

# GR1

HERBICIDE

GROUP

2

HERBICIDE

**For postemergent control of annual grass and broadleaf weeds in winter wheat and triticale.**

<i>Active Ingredients</i>	<i>By Weight</i>
pyroxsulam: N-(5,7-dimethoxy[1,2,4]triazolo[1,5-a]pyrimidin-2-yl)-2-methoxy-4-(trifluoromethyl)-3-pyridinesulfonamide	13.13%
<b>Other Ingredients</b>	<b>86.87%</b>
<b>TOTAL</b>	<b>100.0%</b>

Contains 0.13 lb of active ingredient per pound of product.

EPA Reg. No. 279-9623

EPA Est. No. 352-IL-001

**Nonrefillable Container**

**Refillable Container**

Net: 35 lbs

OR

Net: \_\_\_\_\_

## KEEP OUT OF REACH OF CHILDREN

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals**

In case of emergency endangering health or the environment involving this product, call 1-800-331-3148.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Shoes plus socks.

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

#### Engineering Controls

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.

### 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 water when disposing of equipment washwater or rinsate.

This product may contaminate surface water due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater.

This product is classified as having high potential for runoff for several days after application. 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 runoff of rainwater. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Sold By



**FMC Corporation**  
2929 Walnut Street  
Philadelphia, PA 19104

## DIRECTIONS FOR USE

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

Read all Directions for Use carefully before applying.

GR1 herbicide must be used only in accordance with directions on this label or in separate FMC supplemental labeling that may be made temporarily available through local distributors; as a result of new EPA approval. FMC will not be responsible for losses or damages resulting from use of this product in any manner not specifically stated on this label or other labels or bulletins published by FMC. User assumes all risks associated with such non-specified use.

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 the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable). The requirements in this box 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 12 hours.

For early entry into 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
- Chemical resistant gloves made of any waterproof material
- Shoes plus socks

## PRODUCT INFORMATION

Use GR1 herbicide as a postemergence herbicide for the control of annual grass and broadleaf weeds in winter wheat and triticale.

GR1 rapidly stops growth of susceptible weeds. However, typical symptoms (discoloration) of controlled or suppressed 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 upon weed sensitivity, weed size, crop competition, growing conditions at and following treatment, and spray coverage.

### **Use Precautions and Restrictions**

When applying this product in tank mix combination, follow all applicable use directions, precautions, and limitations on each manufacturer's label.

**Chemigation:** Do not apply this product through any type of irrigation system.

Do not apply GR1 directly to, or otherwise permit it to come into direct contact with, susceptible crops or desirable plants including alfalfa, barley, canola, beans, cotton, flowers, grapes, lettuce, lentils, mustard, oats, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes, vegetables, or other desirable broadleaf crops or ornamental plants. Do not permit spray mists containing GR1 to drift onto such plants.

Do not apply to crops underseeded with legumes.

### **Avoiding Injurious Spray Drift**

This product can affect broadleaf plants directly through foliage and indirectly by root uptake from treated soil. Do not apply GR1 directly to, or allow spray drift to come into contact with, broadleaf crops including alfalfa, barley, canola, beans, cotton, flowers, grapes, lettuce, lentils, mustard, oats, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes, vegetables, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same season. (See Crop Rotation Intervals section.)

Make applications only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure crops, whether dormant or actively growing. When applying GR1, use low pressure equipment capable of producing sprays of uniform droplet size with a minimum of fine spray droplets. Under adverse weather conditions, fine spray droplets that do not settle rapidly onto target vegetation may be carried a considerable distance from the treatment area. A drift control or spray thickening agent may be used with this product to improve spray deposition and minimize the potential for spray drift. If used, follow all use directions and precautions on the product label.

**Ground Applications:** To minimize spray drift, apply GR1 in a total spray volume of 10 gallons or more per acre using spray equipment designed to produce large droplet, low pressure sprays. Refer to the spray equipment manufacturer's

directions for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Apply spot treatments only with a calibrated boom to prevent over application. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

**Aerial Application:** To minimize spray drift, apply GR1 in a total spray volume of 5 gallons or more per acre. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Avoid applications below 2 mph due to variable wind direction and high potential for temperature inversion. Minimize spray drift from aerial applications by applying a coarse spray at spray boom pressure no greater than 30 psi; by using straight-stream nozzles directed straight back; and by using a spray boom no longer than 3/4 of the rotor or wing span of the aircraft. Evaluate spray pattern and droplet size distribution by applying sprays containing a water-soluble dye marker or appropriate drift control agents over a paper tape (adding machine tape). Mechanical flagging devices may also be used.

