264-1071

07/16/2008



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

> OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

> > JUL 16 2008

Prasad Rao Bayer Cropscience 2 T.W. Alexander Drive Research Triangle Park, NC 27709

Dear Mr. Rao:

Subject:

Label Amendment Wolverine PowerPak EPA Registration Number 264-1071

The amendment label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable. One copy of the label stamped "Acceptable" is enclosed for your records. This label supersedes all the previously accepted labels for this product. If you have any questions, please contact Tracy White by phone at (703) 308-0042 or via email at <u>white.tracy@epa.gov</u>.

Sincerely,

miller anne

Joanne I. Miller Product Manager (23) Herbicide Branch Registration Division (7505P)

Enclosure

# **WOLVERINE™** PowerPak

A Twin Pack Product for Selective Postemergence Control of Most Annual Grassy Weeds (Including Wild Oat and Foxtail Species) and Broadleaf Weeds in Wheat and Barley. This product is only to be applied after mixing together, do not use any component separately.

Grass Herbicide		Broadleaf Herbicide	
ACTIVE INGREDIENT:		ACTIVE INGREDIENTS:	
Fenoxaprop-p-ethyl: (+)-ethyl -2-[4-[(6-chloro-2- benzoxazolyl)oxylphenoxylpropanoate*		Pyrasulfotole* (CAS Number 365400-11-9)	
		Bromoxynil Octanoate	13.4%
		Bromoxynil Heptanoate	12.9%
	88.5%	INERT INGREDIENTS:	70.4%
TOTAL	100.0%	TOTAL	100.0%
Contains petroleum distillates		Contains petroleum distillate	
E.P.A. Reg. No. 264-1071		EPA Est. No.	

# KEEP OUT OF REACH OF CHILDREN WARNING - AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577

For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

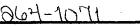
# **FIRST AID**

IF SWALLOWED:	Immediately call a poison control center or doctor for treatment advice.
	Do not induce vomiting unless told to do so by a poison control center or doctor.
	Do not give ANY liquid to the person.
	Do not give anything by mouth to an unconscious person.
IF ON SKIN OR	Take off contaminated clothing.
CLOTHING:	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for 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.
	Call a poison control center or doctor for treatment advice.
	For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.
Have the produ	uct container or label with you when calling a poison control center or doctor or going for treatment.

**NOTE TO PHYSICIAN:** Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

# ACCEPTED JUL 1 6 2008

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.



# **PRECAUTIONARY STATEMENTS**

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

May be fatal if swallowed. Causes skin irritation. Causes substantial but temporary eye injury. Do not get in eyes, on clothing, or on skin. Wear protective eyewear (goggles or face shield).

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:** Coveralls over short-sleeved shirt and short pants, socks, chemical resistant footwear, chemical resistant gloves such as barrier laminate, butyl rubber  $\ge 14$  mils, nitrile rubber  $\ge 14$  mils, or neoprene rubber  $\ge 14$  mils, and protective eyewear (goggles or face shield).

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### ENGINEERING CONTROL STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the pesticide off of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate any body of water and do not apply when/where conditions could favor runoff. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate. Do not allow sprays to drift onto desirable plants. Drift or runoff may adversely affect non-target plants and aquatic invertebrates.

#### Ground Water Advisory:

Pyrasulfotole is known to leach through soil into ground water under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

#### Surface Water Advisories:

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

# **DIRECTIONS FOR USE**

#### It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not use this product until you have read the entire label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

# AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: coveralls over long-sleeved shirt and long pants; socks and chemical resistant footwear. Wear goggles or face shield, and chemical resistant gloves (such as nitrile, butyl, neoprene, and/or barrier laminate).

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

#### PESTICIDE STORAGE

Keep container tightly closed when not in use. Avoid cross contamination with other pesticides. Do not store over 100°F or below 32°F. Do not use or store near heat or open flame.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### CONTAINER DISPOSAL:

Empty containers should be triple rinsed (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

# GENERAL INFORMATION

WOLVERINE™ PowerPak consists of two herbicidal packs designed to be used together for broad spectrum postemergence control of important grass and broadleaf weed species in wheat (including durum wheat) and barley.

#### ENVIRONMENTAL AND BIOLOGICAL ACTIVITY

WOLVERINE<sup>TM</sup> PowerPak is a postemergence herbicide product and best results are obtained when applications are made to young actively growing weeds. WOLVERINE<sup>TM</sup> PowerPak is primarily absorbed through the foliage and thorough spray coverage is important.

