

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

April 17, 2020

Kevin Finnegan Registration Specialist FMC Global Specialty Solutions FMC Corporation 2929 Walnut Street Philadelphia, PA 19104

Subject: Registration Review Label Mitigation for Sulfentrazone

Product Name: F6482-2 Turf and IVM Herbicide

EPA Registration Number: 279-3412

Application Dates: 9/13/2017 Decision Numbers: 561728

Dear Mr. Finnegan:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Sulfentrazone Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Darius Stanton by phone at 703-347-0433, or via email at Stanton.darius@epa.gov.

Sincerely,

Linda Arrington, Branch Chief

Risk Management and Implementation Branch 4

Pesticide Re-Evaluation Division

Office of Pesticide Programs

Enclosure

SULFENTRAZONE	GROUP	14	HERBICIDE
METRIBUZIN	GROUP	5	HERBICIDE

{Sublabel A: Turf Uses}

# F6482 -2 **Turf and IVM** Herbicide

For Selective Weed Control in Turf Sites Including Residential and Institutional Lawns, Athletic Fields, Commercial Sod Farms, Golf Course Fairways and Roughs.

EPA Reg. No. 279-3412	EPA Est
Active Ingredient: Sulfentrazone[*] Metribuzin**. Other Ingredients. TOTAL:	27.00%
F6482 Turf and IVM Herbicide contains 0 pound: 0.18 pounds sulfentrazone and 0.	.45 pounds active ingredient per 27 pounds metribuzin,

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

## KEEP OUT OF REACH OF CHILDREN CAUTION

# ACCEPTED

04/17/2020

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under

EPA Reg. No. 279-3412



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

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

### PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals **CAUTION**

Causes moderate eye irritation. Harmful if inhaled, swallowed, or absorbed through the skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

### Personal Protective Equipment (PPE)

Applicators, mixers, loaders and other handlers must wear:

- Long-sleeves and long pants, Chemical Resistant gloves (such gloves have a thickness of 14 mL or greater and include glove types such as: Laminate, Butyl Rubber, Nitrile Rubber, Neoprene, Natural Rubber, Polyethylene, PVC, or Viton)
- Shoe's plus socks
- 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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### **User Safety Recommendations:**

Users should:

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

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

 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.

Groundwater advisory: 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.

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

Surface water advisory: 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**

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.

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 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 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.

### 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.

#### WEED RESISTANCE-MANAGEMENT

For resistance management, please note that F6482-2 Turf and IVM Herbicide contains both a Group 5/[Metribuzin] and a Group 14/ [Sulfentrazone] herbicide. Any weed population may contain plants naturally resistant to Group 5 and/or Group 14 herbicides. The resistant individuals may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of this product or other Group 5 and/or 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistanceprone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or pest control advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and that considers mechanical control methods, cultural (e.g., timing to favor the turf and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout area before herbicide application for weed identification and growth stage.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

Contact your local extension specialist or university researchers for additional pesticide resistance-management and/or integrated weed-management recommendations for specific types of turf and weed biotypes.

# Turf Use Instructions Product Information

F6482 Turf and IVM Herbicide is a selective post emergence herbicide which controls annual grasses and broadleaf weeds in established turf areas including residential and institutional lawns, athletic fields, commercial sod farms, 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.

The maximum single application rate for this product is 33.3 ounces per acre, which is equivalent to 0.37 lb ai sulfentrazone per acre and 0.56 lb ai metribuzin per acre. The maximum annual application rate for this product is 33.3 ounces per acre, which is

2 9/25/2019

equivalent to 0.37 lb ai sulfentrazone per acre and 0.56 lb ai metribuzin per acre.

## Mixing and Application Instructions

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 fall 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 sloped to facilitate material removal. An unroofed pad shall be sloped to facilitate material removal. An unroofed 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 container or application equipment on the pad. Containment capacities as described 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 delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

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. 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 managément. 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 re-suspend 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.

Tank mixes with contact burndown herbicides: when utilizing a contact burndown herbicide (eg. paraquat, glufosinate) combination with a sulfentrazone product, apply using nozzles that deliver a medium to very coarse droplet size as described in nozzle manufacturer's recommendations.

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. dosage rate should be exceeded. Tank No label 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 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**

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 treatments.

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 ft²) with spray pressures adjusted to 20 – 40 psi are appropriate. Apply the higher spray volumes for dense weed populations.

