

Metcel™ VMF

Herbicide

GROUP 2 HERBICIDE

Dry flowable

Active Ingredient

Metsulfuron methyl

Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-carbonyl]amino]sulfonyl]benzoate. 60%

Other Ingredients 40%

TOTAL 100%

EPA Reg. No. 352-439-85588

EPA Est. 352-IL-001

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

See side and back panel for additional Precautionary Statements.

**NET: 1 lb
Nonrefillable Container**

Agsurf™
Corporation



Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD 2012-2014 LIC. NO.



Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD 2015-2017 LIC. NO.

8690.1

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely effected from drift and run-off.

Refer to accompanying labeling for additional precautions and complete directions for use.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Notice to Buyer: Purchase of this material does not confer any rights under patents of countries outside of the United States.

Metcel™ VMF Herbicide

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further 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 further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-261-1410 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Sold by: Agsurf Corporation
1209 Orange Street
Wilmington, DE 19801
A01550048 (SL-1758 053012 02-29-12)

Metcel™ VMF

GROUP 2 HERBICIDE

Herbicide

Dry Flowable

Active Ingredient

Metsulfuron methyl

Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-carbonyl]amino]sulfonyl]benzoate

By Weight

60%

Other Ingredients

40%

TOTAL

100%

EPA Reg. No. 352-439-85588

KEEP OUT OF REACH OF CHILDREN CAUTION

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

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further 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 further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-261-1410 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Shoes plus socks.

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

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely effected from drift and run-off.

DIRECTIONS FOR USE

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

Metcel™ VMF herbicide must be used only in accordance with instructions on this label or in separately published Agsurf instructions.

Agsurf will not be responsible for losses or damages resulting from the use of this product in any manner not specified on this label. User assumes all risks associated with such non-specified use.

Do not apply more than 4 ounces of Metcel™ VMF herbicide per acre per year.

Do not use on food or feed crops except as specified by this label or supplemental labeling.

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 in your State responsible for pesticide regulation.

PRODUCT INFORMATION

Metcel™ VMF herbicide is a dispersible granule that is mixed in water and applied as a spray by ground or aerial application.

Metcel™ VMF herbicide is registered for the control of annual and perennial weeds and unwanted woody plants on private, public and military lands, on rights-of-way, industrial sites, non-crop areas, ditchbanks of dry drainage ditches, certain types of unimproved turf grass, and conifer and hardwood plantations, including grazed areas on these sites. Do not use on irrigation ditches.

Metcel™ VMF herbicide controls weeds and woody plants primarily by postemergent activity. Although Metcel™ VMF herbicide has preemergence activity, best results are generally obtained when Metcel™ VMF herbicide is applied to foliage after emergence or dormancy break. Generally, for the control of annual weeds, Metcel™ VMF herbicide provides the best results when applied to young, actively growing weeds. For the control of perennial weeds, applications made at the bud/bloom stage or while the target weeds are in the fall rosette stage may provide the best results. The use rate depends upon the weed species and size at the time of application.

The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment
- soil pH, soil moisture, and soil organic matter.

Metcel™ VMF herbicide may be applied on conifer and hardwood plantations, and non-crop sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittently flooded low lying sites, seasonally dry flood plains and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps and bogs after water has receded as well as seasonally dry flood deltas. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

BIOLOGICAL ACTIVITY

Metcel™ VMF herbicide is absorbed primarily through the foliage of plants, and by the roots to a lesser degree. Plant cell division is generally inhibited in sensitive plants within a few hours following uptake. Two to 4 weeks after application, leaf growth slows followed by discoloration and tissue death. The final effects on annual weeds are evident about 4 to 6 weeks after application. The ultimate affect on perennial weeds and woody plants occurs in the growing season following application.

Warm, moist conditions following treatment promote the activity of Metcel™ VMF herbicide, while cold, dry conditions may reduce or delay activity. Weeds and brush hardened off by cold weather or drought stress may not be controlled.

Weed and brush control may be reduced if rainfall occurs soon after application.

ADJUVANTS

The use of a surfactant is recommended to enhance the control of susceptible plants, except where noted. Apply at a minimum rate (concentration) of 1/4% volume/volume (1 quart per 100 gallons of spray solution), or at the manufacturer's recommended rate. Use only EPA approved surfactants containing at least 80% active ingredient. Certain types of surfactants, such as those incorporating acetic acid (i.e. LI- 700), may not be compatible with Metcel™ VMF herbicide and may result in decreased performance. Certain surfactants may not be suitable for use on desirable plants, such as turf and conifers, listed on this label. Consult the surfactant manufacturer's label for appropriate uses.