#### CROPS

WOLVERINE<sup>TM</sup> PowerPak may be used in wheat, including durum and barley.

#### **APPLICATION TIMING**

#### Wheat

Apply WOLVERINE<sup>TM</sup> PowerPak to the crop from emergence up to 60 days prior to harvesting wheat in the states of Minnesota, Montana, North Dakota, and South Dakota. DO NOT apply WOLVERINE<sup>TM</sup> PowerPak on wheat within 70 days of harvest in other states.

#### Barley

Apply WOLVERINE<sup>TM</sup> PowerPak to the crop from emergence up to the 5-leaf stage. Do not spray barley after jointing begins. Do not apply WOLVERINE<sup>TM</sup> PowerPak within 60 days of harvesting barley.

#### Weed Application Timing

**Grass Weeds**: WOLVERINE<sup>™</sup> PowerPak has no effect via the soil on grass weeds and will only control emerged grass weeds. WOLVERINE<sup>™</sup> PowerPak when applied as directed will control the annual grass weeds listed in *GRASS WEED CHART*.

WOLVERINE<sup>TM</sup> PowerPak will control susceptible grass weeds in the 1-leaf (fully expanded) to 2-tiller stage of growth. Blackgrass can be controlled over a wide range of growth stages, from the 1-leaf (fully expanded) through the advanced tillering stage. Windgrass will be controlled from emergence to a height of 3 inches.

Broadleaf Weeds: See BROADLEAF WEED CHART for a list of susceptible weed species and maximum stage of growth at application for best results.

#### **APPLICATION DOSAGE and METHODS**

This case will treat 35 acres. Do not use less than the specified dosage per acre unless directed by a Bayer CropScience representative.

	WOLVERINE	TM PowerPak
Acres	Grass	Broadleaf
Treated	Herbicide	Herbicide
35	2.9 gallons	3 gallons

#### **Spray Additives**

WOLVERINE<sup>™</sup> PowerPak are formulated as emusifiable concentrates and provide good performance when applied with water. Spray additives such as AMS or UAN may be used in tank mixture with WOLVERINE<sup>™</sup> PowerPak, especially under challenging conditions to optimize activity on susceptible broadleaf weeds. Prepare tank mixtures according to the guidelines described in the *MIXING INSTRUCTIONS* and *TANK MIX DIRECTIONS* section.

#### Ammonium Nitrogen Fertilizer

Ammonium nitrogen fertilizers may be used in tank mixture with WOLVERINE<sup>TM</sup> PowerPak. A spray grade quality ammonium sulfate fertilizer (21-0-0-24) at 0.5 - 1 lbs per acre is the preferred nitrogen source with WOLVERINE<sup>TM</sup> PowerPak for optimal weed control. A spray grade quality urea ammonium nitrogen fertilizer (28-0-0 or 30-0-0 or 32-0-0) at 1 – 2 qt per acre may also be utilized.

#### **Ground Application**

Properly calibrated ground application equipment may be used to apply WOLVERINE<sup>TM</sup> PowerPak postemergence as a foliar spray. Select spray nozzles that provide best spray distribution and weed coverage at the appropriate spray pressure. Avoid uneven spray distribution, skips, overlaps, and spray drift.

For most consistent control or under adverse growing conditions add AMS or an ammonium nitrogen source as directed under SPRAY ADDITIVES section.

DO NOT apply with hollow cone type nozzles or other nozzles that produce a fine droplet spray. Use nozzles and spray pressure for ground application that deliver medium spray droplets as indicated in the nozzle manufacturer's catalogs such as 80-degree or 110-degree flat-fan nozzles in accordance with ASAE Standard S-572 for optimum spray coverage and canopy penetration. Use screens that are 50 mesh or larger.

Do not use flood-jet nozzles or cone nozzles. Nozzle types, nozzle spacings and lower spray pressures that produce coarse spray droplets may not provide adequate coverage of the weeds to ensure optimum control.

Do not apply when winds are gusty, or when conditions will favor movement of spray particles off the desired spray target.

To avoid drift and ensure consistent weed control, apply WOLVERINE<sup>TM</sup> PowerPak with the spray boom as low as possible while maintaining a uniform spray pattern. Ten (10) gallons of spray solution per acre is recommended. Under conditions where large grass weeds or dense weed populations are present or adverse environmental conditions exist, a greater spray volume of 15 – 20 gallons of spray solution per acre is required for best weed control.

