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

> OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

> > NNOV 3 0 2009

November 30, 2009

Dr. Callista O. Chukwunenye FMC Corporation 1735 Market Street Philadelphia, PA 19103

Dr. Chukwunenye:

RE: ADMINISTRATIVE LETTER OF AUGUST 31, 2009; F6482 TURF AND IVM HERBICIDE – EPA REG. NO. 279-3350; SULFENTRAZONE AND METRIBUZIN A.I.'S

Your requested amended label request is approved with the following comments:

1. Add batch number to all non-refillable containers.

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2. On page 4, under "STORAGE AND DISPOSABLE", and under "Container Disposal, Metal or Plastic Containers", change the first sentence of the second paragraph to "Then offer for recycling if available, or reconditioning, or, if approved by state and local authorities, puncture and dispose of in a sanitary landfill or by other procedures."

3. On page 8, in Table 1, correct dangling s's in "ounces". Change "Other Use Precautions:" to "Use Restrictions For Turfgrasses", and move the seventh bullet starting with "Temporary turfgrass discoloration has been observed, etc." to a location under "Use Precautions for Turf Use".

4. On page 10, under Table 4, correct the typo for "DAIT" to "Days After Initial Treatment".

Please submit one copy of corrected label with changes stated above before shipment of product containing the amended label.

For further assistance with this matter, please contact Phil Errico at 703-305-6663/ errico.philip@epa.gov.

Regards

James A. Tompkins, PM 25 Herbicide Branch/Registration Division 7505P

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# F6482 Turf and IVM Herbicide

For Selective Weed Control in Railroad Rights-of-Way, Highway, Roadside, Pipeline and Utility Rightsof-Way, Industrial Areas, Fence Rows and Other Non-crop Sites, Turf Sites Including Residential and Institutional Lawns, Athletic Fields, Golf Course Fairways and Roughs,

#### EPA Reg. No. 279-3350

EPA Est. 279 -

Active Ingredient:	By Wt.
Sulfentrazone*	
Metribuzin**	27.00%
Other Ingredients	<u>55.00%</u>
-	100.0%
F6482 Turf and IVM Herbicide contains 0.45 pounds active ing 0.18 pounds sulfentrazone and 0.27 pounds metribuzin,	redient per pound:

\* N-[2,4 dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide

\*\* 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one

U.S. Patent No. xxxxxx

## KEEP OUT OF REACH OF CHILDREN DANGER

ACCEPTED with COMMENTS In EPA Letter Dated NOV 3 0 2009

Under the Federal Insecticide, Fundicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 279-3350



FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103

F6482 Turf and IVM Herbicide 08-27-09 Draft

	FIRST AID
IF INHALED	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF IN EYES	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF SWALLOWED	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Do not give any liquid to the person.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>

**HOTLINE NUMBER** 

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.

For Information Regarding the Use of this Product Call 1-800-321-1FMC(1362)

#### PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals) Danger

Corrosive. Causes irreversible eye damage. Wear protective eyewear (face shield, goggles). Harmful if inhaled, swallowed, or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, and shoes plus socks and Protective eyewear.

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

**User Safety Recommendations:** 

#### Users should:

- •Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- •Users should 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

This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

<u>Groundwater advisory</u>: This chemical is known to leach through soil into groundwater 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 groundwater contamination.

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Do not use on coarse soils classified as sand which have less than 1% organic matter.

<u>Surface water advisory:</u> F6482 Turf and IVM Herbicide can contaminate surface water through spray drift. Under some conditions, F6482 Turf and IVM Herbicide may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

## **DIRECTIONS FOR USE**

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

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

Except as described below for helicopters under "APPLICATION INSTRUCTIONS", do not apply by air.

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. These requirements on 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.

PPE required 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, is: Coveralls over long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material, and shoes plus socks.

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#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Re-entry Statement: Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until spray has dried.

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## STORAGE AND DISPOSAL

Do not contaminate water, food of feed by storage or disposal. **Pesticide Storage** 

Store product in original container only, away from other pesticides, fertilizer, food or feed.

Store in a cool, dry place and avoid excess heat,

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (800) 331-3148.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

#### **Pesticide Disposal**

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 Metal or Plastic Containers - Nonrefillable container. Do not reuse Metal of Plastic Containers - Nonretillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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.

Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers.

Returnable/Refillable Containers - 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 into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## APPLICATION INSTRUCTIONS SPRAY DRIFT CONTROL

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 to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the rotor.