#### **Ground Boom Applications**

Ground applicators must use a minimum finished spray volume of 10 gallons per acre.

Do not apply when wind speeds exceed 10 miles per hours at the application site.

Do not apply during Temperature Inversions.

### **Boom-less Ground Applications**

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

#### **Handheld Technology Applications:**

Take precautions to minimize spray drift.

### SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-

SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### Importance of 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 Inversion section of this label).

#### **Controlling Droplet Size** Volume

Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

Ground applicators must use a minimum finished spray volume of 10 gallons per acre. When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.

#### Pressure

Use the lowest spray pressure recommended for the nozzle to produce the target spray volume.

#### **Spray Nozzle**

Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Boom Height-Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

#### Temperature and Humidity

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

#### **Temperature Inversions**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

#### **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, nontarget crops) is minimal (e.g, when wind is blowing away from the sensitive areas).

#### Off-Target Movement of F6482-2 Turf and IVM Herbicide

Drift of dilute spray mixtures containing F6842-2 Turf and IVM Herbicide must be prevented. Observation of the preceding environmental conditions, correct application equipment design, calibration and application practices will significantly diminish the risk of off-target spray drift. F6482-2 Turf and IVM Herbicide can cause significant symptomology by drift on to sensitive plants. This symptomology may manifest initially as discreet, localized spots where contacted by F6482-2 Turf and IVM Herbicide drift mixtures. Depending on concentration of the spray solution and droplets size (effectively determining the dosage of sulfentrazone and metribuzin) and also depending on the inherent sensitivity of the plants involved, these spots or lesions may or may not coalesce. These effects will usually not have lasting effects on plant growth but will likely reduce the value of affected fruit or foliage where grade or quality is associated with appearance. In severe drift instances with particularly sensitive plants, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of this product on to unintended plants. irrespective of severity, constitutes misapplication of this product. FMC accepts no responsibility or liability for potential turf effects that may result from such misapplication of this product.

#### 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.
- 2. 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.
- 3. 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 quidelines.

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**

This product may be used on seeded, sodded or sprigged Bermudagrass, Centipedegrass, and Zoysiagrass that is well established. First application of this product can be made following the second mowing providing that turfgrass has developed into a uniform stand with a good root system. Turfgrass injury could result from application of this product on listed turfgrasses that are not well established or have 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*	Single Application		
	Lb ai per Acre	ounces per 1000 ft <sup>2</sup>	ounces per acre
Warm Season Grasses			
Bermudagrass ( <i>Cynodon dactylon</i> )& hybrids Centipedegrass ( <i>Eremochloa ophuiroides</i> )¹ Zoysiagrass ( <i>Zoysia japonica</i> )¹	0.169- 0.844	0.138- 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.

#### **Sod Production:**

This product may be applied to established sod. Allow sod to establish a good root system, a uniform stand and to fill in the exposed edges. It is recommended that sod be established for at least three (3) months before an application of F6482 Turf and IVM Herbicide. Do not apply this product within three (3) months of harvest.

#### Other Use Precautions:

Do not apply by air.

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 F6482 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 MAXX® has been either tank-mixed or applied within 7 days of a F6482 Turf and IVM Herbicide application. It is recommended that Primo MAXX applications be made 7 days prior to, or after F6482 Turf and IVM Herbicide application to reduce risk of turfgrass discoloration.

# POSTEMERGENCE CONTROL OF ANNUAL, BIENNIAL & PERENNIAL BROADLEAF WEEDS

F6482 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 (0.0169 to 0.844 oz./1,000 sq. ft. or 0.169 to 0.844 lb ai per acre) 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.

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

BROADLEAVES	SCIENTIFIC NAMES
Bedstraw, catchweed	(Galium aparine)
Beggarweed, Florida	(Desmodium tortuosum)
Bittercress	(Cardamine spp.)
Black medic	(Medicago lupulina)
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)
Shepherd's purse	(Capsella bursa-pastoris)
Smartweed, Pennsylvania	(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)
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. or 0.169 to 0.844 lb ai per acre). 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. or 0.45 lb ai/A) will generally control sedges for up to 60 days. A rate of 16 oz/acre (0.367 oz/1,000 sq. ft. or 0.45 lb ai/A) will provide approximately 70% control for up to 60 days. Yellow nutsedge (*Cyperus esculentus*) is the 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 F6482 Turf and IVM Herbicide

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)

TPURPLE 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 Options		
Grass Type	Option 1 (ounces/acre)	Option 2 (ounces/acre)
Warm Season Grasses (see Table 1)	8 oz followed by 8 oz 35 DAIT	11 oz followed by 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. or 0.169 to 0.844 lb ai per acre). 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. or 0.45 lb ai/A) will generally control grasses for up to 60 days. F6482 Turf and IVM Herbicide works best if applied when the annual grasses are small (pre tiller stage) and actively growing.