Herbicide applications can be negatively impacted by environmental conditions, weed populations and tank mix partners.

Use a recommended spray pressure of 40 psi with flat-fan nozzle tips spaced 10 to 20 inches apart across the boom.

Ground speed for application should not exceed 10 mph.

To get uniform spray coverage, use nozzles that provide 200 to 350 micron size droplets.

See the Spray Drift Management section of this label for additional information on proper application of WOLVERINE<sup>TM</sup> PowerPak.

Aerial Application: Calibrate aerial (fixed wing or helicopter) spray equipment prior to use. WOLVERINE<sup>TM</sup> PowerPak should be applied with 0.5 lb/acre ammonium sulfate in a minimum spray volume of 5 gallons per acre if crop canopy and weed density allow adequate spray coverage.

To get uniform spray coverage, use nozzles and pressure that deliver medium spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE standard S-572. DO NOT use raindrop nozzles.

Aerial applications with this product should be made at a maximum height of 10 feet above the crop with low drift nozzles. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

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Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

### INFORMATION ON HERBICIDE TOLERANT WEEDS

Repeated use of the same herbicide or related herbicides may result in rare, naturally tolerant weeds multiplying to economic infestations. In areas with consistent use of the same herbicide or herbicide mode-of-action, crop rotation and application of alternative mode of action herbicides are encouraged to prevent and/or reduce weed tolerance. For further information, contact a Bayer CropScience representative or your local or state extension service.

# WEED CONTROL DIRECTIONS

WOLVERINE<sup>TM</sup> PowerPak is a postemergence herbicide and best results are obtained when applications are made to young actively growing weeds. Treat heavy weed infestations before they become competitive with the crop. To optimize yield potential, early removal of weeds is recommended. Thorough coverage of weeds is necessary to obtain good weed control.

Postemergence application of WOLVERINE<sup>TM</sup> PowerPak will control the following grass and broadleaf weeds. WOLVERINE<sup>TM</sup> PowerPak provides good performance when applied with water however, spray additives such as AMS or UAN are recommended with WOLVERINE<sup>TM</sup> PowerPak especially under adverse conditions to optimize herbicidal activity.

## **Grass Weed Chart**

WOLVERINE<sup>TM</sup> PowerPak will control susceptible grass weeds in the 1-leaf (fully expanded) to 2-tiller stage of growth. Blackgrass can be controlled over a wide range of growth stages, from the 1-leaf (fully expanded) through the advanced tillering stage. Windgrass will be controlled from emergence to a height of 3 inches. Applications should be made to young, vigorously growing weeds.

Grass Weed Species, Common Name	Grass Weed Species, Scientific Name
Green foxtail	Setaria viridis
Foxtail millets (volunteer), common,	Setaria italica
Siberian, Hungarian, German millet	
Volunteer corn	Zea màys
Yellow foxtail	Setaria lutescens
Proso millet (volunteer, wild)	Panicum iliaceum
Barnyardgrass	Echinochloa crus-galli
Blackgrass	Alopecurus myosuroides
Hood canarygrass	Phalaris paradoxa
Littleseed canarygrass	Phalaris minor
Windgrass	Apera interrupta
Wild oat	Avena fatua
Field sandbur	Cenchrus incertus
Woolly cupgrass	Erichloa villosa

#### MOISTURE EFFECTS ON ANNUAL GRASS WEED CONTROL

The following conditions will result in optimum wild oat control:

- 1. Adequate soil moisture which occurs under normal rainfall in wheat or barley following a fallow year.
- 2. Temperatures lower than 85° F for several days prior to application.

Low soil moisture levels, low humidity, and high temperatures prior, during or following application may reduce wild oat and foxtail control provided by WOLVERINE<sup>TM</sup> PowerPak.

Foxtail under drought stress will exhibit rolled leaves ("onion leaf") and should not be sprayed as poor control may result. Apply WOLVERINE<sup>TM</sup> PowerPak when conditions improve.