INVASIVE SPECIES MANAGEMENT

This product may be considered for use on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants. Effective EDRR systems address invasions by eradicating the invader where possible, and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is recommended, a Rapid Response needs to be taken to quickly contain, deny reproduction, and if possible eliminate the invader. Consult your appropriate state extension service, forest service, or regional multidisciplinary invasive species management coordination team to determine the appropriate Rapid Response.

RESISTANCE

Metcel™ VMF herbicide which contains the active ingredient metsulfuron methyl is a Group 2 herbicide based on the mode of action classification system of the Weed Science Society of America.

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

PREPARING FOR USE - SITE SPECIFIC CONSIDERATIONS

Understanding the risks associated with the application of Metcel™ VMF herbicide is essential to aid in preventing off-site injury to desirable vegetation and agricultural crops. The risk of off-site movement both during and after application may be affected by a number of site specific factors such as the nature, texture and stability of the soil, the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, drainage patterns, and other local physical and environmental conditions. A careful evaluation of the potential for off-site movement from the intended application site,

including movement of treated soil by wind or water erosion, must be made prior to using Metcel™ VMF herbicide. This evaluation is particularly critical where desirable vegetation or crops are grown on neighboring land for which the use of Metcel™ VMF herbicide is not labeled. If prevailing local conditions may be expected to result in off-site movement and cause damage to neighboring desirable vegetation or agricultural crops, do not apply Metcel™ VMF herbicide.

Before applying Metcel™ VMF herbicide the user must read and understand all label directions, precautions and restrictions completely, including these requirements for a site specific evaluation. If you do not understand any of the instructions or precautions on the label, or are unable to make a site specific evaluation yourself, consult your local agricultural dealer, cooperative extension service, land managers, professional consultants, or other qualified authorities familiar with the area to be treated.

TANK MIXES

Metcel™ VMF herbicide may be tank mixed with other herbicides registered for the use sites described in this label. Use only those tank mix partners which are labeled for the appropriate use site. When tank mixing, use the most restrictive label limitations for each of the products being used in the tank mix.

AGRICULTURAL USES

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 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
- Shoes plus socks

CONIFER PLANTATIONS

Application Information

Metcel™ VMF herbicide is registered for the control of many species of weeds and deciduous trees on sites where conifers are growing or are to be planted. Apply by ground equipment or by air (helicopter only). Refer to the "Weeds Controlled" and "Brush Species Controlled" for a listing of susceptible species.

Application Timing

Apply Metcel™ VMF herbicide after weeds have emerged or after undesirable hardwoods have broken winter dormancy and have reached the point of full leaf expansion.

Conifer Site Preparation

-Application Before Transplanting

After consulting the "Weeds Controlled" and "Brush Species Controlled" tables, apply the rates of Metcel™ VMF herbicide specified for the most difficult to control species on the site.

Southeast—Apply up to 4 ounces per acre for loblolly and slash pines. Transplant the following planting season.

Northeast and Lake States—Apply up to 2 ounces per acre for red pine. Transplant the following planting season. Apply up to 2 ounces per acre for black, white and Norway spruce. Transplant the following spring.

West—Apply up to 2 ounces per acre prior to planting Douglas Fir, Sitka Spruce, Western Red Cedar, Western Hemlock, Ponderosa Pine, and Grand Fir in the Coast Rangeland and western slope of the Cascades in Oregon and Washington. These conifer species listed can be planted anytime after application. Other conifer species can be planted providing the user has prior experience indicating acceptable tolerance to Metcel™ VMF herbicide soil residues.

Without prior experience, it is recommended that other species be planted on a small scale to determine selectivity before large-scale plantings are made as unacceptable injury may occur. Agsurf will not assume responsibility for injury to any conifer species not listed on this label.

Tank Mix Combinations—

For broader spectrum control, the following products may be used in combination with Metcel™ VMF herbicide.

Glyphosate (4 pound active per gallon)

Tank mix 1 to 2 ounces of Metcel™ VMF herbicide with 2 to 10 quarts of glyphosate per acre. Refer to the product container for a list of species controlled.

Imazapyr (4 pound active per gallon)

Tank mix 1 to 2 ounces of Metcel™ VMF herbicide with 10 to 24 fluid ounces of imazapyr per acre. Loblolly and slash pines may be transplanted the planting season following application. This combination controls ash, black gum, cherry, hawthorn, honeysuckle, hophornbeam, persimmon, oaks (red, white and water), sassafras, sweetgum, Vaccinium species, and suppresses blackberry, dogwood, elms, myrtle dahoon, hickories, and red maple.