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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
Rescuegrass	Bromus catharticus Vahl
Sandbur	Cenchrus sp.

#### 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 CHEMTREC (Transportation and Spills): (800) 424-9300.

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

**Container Disposal** 

Metal or Plastic Containers - Nonrefillable container. Do not reuse or refill this containers - Notherliable Container. Do not requivalent) 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 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 receap. Shake for 10 seconds Deut rinsate into applications. 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 container before infall disposar, entipty 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

## **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 or FMC or Seller. All such risks shall be assumed by Buyer and User, and 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 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 THE EXCLUSIVE LIABILITY OF FMC AND SELLER FMC 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.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

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{Sublabel B: IVM Uses}

# F6482 -2 **Turf and IVM** Herbicide

For Use in Railroad Highway, Roadside, Pipeline and Utility Rights-of-Way, Industrial Areas, and **Fence Rows** 

EPA Reg. No. 279-3412 **EPA Est. 279** 

Active Ingredient:	By Wt.
Sulfentrazone[*]	18.00%
Metribuzin**	27.00%
Other Ingredients	<u>55.00%</u>
TOTAL:	100.00%

F6482 Turf and IVM Herbicide contains 0.45 pounds active ingredient per pound: 0.18 pounds sulfentrazone and 0.27 pounds metribuzin, [\* N-[2,4 dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide]

## **KEEP OUT OF REACH OF CHILDREN CAUTION**



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

	FIRST AID		
IF INHALED	Move person to fresh air.		
	If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to- mouth, if possible.		
	<ul> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>		
IF ON SKIN	Take off contaminated clothing.		
OR 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 eye.		
	Call a poison control center or doctor for treatment advice.		
IF SWALLOWED	Call a poison control center or doctor immediately for treatment advice.		
	Do not give any liquid to the person.		
	Do not induce vomiting unless told to do so by the poison control center or doctor.		
	Do not give anything by mouth to an unconscious person.		
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 CAUTION**

Causes moderate eye irritation. Harmful if inhaled, swallowed, or absorbed through the skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

#### Personal Protective Equipment (PPE)

Applicators, mixers, loaders and other handlers must wear:

- Long-sleeves and long pants,
- Chemical Resistant gloves (such gloves have a thickness of 14 mL or greater and include glove types such as: Laminate, Butyl Rubber, Nitrile Rubber, Neoprene, Natural Rubber, Polyethylene, PVC, or Viton)
- Shoes plus socks 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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### **User Safety Recommendations:**

Users should:

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

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

 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.

Groundwater advisory: 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.

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

Surface water advisory: 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**

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.

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 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 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.

### 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.

# Mixing and Application Instructions 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 fall 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 sloped to facilitate material removal. An unroofed 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 container or application equipment on the pad. Containment capacities as described 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 requirements regarding wellhead setbacks and operational containment.

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.

#### 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. 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 re-suspend 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.

Tank mixes with contact burndown herbicides: when utilizing a contact burndown herbicide (eg. paraquat, glufosinate) in combination with a sulfentrazone product, apply using nozzles that deliver a medium to very coarse droplet size as described in nozzle manufacturer's recommendations.

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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 exceeded. should be Tank rate 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.

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 what states with a last rain locale up and 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 ft²) with spray pressures adjusted to 20 – 40 psi are appropriate. Apply the higher spray volumes for dense weed populations.

#### WEED RESISTANCE-MANAGEMENT

For resistance management, please note that F6482-2 Turf and IVM Herbicide contains both a Group 5/[Metribuzin] and a Group 14/ [Sulfentrazone] herbicide. Any weed population may contain plants naturally resistant to Group 5 and/or Group 14 herbicides. The resistant individuals may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of this product or other Group 5 and/or 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted: where information on resistance in target weed species is available, use the less resistanceprone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or pest control advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and that considers mechanical control methods, cultural (e.g., timing to favor the turf and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout area before herbicide application for weed identification and growth stage.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a

weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.

If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

Contact your local extension specialist or university researchers additional pesticide resistance-management and/or integrated weed-management recommendations for specific types of turf and weed biotypes.