2. 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 should be observed

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

#### AERIAL DRIFT REDUCTION **ADVISORY** INFORMATION

#### 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 sufficuent coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications

are made inmproperly, 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 recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher rate flows 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  $\frac{3}{4}$  of the rotor length may further reduce drift without reducing swath width.

#### APPLICATION HEIGHT

Applications should not be made 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 downward. 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 potentail (higher wind, smaller drops, etc.)

#### WIND

Drift potential is lowest between winds speeds of 2-10 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.

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#### **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**

Applications should not occur during a 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 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

The pesticide should only be applied 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).

#### Railroad Rights-of-Way

F6482 Turf and IVM Herbicide can be used to control many weeds and maintain bare ground on railroad rights-of-way, including railroad yards, railroad crossings and railroad bridge abutments.

#### Highway, Roadside, Pipeline and Utility Rights-of-Way.

F6482 Turf and IVM Herbicide can be used to control many weeds and maintain bare ground in highway, roadside, pipeline and utility rightsof-way, Such areas would include, but are not limited to, guard rails, road shoulders, electric utility substations, pipeline pumping stations,

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around electric transmission towers, around distribution line poles and in other areas where complete vegetation control is desired.

#### Industrial Areas, Fence Rows and Other Non-crop Sites

F6482 Turf and IVM Herbicide is controls weeds and maintains bare ground in industrial areas including production facilities, tank farms, storage areas, parking areas, lumber yards, airports, military installations, along fence rows, and in similar non-crop sites where complete vegetation control is needed.

#### Method and Rate of Application

For residual control of germinating weeds in non-crop land, apply this product as a broadcast treatment at 9.5 to 14.4 fluid ounces (0.138 to 0.689 pounds active ingredient) per acre by ground in a minimum of 10 gallons of spray solution per acre. Applications may be made by helicopter on railroad rights-of-way only.

# DO NOT apply F6482 Turf and IVM Herbicide to soils classified as sand with less than 1% Organic Matter.

Use labeled rates of burndown herbicides such as glyphosate, glyphosate - trimesium, diquat, 2,4-D, dicamba ,etc. as tank mixtures with F6482 Turf and IVM Herbicide. Use recommended adjuvants for the herbicide tank mix partner. For all products used in tank mixes, refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

#### Timing

For best results, apply F6482 Turf and IVM Herbicide alone or in combination with other herbicides for residual control of weeds in late summer, fall, or early spring to insure adequate moisture for soil activation.

#### Weeds Controlled

This product, when applied at 10 to 30 ounces per acre, will control the following weeds in non-cropland areas. Use the higher labeled rates to extend length of control. Use the higher rates on sites with fine soil textures and on sites with more than 2% organic matter.

| Weeds Controlled                |                         |  |
|---------------------------------|-------------------------|--|
| Beggarweed, Florida             | Desmodium tortuosum     |  |
| Carpetweed                      | Mollugo verticillata    |  |
| Chickweed, common               | Stellaria media         |  |
| Copperleaf, Hophornbeam         | Acalypha ostryifolia    |  |
| Crabgrass species               | Digitaria spp.          |  |
| Croton, tropic                  | Croton glandulosus      |  |
| Daisy, American                 | Coreopsis grandiflora   |  |
| Dayflower, common               | Commelina communis      |  |
| Dayflower, Virginia             | Commelina virginica     |  |
| Dock, curly                     | Rumex crispus           |  |
| Fixweed                         | Descurainia Sophia      |  |
| Galinsoga, hairy                | Galinsoga ciliata       |  |
| Groundcherry, clammy (seedling) | Physallis heterophylla  |  |
| Groundcherry, cutleaf           | Physalis angulata       |  |
| Jimsonweed                      | Datura stramonium       |  |
| Kochia                          | Kochia scoparia         |  |
| ALS/Triazene Resistant Kochia   | Kochia scoparia         |  |
| Lambsquarter, common            | Chenopodium album       |  |
| Lettuce, wild                   | Lactuca virosa          |  |
| Mallow, common                  | Malva neglecta          |  |
| Milkweed, honeyvine             | Ampelamus albidus       |  |
| Mexicanweed                     | Caperonia castanifolia  |  |
| Morningglory species            | Ipomoea spp.            |  |
| Mustard species                 | Brassica spp.           |  |
| Nightshade species              | Solanum spp.            |  |
| Nutsedge species                | Cyperus spp             |  |
| Palmer amaranth                 | Amaranthus palmeri      |  |
| Pigweed, smooth                 | Amaranthus hybridus     |  |
| Pigweed, redroot                | Amaranthus retroflexus  |  |
| Texasweed                       | Caperonia palustrus     |  |
| Thistle, Russian                | Salsola iberica         |  |
| Waterhemp, tall                 | Amaranthus tuberculatus |  |
| Waterhemp, common               | Amaranthus rudis        |  |
|                                 |                         |  |