# **Broadleaf Weed Chart**

Weed species controlled by WOLVERINE<sup>TM</sup> PowerPak with recommended size or stage of growth at application:

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Weed Species	Scientific name	Weed Size
Bedstraw, catchweed / cleavers *	Galium aparine	1 - 4 whorls
Bittercress, small-flowered	Cardamine parviflora	1 - 4 leaf
Buckwheat, wild	Polygonum convolvulus	1- 6 leaf
Chickweed, common <sup>1*</sup>	Stellaria media	1 - 6 leaf
Cocklebur, common	Xanthium strumarium	1 - 4 leaf
Cockle, white	Melandrium noctiflorum	1 - 6 leaf
Cowcockle	Vaccaria pyramidata	1 - 6 leaf
Dandelion (seedling)	Taraxacum officinale	3 inch rosette
Fiddleneck, coast *	Amsinckia intermedia	1 - 4 leaf
Fiddleneck, tarweed *	Amsinckia lycopsoides	1 - 4 leaf
Field pennycress	Thlaspi arvense	1 - 8 leaf or 4 inch diameter
Flixweed	Descurainia sophia	4 inch diameter
Gromwell, corn *	Lithospermum arvense	1 - 6 leaf
Hempnettle, common	Galeopsis tetrahit	1 - 6 leaf
Henbit *	Lamium amplexicaule	1 - 6 leaf
Kochia	Kochia scoparia	1- 4 inch
Lambsquarters, common	Chenopodium album	1 - 6 leaf
London rocket	Sisymbrium irio	1 - 6 leaf
Marestail, common <sup>1</sup>	Hippuris vulgaris	1 - 4 leaf
Marshelder	Iva xanthifolia	1 - 4 leaf
Mayweed chamomile / dogfennel 1*	Anthemis cotula	2 inch
Mustard, birdsrape / wild turnip	Brassica rapa	1-6 leaf or 4 inch diameter
Mustard, black	Brassica nigra	1-6 leaf or 4 inch diameter
Mustard, blue	Chorispora tenella	1-6 leaf or 4 inch diameter
Mustard, tumble / Jim Hill mustard	Sisymbrium altissimum	1-6 leaf or 4 inch diameter
Mustard, wild	Sinapis arvensis	1- 6 leaf or 4 inch diameter
Nightshade, Eastern black	Solanum ptycanthum	1 - 4 leaf
Nightshade, hairy	Solanum sarrachoides	1 - 4 leaf
Palmer pigweed / Palmer amaranth	Amaranthus palmeri	1 - 6 leaf
Pennsylvania smartweed	Polygonum pensylvanicum	1 - 6 leaf
Pigweed, prostrate	Amaranthus blitoides	1 - 6 leaf
Pigweed, redroot	Amaranthus retroflexus	1 - 6 leaf
Prickly lettuce / China Lettuce	Lactuca serriola	1 - 6 leaf
Radish, wild	Raphanus raphanistrum	1- 6 leaf or 4 inch diameter
Ragweed, common	Ambrosia elatior	1 - 4 leaf
Ragweed, giant	Ambrosia trifida	1 - 4 leaf
Russian thistle1 *	Salsola kali	2 inch
Shepherd's-purse	Capsella bursa-pastoris	1- 6 leaf or 4 inch diameter
Smartweed, pale	Polygonum lapathifolium	1 - 4 leaf
Sowthistle <sup>1</sup> , annual	Sonchus oleraceus	1 - 6 leaf
Sowthistle <sup>1</sup> , perennial	Sonchus arvensis	1 - 6 leaf
Sowthistle, <sup>1</sup> spiny	Sonchus asper	1 - 6 leaf

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Weed Species	Scientific name	Weed Size
Sunflower <sup>1</sup> , annual	Helianthus annuus	1 - 6 leaf
Tansymustard	Descurainia pinnata	4 inch diameter
Velvetleaf	Abultilon theophrasti	1 - 4 leaf
Vol. canola	Brassica napus	1- 6 leaf or 4 inch diameter
Vol. soybean	Glycine max	1 - 4 trifoliates
Wallflower, bushy	Erysimum repandum	4 inch rosette
Waterhemp, tall	Amaranthus tuberculatos	1 - 6 leaf
Wormood, biennial (seedling)	Artemisia biennis	2 inch

\* In spring cereals, these weed species/sizes will be controlled; in winter cereals, only partial control with recommended dosages and nitrogen can be expected.