#### **Ground Application**

Ground applicators must use a minimum finished spray volume of 10 gallons per acre.

When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.

#### **Aerial Application**

Aerial application is allowed only when environmental conditions prohibit ground application.

For aerial applications, the maximum release height must be 10 feet from the top of the application site, unless a greater application height is required for pilot safety.

When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.

#### **Boom-less Ground Applications**

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

### **Handheld Technology Applications:**

Take precautions to minimize spray drift.

### SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### Importance of 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 Inversion section of this label).

#### **Controlling Droplet Size**

#### Volume

Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Do not exceed the nozzle manufacturer's recommended pressures. Lower pressure produces larger droplet in many types of nozzles. Use the lowest spray pressure recommended for the nozzle to produce the target spray volume.

#### **Number of nozzles**

Use the minimum number of nozzles that provide uniform coverage

#### **Nozzle Orientation**

For aerial application, the recommended practice is to orient nozzles so that the spray is released backwards, parallel to the airstream. This orientation usually produces larger droplets as

compared to other nozzle orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

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 usually produce the largest droplets and the lowest drift potential in aerial applications.

#### **Boom Height**

Aerial applications should not be made at a height greater than 10 feet above the top of the target application site unless a greater height is required for aircraft safety. Making applications at the lowest height practical reduce exposure of spray droplet to evaporation and wind movement.

#### **Boom Length**

For some aerial 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 (by air)

Applications should not be made at a height greater than 10 feet above the top of the application site 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 movement.

#### **Swath Adjustment**

When applications are made with a crosswind toward sensitive areas, 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.). For ground applications, when applications are made with a crosswind towards sensitive areas, the application should leave a buffer to avoid off-site movement.

#### Wind

Drift potentials are lowest between wind speeds of 3 to 10 miles per hour. Applicators may spray only when wind speed is between 3 and 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applications in wind conditions outside of this range could increase the risk of off-target effects and should be avoided. Note that 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**

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 upwards 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, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

#### Off-Target Movement of F6482-2 Turf and IVM Herbicide

Drift of dilute spray mixtures containing F6482-2 Turf and IVM Herbicide must be prevented. Observation of the preceding environmental conditions, correct application equipment design, calibration and application practices will significantly diminish the risk of off-target spray drift. F6482-2 Turf and IVM Herbicide can cause significant symptomology by drift on to sensitive plants. This symptomology may manifest initially as discreet, localized spots where contacted by F6482-2 Turf and IVM Herbicide drift mixtures. Depending on concentration of the spray solution and droplets size (effectively determining the dosage of sulfentrazone) and also depending on the inherent sensitivity of the plants involved, these spots or lesions may or may not coalesce. These effects will usually not have lasting effects on plant growth but will likely reduce the value of affected fruit or foliage where grade or quality is associated with appearance. In severe drift instances with particularly sensitive plants, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of F6482-2 Turf and IVM Herbicide on to unintended plants, irrespective of severity, constitutes misapplication of this product. FMC accepts no responsibility or liability for potential turf effects that may result from such misapplication of F6482-2 Turf and IVM Herbicide.

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.
- 2. 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.
- 3. 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 auidelines.

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.

#### APPLICATION INSTRUCTIONS

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, roaded, pipeline and utility rights-of-way, including guard rails, road shoulders, electric utility substations, pipeline pumping stations, around electric transmission towers and around distribution line poles where complete vegetation control is desired.

#### **Industrial Areas and Fence Rows**

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 and along fence rows.

### **Method and Rate of Application**

For residual control of germinating weeds, apply this product as a broadcast treatment at 9.5 to 14.4 fluid ounces (0.290 to 0.450 Ib ai/A) 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. Aerial application is allowed only when environmental conditions prohibit ground application. When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.

The maximum single application rate for this product is 33.3 ounces per acre, which is equivalent to 0.37 lb ai sulfentrazone per acre and 0.56 lb ai metribuzin per acre. The maximum annual application rate for this product is 33.3 ounces per acre, which is equivalent to 0.37 lb ai sulfentrazone per acre and 0.56 lb ai metribuzin per acre.

# 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. 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	

#### 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 CHEMTREC (Transportation and Spills) (800) 424-9300.

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

Container Disposal
Metal or Plastic Containers - Nonrefillable 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, presuring at least one complete revolution for 30 seconds. 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 personal responsibility of the refilling the remaining personal responsibility. 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.

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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

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