## Turf Use Instructions

#### General Information

F6482 Turf and IVM Herbicide is a selective post emergence herbicide which controls annual grasses and broadleaf weeds in established turf areas including, but not limited to, residential and institutional lawns, athletic fields, golf course fairways and golf course roughs..

F6482 Turf and IVM Herbicide is formulated as a dry flowable containing 0.45 lbs of active ingredient per pound. The mode of action of F6482 Turf and IVM Herbicide involves uptake by both weed roots and shoots.

### Mixing and Application Instructions

General handling instructions

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial

or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

Operations that involve mixing, loading, rinsing or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well, are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rainwater that may fail on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self contained. The pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide exclude precipitation above shall be maintained at all times. The above specific minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirement.

Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

#### SPRAY TANK PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using this product. Follow the spray tank clean out procedures specified on the label of product previously applied before adding F6482 Turf and IVM Herbicide to the tank.

#### MIXING WITH WATER

For best results, fill spray tank with one fourth of the volume of clean water needed for the area to be treated. Start the agitation system and add F6482 Turf and IVM Herbicide to the tank. Make sure F6482 Turf and IVM Herbicide is thoroughly mixed before application or before adding another product to the spray tank.

#### USE OF SURFACTANTS

Temporary discoloration of some turf types may result from use of surfactants or adjuvants with F6482 Turf and IVM Herbicide. High temperatures and high relative humidity may increase the risk of temporary discoloration. Use of surfactants is not recommended.

#### TANK MIXTURES COMPATIBILITY

F6482 Turf and IVM Herbicide is believed to be compatible with most herbicides, fungicides, insecticides, growth regulators, liquid fertilizers and spray adjuvants commonly used in turf and ornamental plant management. However, when preparing a new tank mix conduct an appropriate compatibility test by mixing proportional amounts of all spray ingredients in a test vessel (jar) prior to tank mixing with other products. Shake the mixture vigorously and allow it to stand for five to ten minutes. Rapid precipitation of the ingredients and failure to resuspend when shaken indicates that the mixture is incompatible and should not be applied. Provided the jar test indicates the mixture to be compatible, prepare the tank mixture as follows: Fill the tank one fourth full with water. With the agitator operating, add the recommended amounts of ingredients using the following order: dry granules first, and liquid suspensions (flowables) second. As the agitation continues and the tank is filled with water add EC products third followed by the addition of water soluble products.

Read and observe mixing instructions of all tank mix partners. Also read each product's label for Directions for Use, Precautionary Statements and Restrictions and Limitations. The most restrictive labeling applies in all tank mixtures. No label dosage rate should be exceeded. Tank mixture recommendations are for use only in states where the companion products and application site are registered. In addition, certain states or geographical regions may have established dosage rate limitations. Consult your state Pesticide Control Agency for additional information regarding the maximum use rates.

Use F6482 Turf and IVM Herbicide spray mixture immediately after mixing. Do not store the mixture.

#### Ground Equipment

Power sprayers: Uniform and accurate spray coverage requires proper calibration and operation of spray equipment. The use of marker dyes or foams can improve application accuracy. Boom sprayers equipped with appropriate flat fan nozzles, tips and screens are ideal for broadcast applications. Power sprayers fitted with spray wand/gun may also be used for broadcast application after careful calibration by the applicator. Power sprayers fitted with spray wand/gun are suitable for spot treatments.

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Hand operated sprayers: Backpack and compression sprayers are appropriate for small turfgrass areas and spot treatments. Wands fitted with a flat fan nozzle tip should be held stationary at the proper height during application. A side to side or swinging arm motion can result in uneven coverage.

Apply this product in a sufficient volume of carrier solution to provide a uniform spray distribution. Spray volumes of 20 - 175 gallons per acre (0.5 to 4.0 gal/1,000 ft<sup>2</sup>) with spray pressures adjusted to 20 - 40 psi are appropriate. Apply the higher spray volumes for dense weed populations.