Do not apply under conditions of a low level air temperature inversion. A temperature inversion is characterized by little or no wind and lower air temperature near the ground than at higher levels. The behavior of smoke generated by an aircraft-mounted device or continuous smoke column released at or near site of application will indicate the direction and velocity of air movement. A temperature inversion is indicated by layering of smoke at some level above the ground and little or no lateral movement.

### **Spray Drift Management**

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

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

- The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 90% of rotor diameter.
- Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory. (This information is advisory in nature and does not supersede mandatory label requirements.)

### **Aerial Drift Reduction Advisory**

**Information on Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. 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).

### **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 specified 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 air stream produces larger droplets than other orientations. 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 75% of the wingspan or 90% of rotor length may further reduce drift without reducing swath width.

**Application Height:** Do not make applications at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Avoid making applications 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.

**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.

**Temperature Inversions:** Do not apply during a local, low level temperature inversion 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 the 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.

**Sensitive Areas:** Apply the pesticide only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

**Crop Rotation Intervals**

The following rotational crops may be planted at the indicated interval following application of GR1.

**Crop Rotation Intervals for All States Except Idaho, Oregon, and Washington**

Superscripted numbers refer to Crop Specific Rotation Information.

Crop	Rotation Interval (Months) <sup>1</sup>
wheat, triticale	1
soybean <sup>2</sup>	5
barley, field corn, grasses, millet, oats, popcorn, seed corn, sweet corn, grain sorghum <sup>4</sup> , sunflower <sup>4</sup>	9
alfalfa, camelina, canola, chickpea, cotton <sup>3</sup> , dry bean, pea (dry and succulent), flax, lentil, mustard, peanuts, potato, safflower, sugar beet, sunflower	
other crops not listed	12

**Crop Specific Rotation Information:**

<sup>1</sup>Minimum number of months that must elapse before planting other crops after application of GR1.

<sup>2</sup>As a rotation crop, soybeans may be planted 3 months following an application of GR1 in February or later in the following states: Alabama, Arkansas, Delaware, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Missouri, Mississippi, North Carolina, Nebraska, New Jersey, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas and Virginia. However, to ensure adequate crop safety, avoid planting soybeans prior to April 30 following an application of GR1 made before February. All other states not listed require a minimum rotation interval of 5 months after an application of GR1.

<sup>3</sup>As a rotation crop, cotton may be planted 3 months following an application of GR1 in February or later in the following states: Alabama, Arkansas, Georgia, Kansas, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. However, to ensure adequate crop safety, avoid planting cotton prior to April 30 following an application of GR1 made before February. All other states not listed require a minimum rotation interval of 9 months after an application of GR1.

<sup>4</sup>As a rotation crop, grain sorghum and sunflowers may be planted 3 months following an application of GR1 in February or later in the following states: Alabama, Arkansas, Colorado, Delaware, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Missouri, Mississippi, North Carolina, Nebraska, New Jersey, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, and Virginia. However, to ensure adequate crop safety, avoid planting sunflowers and grain sorghum prior to April 30 following an application of GR1 made before February. All other states not listed require a minimum rotation interval of 9 months after an application of GR1.

## Crop Rotation Intervals for Idaho, Oregon, and Washington

Superscripted numbers refer to Crop Specific Rotation Information.

Crop	Rotation Interval (Months) <sup>1</sup>	Rotation Interval (Months) <sup>1</sup>
	Soil pH >6 and Rainfall <sup>2</sup> >16 Inches	Soil pH <6 or Rainfall <sup>2</sup> <16 Inches
wheat, triticale	1	1
barley, field corn, grasses, millet, oats, popcorn, seed corn, sweet corn, grain sorghum	10	10
alfalfa, camelina, canola, cotton, dry bean, flax, mustard, peanuts, safflower, soybean, sugar beet, sunflower		
pulse crops <sup>3</sup> including chickpea, lentil, and pea (dry and succulent), potato <sup>3</sup>		18
other crops not listed	12	

### Crop Specific Rotation Information:

<sup>1</sup>Minimum number of months that must elapse before planting other crops after application of GR1.