<sup>1</sup> Includes ALS, phenoxy or glyphosate resistant biotypes

Partial Control		
Bindweed, field	Convolvulus arvensis	
Canada thistle	Cirsium arvense	
Catchfly, cone	Silene conoidea	
Catchfly, conical	Silene colorata	
Catchfly, nightflowering	Silene noctiflora	
Dandelion (established)	Taraxacum officinale	
Dock, curly	Rumex crispus	
Jersalem artichoke	Helianthus tuberosus	
Knotweed, prostrate	Polygonum aviculare	
Lanceleaf sage	Salvia reflexa	
Mallow, common	Malva neglecta	
Nightshade, cutleaf	Solanum triflorum	
Pepperweed, Virginia	Lepidium virginicum	
Pineappleweed	Matricaria matricarioides	
Redstem filaree / Storksbill	Erodium cirutarium ·	
Swinecress	Coronopus sp.	
Vol. flax	Linum usitatissimum	
Vol. lentils	Lens culinaris	
Wormwood, absinth	Artemesia absinthium	

Partially controlled weeds will be stunted in growth and/or be reduced in number as compared to non-treated areas and performance may not be commercially acceptable. The degree of weed control will vary with weed size, density, coverage and growing conditions.

## TANK MIX DIRECTIONS

## **Compatibility Testing With Tank Mix Partners**

If WOLVERINE<sup>TM</sup> PowerPak is to be tank mixed with other pesticides, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5-15 minutes after mixing. Read and follow the label of each tank-mix product used for precautionary statements, directions for use, geographic and other restrictions. Use in accordance with the most restrictive label limitations and precautions.

# Tank mixtures For Disease or Insect Control

WOLVERINE<sup>™</sup> PowerPak may be tank mixed with Baythroid<sup>®</sup>XL, Mustang Max<sup>™</sup>, Sevin<sup>®</sup> XLR PLUS or Warrior<sup>®</sup> insecticides providing proper timing for insect and weed control are the same.

Fungicides such as Stratego<sup>®</sup>, Headline<sup>®</sup>, mancozeb (Dithane F-45<sup>®</sup>; Manzate<sup>®</sup> 75DF; Penncozeb<sup>®</sup> 75DF), Tilt<sup>®</sup>, or Topsin<sup>®</sup> M may be tank mixed with WOLVERINE<sup>TM</sup> PowerPak when timing for application of each tank mix partner is the same for the use site. Tank mix applications of herbicides with fungicides may cause temporary yellowing, leaf burn and or height reduction of the crop. Refer to the specific fungicide label for use directions, application rates, restrictions and a list of diseases controlled.

# Tank mixtures For Weed Control

WOLVERINE<sup>™</sup> PowerPak is a very broad spectrum weed control product. In certain challenging field situations, it may be advantageous to tank mix WOLVERINE<sup>™</sup> PowerPak with MCP ester for greater weed control. Consult your BCS representative for guidance on how to control weed species not listed on this label.

#### MIXING INSTRUCTIONS

WOLVERINE<sup>TM</sup> PowerPak must be applied with clean and properly calibrated equipment. Prior to adding WOLVERINE<sup>TM</sup> PowerPak to the spray tank, ensure that the spray tank, filters and nozzles have been thoroughly cleaned. In-line strainers and nozzle screens should be 50 mesh or coarser.

- 1. Fill the spray tank 1/4 to 1/2 full with clean water then add AMS or UAN and begin agitation or bypass.
- 2. Add the appropriate rate of WOLVERINE<sup>TM</sup> PowerPak directly to the spray tank. Maintain sufficient agitation during both mixing and application.
- 3. Add recommended tankmix partners, if desired.
- 4. Add surfactant if desired.
- 5. Fill the spray tank with balance of water needed.
- 6. Continue agitation during WOLVERINE<sup>TM</sup> PowerPak application to ensure uniform spray coverage.

# TANK CLEANUP PROCEDURE

- 1. Drain the tank completely, and then wash out tank, boom and hoses with clean water. Drain again.
- Half fill the tank with clean water and add ammonia (i.e., 3% domestic ammonia solution) at a dilution rate of 1% (i.e., 1 gallon of domestic ammonia for every 100 gallons of rinsate). Complete filling of the tank with water. Agitate/recirculate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
- 3. Repeat step 2.
- 4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
- 5. Flush tank, boom, and hoses with clean water.
- 6. Inspect tank for visible residues. If present, repeat step 2.

# SPRAY DRIFT MANAGEMENT

WOLVERINE<sup>TM</sup> PowerPak is not volatile. Damage to sensitive crops can occur as a result of spray drift. Spray drift can be managed by several application factors and by spraying under the appropriate climatic conditions. Consequently, avoidance of spray drift is the responsibility of the applicator and grower.