#### Sprayer Equipment Clean-Out

After spraying F6482 Turf and IVM Herbicide and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure:

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank with clean water to remove sediment and residues. In addition, thoroughly flush sprayer hoses, boom, and nozzles with clean water.

 Fill the tank 1/2 full with clean water, and add appropriate detergent (follow manufacturer's directions for use). Fill the tank to capacity and operate the sprayer for 15 minutes to flush hoses, boom, and nozzles.
 Repeat step 2 and operate sprayer for 5 minutes.

4. Drain the sprayer system. Rinse the tank with clean water and flush through the hoses, boom, and nozzles. Remove and clean spray tips and screens separately.

5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State and local regulations and guidelines.

Do not drain or flush equipment on or near desirable trees or plants. Do not contaminate any body of water including irrigation water that may be used on other plants.

#### Weed Control in Turfgrasses Use Precautions for Turf Use Turfgrass Safety

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This product may be used on Bermudagrass, Centipedegrass, and Zoysiagrass that are well established. Turfgrass injury could result from application of this product on listed turfgrasses that are not well established or has been weakened by stresses such as unfavorable weather conditions, disease, chemical or mechanical influences.

When applied as directed under the conditions described, the following established turfgrasses are tolerant to F6482 Turf and IVM Herbicide at the recommended use rates in a range from 0.169 to 0.844 lb a.i./acre (6 to 30 oz/acre or 0.138 to 0.689. oz./1,000 sq. ft).

#### Table 1. Tolerant grasses.

| Grass Type*   | Sin                  | Single Application                        |                        |  |
|---|----------------------|---|------------------------|--|
|   | Lb ai<br>per<br>Acre | ounce<br>s per<br>1000<br>ft <sup>2</sup> | ounce<br>s per<br>acre |  |
| Warm Season Grasses   |                      |   |                        |  |
| Bermudagrass ( <i>Cynodon dactylon)</i> & hybrids<br>Centipedegrass ( <i>Eremochloa ophuiroides</i> ) <sup>II</sup><br>Zoysiagrass ( <i>Zoysia japonica</i> ) <sup>II</sup> | 0.169-<br>0.844      | 0.138-<br>0.689                           | 6-30                   |  |

<sup>1</sup>F6482 Turf and IVM Herbicide application may cause temporary discoloration to exposed leaf surfaces on certain cultivars of centipede and zoysiagrass. Treated turfgrass will recover with new growth. Discolored leaf tissue will be removed with mowing. To reduce potential for discoloration, do not apply F6482 Turf and IVM Herbicide on turfgrass that is weakened by weather, mechanical, chemical, disease or other related stress. Maintain proper cultural practices such as proper mowing height, adequate moisture and fertility levels to promote healthy turf growth.

\*F6482 Turf and IVM Herbicide has demonstrated tolerance turfgrasses listed in Table 1. However, not all cultivars or varieties have been evaluated. Turfgrass managers desiring to treat newly released cultivars or varieties should first apply F6482 Turf and IVM Herbicide to a small area prior to treatment of larger areas.

#### **Other Use Precautions:**

Do not apply to golf course putting greens or tees or turf areas of closely mowed turf.

Do not use on turfgrasses other than those listed on this label.

Do not apply under conditions which allow spray to drift on to desirable plant adjacent to treated areas.

Do not apply with surfactants unless previous experience has demonstrated combinations with surfactant to be physically compatible and non-injurious to the grass type in question.

Do not graze or feed livestock forage cut from areas treated with F6488 Turf and IVM Herbicide.

Do not apply directly or within rooting zone of trees, landscape ornamentals or ornamental beds.

Temporary turfgrass discoloration has been observed when Primo has been either tank-mixed or applied within 7 days of a F6482 Turf and

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IVM Herbicide application. It is recommended that Primo applications be made 7 days prior to, or after F6488 Turf and IVM Herbicide application to reduce risk of turfgrass discoloration.

Unless specified in Table 4 for split application, this product can be applied only once per year.

Do not exceed the maximum yearly rate of 0.844 lbs ai/acre (or 30 oz./acre).