<sup>2</sup>Including irrigation.

<sup>3</sup>Pulse crops, including chickpea, lentil, and pea (dry and succulent), and potatoes may be planted 10 months after application if the soil pH is uniformly 6 or greater AND total rainfall (including irrigation) during the interval is greater than 16 inches. If the soil pH is less than 6 OR total rainfall (including irrigation) is less than 16 inches, then the rotation interval is 18 months.

**Note:** GR1 is degraded primarily by microbial activity and breaks down more rapidly under favorable soil moisture and temperature conditions. Correspondingly, the rate of degradation may be slower under extreme conditions of drought or cold temperatures. When soil moisture conditions are abnormally dry during the interval between an application of GR1 and planting the next crop, conduct a field bioassay by planting test strips of the desired rotational crop. Monitor the test strips during germination and emergence for any abnormal growth to determine if the rotational crop can be grown successfully.

### Mixing Directions

#### GR1 - Alone

1. Fill the tank with 1/2 of the total amount of water.
2. Start agitation.
3. Add the required amount of GR1.
4. Add the required amount of adjuvant (refer to Adjuvants section).
5. Continue agitation while filling the spray tank to the required volume.
6. To ensure a uniform spray mixture, continuous agitation is required during application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply mixture immediately after it is prepared.

#### GR1 - Tank Mix

If a broader spectrum of weed control is needed, GR1 may be tank mixed with labeled rates of other herbicides provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

#### Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not mix with products containing dicamba or amine formulations of 2,4-D or MCPA as these products may reduce grass control provided by GR1.
- Do not tank mix with organophosphate insecticides as these mixtures may result in unacceptable crop injury.
- Do not exceed specified application rates for respective products or maximum allowable application rates for any active ingredient in the tank mix.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** Perform a jar test prior to tank mixing to ensure compatibility of GR1 and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

#### **Mixing Order for Tank Mixes:**

1. Fill the spray tank to 3/4 of the total spray volume required with water.
2. Start agitation.
3. Add GR1 and agitate for 2 to 3 minutes
4. After adding GR1, add different formulation types in the following order: (1) dry flowables; (2) wettable powders; (3) aqueous suspensions, flowables and liquids. Maintain agitation and add: (4) emulsifiable concentrates; (5) solutions; and (6) adjuvants. Allow time for complete mixing and dispersion after each addition.
5. Finish filling the spray tank. Maintain continuous agitation during mixing and throughout application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply mixture immediately after it is prepared.

If application or agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

#### **Clean-Out Procedures for Spray Equipment**

1. Drain any remaining spray mixture from the application equipment.
2. Hose down the interior surfaces of the tank while filling the tank 1/2 full of water.
3. Add household ammonia at a rate of 1 gallon per 100 gallons of water. Recirculate for 5 minutes and spray out part of this mixture for 5 minutes through the boom. Drain tank.
4. Remove all spray nozzles and screens and clean separately.
5. If spray equipment will be used for pesticide application to crops sensitive to GR1, repeat steps 1 through 3. Thoroughly clean exterior surfaces of spray equipment.

**Note:** Rinsate may be disposed of on site according to label use directions or at an approved waste disposal facility.

#### **Weeds Controlled (C) or Suppressed (S)**

Best results are obtained when grass weeds are treated at the 2-leaf to 2-tiller stage of growth and before broadleaf weeds are larger than 2 inches tall or 2 inches in diameter. Best control is achieved when applications are made to actively growing weeds. Control may be reduced when weeds are exposed to drought or extreme temperatures. GR1 will not control known ALS (Group 2) resistant biotypes of labeled weeds.