SENSITIVE AREAS: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitats for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoiding spray drift at the application site is the responsibility of the applicator and grower. The interaction of many equipment-andweather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Do not apply under circumstances where possible drift to unprotected persons or to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

- 1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
- 3. All ground application equipment must be properly maintained and calibrated using appropriate carriers.

Where states have more stringent regulations, they shall be observed.

#### INFORMATION ON DROPLET SIZE:

The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions below).

Uniform, thorough spray coverage is important to achieve consistent weed control. Select nozzles and pressure that deliver medium spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds.

#### CONTROLLING DROPLET SIZE:

- Volume Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles
  produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets
  and the lowest drift.

#### BOOM LENGTH:

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

#### **APPLICATION HEIGHT:**

For ground boom applications, apply with nozzle height no more than 4 feet above the ground or crop canopy. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### WIND:

Drift potential is lowest between wind speeds of  $2^{\circ}$  - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

For all non-aerial applications, wind speed must be measured adjacent to the application site, on the upwind side, immediately prior to application.

#### TEMPERATURE AND HUMIDITY:

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry. Avoid spraying during conditions of low humidity and/or high temperatures.

#### **TEMPERATURE INVERSIONS:**

Do not make ground applications into areas of temperature inversions because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

# **CROP ROTATION GUIDELINES**

WOLVERINE<sup>TM</sup> PowerPak breakdown in the soil is due mainly to microbial action. Under adverse conditions such as cold and drought, degradation may be slowed.

- 7 Days: Wheat, Barley, Oats, Rye and Triticale
- 4 Months: Millet, Sorghum (grain) and Soybeans
- 9 Months: Alfalfa, Canola, Canaryseed, Chickpeas, Corn, Drybeans, Flax, Field peas, Lentils, Mustards, Potatoes, Safflower, Sunflowers, and Sugarbeets.

Where a crop is not specified, conduct a field bioassay as described in "FIELD BIOASSAY" section of this label.

#### **FIELD BIOASSAY**

A field bioassay must be conducted for crops not listed on this label. To conduct a field bioassay, plant strips of the crop you want to grow the season following WOLVERINE<sup>TM</sup> PowerPak application. Monitor the crop for response to WOLVERINE<sup>TM</sup> PowerPak to determine if the crop can be grown safely in previously treated WOLVERINE<sup>TM</sup> PowerPak areas.

#### WEED RESISTANCE

WOLVERINE<sup>TM</sup> PowerPak contains active ingredients which inhibit ACC-ase, photosynthesis and the HPPD enzyme systems. WOLVERINE<sup>TM</sup> PowerPak may be an effective tool in the management of broadleaf weed populations containing resistance to ALS, phenoxy or glyphosate herbicide modes of action. Repeated use of herbicides with the same mode of action allows resistant weeds to spread. To manage the spread of resistant weed populations, use herbicides with different modes of action in tank mixture, rotation, or in conjunction with alternate cultural practices.

#### PRECAUTIONS FOR USE

- Do not apply to crops undersown with legume species.
- Rainfall within 1 hour may result in reduced weed control.
- Do not make more than one application of WOLVERINE<sup>TM</sup> PowerPak per season.
- Do not apply more than the specified dosage as listed per season.
- Do not graze or harvest forage within 25 days, grain and straw within 60 days prior to harvesting wheat in the states of Minnesota, Montana, North Dakota, and South Dakota. DO NOT apply WOLVERINE<sup>TM</sup> PowerPak on wheat within 70 days of harvest in other states.
- Do not graze or harvest barley forage within 25 days, harvest barley grain and straw within 57 days.
- Do not apply this product through any irrigation system.

# **IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

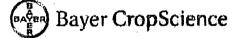
**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. NO AGENT OF BAYER CROPSCIENCE IS AUTHORIZED TO MAKE ANY WARRANTIES BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPSCIENCE'S ELECTION, THE REPLACEMENT OF PRODUCT.

Baythroid XLT, Sevin, Stratego, and WOLVERINE are trademarks of Bayer. Headline is a trademark of BASF Corporation. Penncozeb and Topsin are trademarks of Cerexagri, Inc. Dithane F-45, is a trademark of Dow AgroSciences LLC. Mustang MAX is a trademark of FMC Corporation. Manzate 75DF is a trademark of Griffin. Tilt, and Warrior are trademarks of Syngenta Crop Protection, Inc.