# POSTEMERGENCE CONTROL OF ANNUAL, BIENNIAL & PERENNIAL BROADLEAF WEEDS

F6488 Turf and IVM Herbicide will control or suppress the weeds listed in Table 2 when applied to newly emerged weeds. Apply F6482 Turf and IVM Herbicide at rates from 6 to 30. oz/acre (0.138 to 0.689 oz./1,000 sq. ft.). Do not exceed the application rate specified for the turfgrass species in Table 1. To broaden the weed spectrum and increase effectiveness for certain weeds listed in Table 2, F6482 Turf and IVM Herbicide may be tank mixed with other EPA registered postemergence herbicides. Control of emerged annual grass weeds may be improved by combining F6482 Turf and IVM Herbicide with MSMA or Drive®. Read the label recommendations of the tank mix partner to determine turfgrass species safety, use rate and application procedures. Follow all label restrictions, use directions and precautionary statements before using these tank mixtures. Read and follow the "TANK MIXTURES COMPATIBILITY" section of this label for instructions on how to determine the compatibility of tank mixtures.

# When used as directed F6482 Turf and IVM Herbicide will control or suppress the following weeds.

| lerbicide                                   |                             |
|---|-----------------------------|
| BROADLEAVES                                 | SCIENTIFIC NAMES            |
| Bedstraw, catchweed                         | (Galium aparine)            |
| Beggarweed, Florida                         | (Desmodium tortuosum)       |
| Bittercress                                 | (Cardamine spp.)            |
| Black medic                                 | (Medicago lupulína)         |
| Buttercups                                  | (Ranunculus spp.)           |
| Carolina geranium                           | (Geranium carolinianum)     |
| Carpetweed                                  | (Mollugo verticillata)      |
| Chickweed, common                           | (Stellaria media)           |
| Chickweed, mouse-ear                        | (Cerastium vulgatum)        |
| Cinquefoil                                  | (Potentilla spp.)           |
| Clover                                      | (Trifolium spp.)            |
| Copperleaf                                  | (Ascalypha spp.)            |
| Cudweed                                     | (Gnaphalium spp.)           |
| Dandelion                                   | (Taraxacum officinale)      |
| Dock, Curly                                 | (Rumex crispus)             |
| Dollarweed                                  | (Hydrocotyl umbellata)      |
| Eclipta                                     | (Eclipta prostrata)         |
| Evening primrose                            | (Oenothera biennis)         |
| Fiddleneck                                  | (Amsinckia spp.)            |
| Filaree                                     | (Erodium spp.)              |
| Galinsoga                                   | (Galinsoga ciliate)         |
| Goldenrod                                   | (Solidago spp.)             |
| Ground ivy                                  | (Glechoma hederacea)        |
| Groundsel, common                           | (Senecio vulgaris)          |
| Henbit                                      | (Lamium amplexicaule)       |
| Knawel                                      | (Scleranthus annuus)        |
| Knotweed, prostrate                         | (Polygonum aviculare)       |
| Kochia                                      | (Kochia scoparia)           |
| Lambsquarters, common                       | (Chenopodium album)         |
| Lawn burweed (spurweed)                     | (Soliva pterosperma)        |
| Lespedeza, common                           | (Lespedeza striata)         |
| Mallow, common                              | (Malva neglecta)            |
| Parsley piert                               | (Alchemilla arvensis)       |
| Pigweed, Redroot                            | (Amaranthus retroflexus)    |
| Pigweed, Smooth                             | (Amaranthus hybridus)       |
| Pigweed, Tumble                             | (Amaranthus albus)          |
| Pineapple weed                              | (Matricaria matricarioides) |
| Plantain, buckhorn                          | (Plantago lanceolata)       |
| Puncture weed                               | (Tribulus terrestris)       |
| Purslane, common                            | (Portulaca oleracea)        |
| Pusley, Florida                             | (Richardia scabra)          |
| Redweed                                     | (Melochia corchorifolia)    |
| Rocket, London                              | (Sisymbrium irio)           |
| Shaphard's purse                            |                             |
| Shepherd's purse<br>Smartweed, Pennsylvania | (Capsella bursa-pastoris)   |
|   | (Polygonum pensylvanicum)   |
| Sorrel, Red                                 | (Rumex acetosella)          |
| Speedwell                                   | (Veronica spp.)             |
| Spurge, (annuals)                           | (Euphorbia spp.)            |
| Spurge, prostrate                           | (Euphorbia humistrata)      |
| Spurge, spotted                             | (Euphorbia maculata)        |
| Star of Bethlehem                           | (Ornithogalum umbellatum)   |
| Velvetleaf                                  | (Abutilon theophrasti)      |

| Table 2. Weeds | Controlled or | Suppressed | by F6482 | Turf and IVM |
|----------------|---------------|------------|----------|--------------|
| Herbicide      |               | ••         | -        |              |