Common name	Scientific Name	Fall Application	Spring Application
<b>Grass Weeds</b>			
barley, foxtail	<i>Hordeum jubatum</i>	S	S
barnyardgrass	<i>Echinochloa crus-galli</i>		C
blackgrass	<i>Alopecurus myosuroides</i>	C	C
bluegrass, bulbous	<i>Poa bulbosa</i>	C	C
brome, downy	<i>Bromus tectorum</i>	C	S
brome, Japanese	<i>Bromus japonicus</i>	C	C
brome, ripgut	<i>Bromus diandrus</i>	C	C
canarygrass, hood	<i>Phalaris paradoxa</i>	S	S
canarygrass, littleseed	<i>Phalaris minor</i>	S	S
cheat	<i>Bromus secalinus</i>	C	C
chess, hairy	<i>Bromus commutatus</i>	C	C
corn, volunteer	<i>Zea mays</i>		C
foxtail, green	<i>Setaria viridis</i>		S
foxtail, yellow	<i>Setaria pumila</i>		C <sup>4</sup>
oat, wild	<i>Avena fatua</i>	C	C
quackgrass	<i>Elymus repens</i>	S	S
rescuegrass	<i>Bromus catharticus</i>	S	S
ryegrass, Italian	<i>Lolium perenne</i>	C	C
windgrass	<i>Apera spica-venti</i>	C	C
<b>Broadleaf Weeds</b>			
bedstraw, catchweed (cleavers)	<i>Galium aparine</i>	S	C
bittercress, hairy	<i>Cardamine hirsuta L.</i>	C	C
buckwheat, wild	<i>Polygonum convolvulus</i>		S
burclover, spotted	<i>Medicago arabica</i>	C	C
buttercup, smallflower	<i>Ranunculus abortivus L.</i>	C	C
canola, volunteer (wild turnip) <sup>2</sup>	<i>Rapistrum rugosum</i>	C	C
chickweed, common	<i>Stellaria media</i>	C	C
chickweed, mouseear	<i>Cerastium fontanum</i>	C	C
clover, white	<i>Trifolium repens L.</i>	C	C
coreopsis, plains	<i>Coreopsis tinctoria Nutt.</i>	S	S
evening-primrose, cutleaf	<i>Oenothera laciniata Hill</i>	S	S
falseflax, smallseed <sup>1</sup>	<i>Camelina microcarpa</i>	C	C
fiddleneck, coast	<i>Amsinckia intermedia</i>	C	C
flixweed <sup>2</sup>	<i>Descurainia sophia</i>	C	C
geranium, Carolina	<i>Geranium carolinianum L.</i>	C	C
gromwell, corn	<i>Buglossoides arvensis</i>	C	C
hempenettle, common	<i>Galeopsis tetrahit</i>		C
henbit	<i>Lamium amplexicaule</i>	C	S
lambsquarters, common	<i>Chenopodium album</i>		C <sup>3</sup>
mustard, black	<i>Brassica nigra</i>	C	C
mustard, blue <sup>1</sup>	<i>Chorispora tenella</i>	C	C
mustard, tumble <sup>1</sup>	<i>Sisymbrium altissimum</i>	C	C
mustard, wild	<i>Sinapis arvensis</i>	C	C
mustard, wormseed <sup>1</sup>	<i>Erysimum cheiranthoides</i>	C	C
pennycress, field <sup>2</sup>	<i>Thlaspi arvense</i>	C	C
pepperweed, Virginia	<i>Lepidium virginicum</i>	C	C
pigweed, redroot	<i>Amaranthus retroflexus</i>		C
shepherd' s-purse <sup>1</sup>	<i>Capsella bursa-pastoris</i>	C	C
smartweed, annual	<i>Polygonum sp.</i>		C
tansymustard, pinnate <sup>1</sup>	<i>Descurainia pinnata</i>	C	C
thistle, Russian	<i>Salsola tragus</i>		C <sup>3</sup>
vetch, hairy	<i>Vicia villosa Roth</i>		C
wallflower, bushy <sup>1</sup>	<i>Erysimum repandum</i>	C	C

<sup>1</sup>Control may be reduced when application is made after bolting

<sup>2</sup>Including herbicide-tolerant canola varieties except Clearfield (imidazolinone-tolerant) canola.

<sup>3</sup>Less than 2 inches tall. For control of lambsquarters over 2 inches tall, tank mix with 0.25 lb ae 2,4-D ester or MCPA ester. For control of Russian thistle over 2 inches tall, tank mix with 0.25 lb ae 2,4-D ester.

<sup>4</sup>One to four-leaf stage of growth.

### **Resistance Management**

GR1 is an ALS mode of action (Group 2) herbicide. Any weed population may contain or develop plants naturally resistant to this product and other ALS herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. GR1 will not control known ALS (Group 2) resistant biotypes of labeled weeds. 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:

- For best resistance management stewardship, do not use more than once per season.
- Where possible, rotate the use of GR1 or other ALS 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 advisers for any additional pesticide resistance management and/or integrated weed management requirements for specific crops and weed biotypes.