# Net Contents: 2.9 gallons Grass Herbicide 3.0 gallons Broadleaf Herbicide



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WOLVERINE PowerPak (PENDING) 04/30/08

# Grass HERBICIDE

# **Grass Herbicide**

Fenoxaprop-p-ethyl: (+)-ethyl -2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]propanoate*11.5	%
INERT INGREDIENTS:	%
TOTAL	%

Contains petroleum distillates

# For <u>MEDICAL</u> And <u>TRANSPORTATION</u> Emergencies <u>ONLY</u> Call 24 Hours A Day 1-800-334-7577 For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

# **FIRST AID**

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.
Call a poison control center or doctor for treatment advice.
Take off contaminated clothing.
Rinse skin immediately with plenty of water for 15-20 minutes.
Call a poison control center or doctor for treatment advice.
Immediately call a poison control center or doctor for treatment advice.
Do not induce vomiting unless told to do so by a poison control center or doctor.
Do not give ANY liquid to the person.
For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.
ict container or label with you when calling a poison control center or doctor or going for treatment.
PHYSICIAN: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.
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# PRECAUTIONARY STATEMENTS

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

Causes substantial but temporary eye injury and skin irritation. Harmful if swallowed. Do not get in eyes, on skin or on clothing.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear: Coveralls over short-sleeved shirt and short pants, socks, chemical resistant footwear, chemical resistant gloves such as barrier laminate, butyl rubber > 14 mils, nitrile rubber > 14 mils, or neoprene rubber > 14 mils, and protective eyewear (goggles or face shield).

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## ENGINEERING CONTROL STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

# USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the pesticide off of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates or nontarget plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

#### PESTICIDE STORAGE

Keep container tightly closed when not in use. Avoid cross contamination with other pesticides. Do not store over 100°F or below 32°F. Do not use or store near heat or open flame.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Empty containers should be triple rinsed (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Net Contents: 2.9 gallons** 



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WOLVERINE PowerPak (MASTER) 01/17/08

# **Broadleaf** HERBICIDE

ACTIVE INGREDIENTS:	
Pyrasulfotole*	
Pyrasulfotole* (CAS Number 365400-11-9)	
Bromoxynil Octanoate	
Bromoxynil Heptanoate	
INERT INGREDIENTS:	
TOTAL	
*Contains petroleum distillates	

# For <u>MEDICAL</u> And <u>TRANSPORTATION</u> Emergencies <u>ONLY</u> Call 24 Hours A Day 1-800-334-7577 For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

# **FIRST AID**

IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice.
	<ul> <li>Have a person sip a glass of water if able to swallow.</li> </ul>
	Do not give ANY liquid to the person.
IF ON SKIN:	Take off contaminated clothing.
	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for 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.
	Call a poison control center or doctor for treatment advice.
	For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.
Have the product co	ntainer or label with you when calling a poison control center or doctor or going for treatment.

Note to Physician: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

# PRECAUTIONARY STATEMENTS

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

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May be fatal if swallowed. Harmful if absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, clothing or breathing dust. Wear protective eyewear (safety glasses).

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:** Coveralls over short-sleeved shirt and short pants, socks, chemical resistant footwear, chemical resistant gloves such as barrier laminate, butyl rubber > 14 mils, nitrile rubber > 14 mils, or neoprene rubber > 14 mils, and protective eyewear (goggles or face shield).

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

# **ENGINEERING CONTROL STATEMENT**

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

# **USER SAFETY RECOMMENDATIONS**

#### User should:

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

#### ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate any body of water and do not apply when/where conditions could favor runoff. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate. Do not allow sprays to drift onto desirable plants. Drift or runoff may adversely affect non-target plants.

#### Ground Water Advisory:

Pyrasulfotole is known to leach through soil into ground water under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

#### Surface Water Advisories:

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

#### PESTICIDE STORAGE

Store in a cool, dry place.

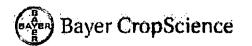
#### PESTICIDE DISOPSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

#### CONTAINER DISPOSAL

Empty containers should be triple rinsed (or equivalent), then offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill, or by incineration; or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

# **NET CONTENTS: 3.0 Gallons**



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WOLVERINE PowerPak (MASTER) 01/17/08