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| Violet, wild           | (Viola pratincola)   |
|------------------------|----------------------|
| Violet, Johnny-jump-up | (Viola rafeinesquii) |
| Wild garlic            | (Allium vineale)     |
| Wild onion             | (Allium canadense)   |
| Woodsorrel, creeping   | (Oxalis corniculata) |
| Woodsorrel, yellow     | (Oxalis stricta)     |

## POSTEMERGENCE CONTROL OF ANNUAL AND PERENNIAL SEDGES

F6482 Turf and IVM Herbicide will control or suppress sedges (Table 3) when applied at a rate of 6 to 30 oz/acre (0.138 to 0.689 oz./1,000 sq. ft.). Apply the highest rate consistent with the rate needed for turfgrass safety in Table 1. Rates lower than 16 oz/acre (0.367 oz/1,000 sq. ft.) will generally control sedges for up to 60 days. A rate of 16 oz/acre (0.367 oz/1,000 sq. ft.) will provide approximately 70% control for up to 60 days. Yellow nutsedge (*Cyperus esculentus*) is the mast succentible sedan encodes most susceptible sedge species.

Good spray coverage is needed for optimum control of sedges. Temporary discoloration of some turfgrass species may result from use of surfactant. Use of surfactants is not recommended.

| Table 3.  | Sedge | species | controlled | or | suppressed | by | F642 | Turf |
|-----------|-------|---------|------------|----|------------|----|------|------|
| and IVM I |       |         |            |    | ••         | •  |      |      |

| Common Name                   | SCIENTIFIC NAME        |  |
|-------------------------------|------------------------|--|
| Kyllinga, green               | (Kyllinga brevifolia)  |  |
| Kyllinga, false green         | (Kyllinga gracillima)  |  |
| Nutsedge, purple <sup>1</sup> | (Cyperus rotundus)     |  |
| Nutsedge, yellow              | (Cyperus esculentus)   |  |
| Sedge, globe                  | (Cyperus globulosus)   |  |
| Sedge, cylindric              | (Cyperus retrorsus)    |  |
| Sedge, Surinam                | (Cyperus surinamensis) |  |
| Sedge, Texas                  | (Cyperus polystachyos) |  |

1. PURPLE NUTSEDGE; For optimum control of purple nutsedge, split applications are recommended (Table 4). Apply 8-11 ounces per acre as an initial application followed by a second application when evidence of actively growing purple nutsedge is visible. Do not exceed the maximum rate per acre based on turfgrass variety listed in Table 1; Tolerant grases.

#### Table 4.

| Split /                                 | Application Rate Opt             | ions                                 |
|---|----------------------------------|--------------------------------------|
| Grass Type                              | Option 1<br>(ounces/acre)        | Option 2<br>(ounces/acre)            |
| Warm Season<br>Grasses (see Table<br>1) | 8 oz followed by<br>8 oz 35 DAIT | 11 oz followed by<br>8-11 oz 35 DAIT |

DAIT = Days AfterInitial Treatment Option might be needed for heavy purple nutsedge pressure

**POSTEMERGENCE CONTROL OF GRASSY WEEDS** F6482 Turf and IVM Herbicide will control or suppress specific annual grasses (Table 5) when applied at a rate of 6 to 30 oz/acre (0.138 to 0.689 oz./1,000 sq. ft.). Apply the highest rate consistent with the rate needed for turfgrass tolerance in Table 1. Rates lower than 16 oz/acre (0.367 oz/1,000 sq. ft.) will generally control grasses for up to 60 days. F6488 Turf and IVM Herbicide works best if applied when the annual grasses are grant (are tilge stage) and aptively graving. grasses are small (pre tiller stage) and actively growing.

Good spray coverage is needed for optimum control of grasses. Temporary discoloration of some turfgrass species may result from use of surfactant. Use of surfactants is not recommended.

#### Table 5

| Common Name      | Scientific Name    |
|------------------|--------------------|
| Annual Bluegrass | Poa Annua          |
| Crabgrass        | Digitaria sp.      |
| Dallisgrass      | Paspaium dilatatum |
| Goosegrass       | Eleusine indica    |
| Sandbur          | Cenchrus sp.       |

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