### **Application Directions**

#### **Application Timing**

Apply GR1 postemergence to the main flush of actively growing weeds according to the target weed stage shown in the above table. Extreme growing conditions such as drought, temperatures near or below freezing prior to, at, or following time of application may reduce weed control and increase the risk of crop injury at all stages of growth.

Warm, moist growing conditions promote active weed growth and enhance the activity of GR1 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.

If foliage is wet at the time of application, control may be decreased. Applications of GR1 are rainfast within 4 hours after application.

#### **Spray Coverage**

Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 5 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 gallons or more per acre. As vegetative canopy and weed density increase, increase spray volume to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Avoiding Injurious Spray Drift.

#### **Surfactants and Adjuvants**

When GR1 is applied alone, use one of the following surfactants or adjuvants:

- Non-ionic surfactant with at least 80% active ingredient at 0.25% to 0.50% v/v (1 to 2 quarts per 100 gallons of spray solution); for best results under dry or low humidity environments, use a rate of 0.50% v/v. Addition of spray quality urea ammonium nitrogen fertilizer (28-0-0 to 32-0-0 at 1 to 2 quarts per acre) or ammonium sulfate fertilizer (21-0-0-24 at 1.5 to 3 lb per acre) may be added to non-ionic surfactant to enhance control.
- Crop oil concentrate adjuvant at 1.0 to 1.25% v/v (1 to 1.25 gallons per 100 gallons of spray solution)

Potential for crop response is increased with the use of oil adjuvants versus non-ionic surfactants. Do not use oil adjuvants with spray solutions containing nitrogen fertilizer.

Do not use additives that lower the spray solution below a pH of 6.0.

#### **Application in Fluid Fertilizer**

GR1 may be applied in spray solutions containing liquid nitrogen fertilizer. The spray solution should not be composed of more than 50% liquid nitrogen fertilizer and should not exceed 30 lb of actual nitrogen per acre. When GR1 is applied in spray solutions containing liquid nitrogen fertilizer, use a non-ionic surfactant at a maximum of 0.25% v/v instead of crop oil concentrate. Temporary crop injury may result when liquid nitrogen fertilizer is used as the spray carrier. Foliar applied liquid nitrogen fertilizer may cause foliar leaf burn, yellowing or reduced growth due to the activity of the liquid fertilizer on the crop.



### **Winter Wheat and Triticale**

Apply 2 oz of GR1 per acre in either fall or spring to actively growing winter wheat and triticale from the 3-leaf to jointing stage (Zadoks scale 31) according to the application timings shown in the table entitled Weeds Controlled (C) or Suppressed (S). Treat after the majority of weeds have emerged. Best results are obtained when application is made to weeds that are actively growing.

Occasionally, slight yellowing or height reduction may be observed in the treated crop. These transient symptoms disappear within 14 days with no reduction to yield. Do not apply to crops suffering from drought, water-logged soils, nutrient deficiency or exposed to frost or other agronomic factors affecting plant growth. Do not use on wheat or triticale varieties that are sensitive to ALS herbicides.

**An independent liquid ammonium nitrogen fertilizer application made 7 days before or after an application of GR1 may result in transient leaf burn or stunting. Do not make a liquid fertilizer application during this period unless the risk of crop response is acceptable.**

**Tank Mixtures:** GR1 may be applied in tank mix combination with labeled rates of other products registered for postemergence application in winter wheat or triticale. See Tank Mixing Precautions under Mixing Directions. When tank mixing, do not exceed specified application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

#### **Crop Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 60 days of harvest.
- Do not apply more than 2 oz of GR1 per acre per growing season.
- Do not graze the treated crop within 7 days following application.
- Do not cut the treated crop for hay within 28 days following application.
- Do not apply a product containing organophosphates for five days before or five days after an application of GR1.

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in original container only.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site according to label use directions or at an approved waste disposal facility.

### **Nonrefillable rigid containers 50 lb or less:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

### **Nonrefillable nonrigid containers:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

### **Refillable rigid containers larger than 50 lb:**

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### **Nonrefillable rigid containers larger than 50 lb:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact CHEMTREC (Transportation and Spills) at 1-800-424-9300, day or night.

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## **CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

Notice: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

**Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or FMC, and, to the extent permitted by applicable law, Buyer assumes the risk of any such use.**

To the extent consistent with applicable law, FMC or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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