additional weeds controlled with a tank-mix of 2,4-D ester, see the tank-mix section of this label.

#### **DIRECTIONS FOR USE**

# Postemergent Application in Spring Wheat and Kyle, Plenty, Avonlea and Morse Durum Wheat

Anthem herbicide may be applied only once per growing season. Best control is obtained when soil moisture is adequate to support vigorous wheat and weed growth. Apply this product at 27 g/ha before the emergence of the fourth tiller of wheat and after weeds have emerged. For control of wild oats, apply up to the 6 leaf stage and no later than the 3 tiller stage. For optimum performance and yield response apply prior to tillering of wild oats. For annual broadleaves, seedling weeds are controlled much easier than larger weeds. Perennial weeds should be treated prior to the flower stage and during a period of active growth.

Do not apply in spring wheat underseeded to legumes.

# TANK-MIXTURES FOR ADDITIONAL BROADLEAF WEED CONTROL

# 2,4-D ESTER TANK-MIXTURE

For a 2,4-D ester tank mix, add individual components to the spray tank in the following sequence: water, pH balancer, Anthem herbicide, 2,4-D ester, surfactant. Apply 27 g product per hectare of Anthem herbicide with surfactant and an ester formulation of 2,4-D. For optimum performance and yield response apply prior to tillering of wild oats. Note: There might be a slight reduction in control of wild oats and foxtail barley when Anthem herbicide is tank-mixed with 2,4-D ester.

	Formulation	Amount Per Hectare
2,4-D ester	500 g/L	840 mL

Adjust amount accordingly when using formulations other than 500 g/L.

# Additional Weeds controlled with 2,4-D ester, Anthem herbicide and surfactant tank-mix:

Lamb's-quarters wild buckwheat volunteer canola\* stork's bill dandelion narrow-leaved hawk's-beard kochia green smartweed/lady's-thumb perennial sow-thistle

\* including glyphosate tolerant canola ie. Roundup Ready canola and imazethapyr tolerant canola ie. Clearfield canola

#### ROTATIONAL CROP INFORMATION

The risk of injury to rotational crops is dependent on a number of factors including: soil pH, sensitivity of rotational crop species, soil temperature, rainfall levels and intervals, and the re-cropping intervals. Anthem herbicide degradation is generally slower where there is low soil temperature, low soil moisture and/or high soil pH.

Following a droughty cropping season, crops exposed to saturated soils for a period of time may exhibit injury symptoms.

The additive effect of soil residues from the use of Anthem herbicide and Group 2 herbicides (with cropping restrictions) on the same land has not been determined. Crop rotation guidelines and minimum rotation intervals are not known when using Group 2 herbicides (with cropping restrictions) the season prior to the use of Anthem herbicide and injury to rotational crops other than wheat and imazethapyr tolerant canola i.e. Clearfield® canola may occur. Under these conditions, a field bioassay should be conducted the year prior to growing the crop of interest to confirm crop safety.

Good agronomic practices such as having adequate crop fertility should always be followed.

Anthem-treated wheat fields may be rotated to the following crops the year after treatment: all wheat varieties including durum, and imazethapyr tolerant canola (i.e., Clearfield® canola only).

In the **second** year after treatment (22 months after application), the following crops may be planted: wheat, durum wheat, barley, canola, peas, or flax. In areas where fields may have been affected by extreme drought, or drought conditions and high soil pH (pH 7.5 and greater), between application and soil freeze up, injury to crops other than wheat or imazethapyr tolerant canola i.e., Clearfield® canola may be observed within the recommended plantback timing interval. FOR FIELDS HAVING THESE CONDITIONS, AS LISTED ABOVE, DO NOT PLANT CANOLA, BARLEY, PEAS, AND FLAX FOR AT LEAST 34 MONTHS AFTER APPLICATION. FOR CROPS LISTED ABOVE, A FIELD BIOASSAY MUST BE CONDUCTED THE YEAR PRIOR TO GROWING THE CROP OF INTEREST TO CONFIRM CROP SAFETY.

# FIELD BIOASSAY:

Select a representative area or areas of the field previously treated with Anthem herbicide to plant your bioassay crop(s). Be sure to consider factors such as size of field, soil texture, drainage and turn-around areas when selecting the site(s) that are most representative of the conditions in the field. On large fields, more than one site may be needed in order to obtain reliable results. Plant the test strips perpendicular to the direction in which the field was sprayed. The strips should be long enough to cross the width of several spray swaths. Large test strip areas are more reliable than small ones. Use standard tillage and seeding equipment to plant the bioassay. Prepare a seed bed and plant the crops and varieties you want the option of growing the following year. It is important to use the same planting time, conditions, techniques and cultural practices you normally use to plant and grow the bioassay crop(s). Also, plant into an adjacent area not treated with Anthem herbicide to use as a comparison. As the crop(s) emerges and grows, examine these key points in Anthem herbicide-treated and non-treated areas:

- crop stand
- root development
- rate of growth
- plant colour and vigour
- yield

Allow the bioassay crop(s) to grow to maturity while making your observations. Do not overspray the test strips with herbicides that may damage the bioassay crop(s). If the bioassay indicates that Anthem herbicide residues are still present, continue cropping only to those crops listed on the label, and do not rotate to other crops until bioassay results indicate that susceptible crops are growing normally. DO NOT ROTATE TO OTHER CROPS UNTIL BIOASSAY INDICATES NORMAL GROWTH WITH NO YIELD REDUCTIONS. Failure to follow the recropping guidelines could result in injury to seeded crop(s).

# **RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, Anthem herbicide is a Group 2 herbicide. Any weed population may contain plants naturally resistant to Anthem herbicide and other Group 2 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by Anthem herbicide or other Group 2 herbicides.

To delay herbicide resistance:

- Avoid the exclusive, repeated use of Anthem herbicide or other herbicides in the same herbicide group.
- Rotate with herbicides from a different herbicide group that control the same weeds as Anthem.

- Use tank-mixtures with herbicides from a different group when such a use is permitted.
- Integrate tillage or other mechanical and cultural control methods into weed control programs whenever practical.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Keep accurate records of crop rotations and herbicides used for each of your fields.

For further information, contact your local Monsanto representative.

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