Glyphosate (4 pound active per gallon) + Imazapyr (4 pound active per gallon)

Tank mix 1/2 to 1 ounce of Metcel™ VMF herbicide with 16 to 64 fluid ounces of glyphosate and 10 to 12 fluid ounces of imazapyr per acre. Slash and loblolly pines may be transplanted the planting season following application. This combination controls cherry, dogwood, elms, oaks (red and water), persimmon, sassafras, sweetgum and suppresses hickory.

“Velpar” L or “Velpar” DF

Tank mix 1 to 2 ounces of Metcel™ VMF herbicide per acre with “Velpar” L or “Velpar” DF at the rates specified on the container for various soil textures. Loblolly and slash pines may be transplanted the planting season following application. Refer to the product container for a list of species controlled.

“Oust” Extra

Tank mix 1/2 to 1 1/2 ounces of Metcel™ VMF herbicide with 2 to 3 ounces of “Oust” Extra per acre for herbaceous weed control. Refer to the product container and the “Weeds Controlled” section of this label for a listing of the weeds controlled. Loblolly and slash pines may be transplanted the planting season following application. Tank mix 2 ounces of Metcel™ VMF herbicide with 3 ounces of “Oust” Extra per acre for herbaceous weed control and early spring suppression of bull thistle and Canada thistle in the Coast Rangeland and western slope of the Cascade Mountains. Douglas fir may be transplanted at least 90 days following application.

Release-Hardwood Control and Suppression

Metcel™ VMF herbicide may be used for application over the top of established slash and loblolly pine to control the species listed in “Weeds Controlled” and “Brush Species Controlled” section of this label. Apply 1 to 4 ounces per acre to control the species indicated, including kudzu.

Tank Mix Combinations—

For broader spectrum control the following products may be used in combination with Metcel™ VMF herbicide.

Imazapyr (4 pound active per gallon)

Tank mix 1 to 2 ounces of Metcel™ VMF herbicide with 8 to 16 fluid ounces of imazapyr per acre for application to loblolly pine. Refer to the imazapyr label regarding the use of surfactants and the appropriate application timing with respect to the age and development stage of the pines. This combination controls ash, black gum, cherry, hawthorn, honeysuckle, hophornbeam, oaks (red, white and water), sassafras, sweetgum, Vaccinium species, and suppresses blackberry, dogwood, elms, myrtle dahoon, hickories, persimmon, and red maple.

“Velpar” L or “Velpar” DF

Tank mix 1 to 2 ounces of Metcel™ VMF herbicide with “Velpar” L or “Velpar” DF at the rates specified on the container for various soil textures. This combination may be applied to loblolly and slash pines.

Release-Herbaceous Weed Control

Metcel™ VMF herbicide may be applied to transplanted loblolly and slash pine for the control of herbaceous competition. Consult the “Weeds Controlled” for a listing of the susceptible species and application rates. Best results are obtained when Metcel™ VMF herbicide is applied just before weed emergence until shortly after weed emergence.

Tank Mix Combinations—

For broader spectrum control the following products may be used in combination with Metcel™ VMF herbicide.

Imazapyr (4 pound active per gallon)

Tank mix 1/2 to 1 ounce of Metcel™ VMF herbicide with 4 fluid ounces of imazapyr per acre. The tank mix may be used on loblolly pine.

“Velpar” L or “Velpar” DF

Tank mix 1/2 to 1 ounce of Metcel™ VMF herbicide with “Velpar” L or “Velpar” DF at the rates specified on the container for various soil textures. This combination may be applied to loblolly and slash pines.

Release - Directed Spray in Conifers

Western US

To release conifers from competing brush species, such as, blackberry, salmonberry, snowberry, thimbleberry and wild roses, mix 2 to 4 ounces of Metcel™ VMF herbicide per 100 gallons of spray solution. Direct spray onto the foliage of competing brush species using a knapsack or backpack sprayer. For best results, apply any time after the brush species have reached full leaf stage but before autumn coloration. For best results at application, the majority of the brush must be less than six feet in height to help ensure adequate spray coverage. Thorough coverage of the target foliage is necessary to optimize results. Care should be taken to direct the Metcel™ VMF herbicide spray solution away from the conifer foliage.

NOTE:

Metcel™ VMF herbicide may cause temporary yellowing and/or growth suppression when the spray solution contacts conifer foliage. The use of a surfactant with Metcel™ VMF herbicide may improve brush control results. When using a surfactant with Metcel™ VMF herbicide, extra precaution must be taken to avoid contact with conifer foliage. Excessive drift onto conifers may result in severe injury.

IMPORTANT PRECAUTIONS—CONIFER PLANTATIONS ONLY

- Applications of Metcel™ VMF herbicide made to conifers that are suffering from loss of vigor caused by insects, diseases, drought, winter damage, animal damage, excessive soil moisture, planting shock, or other stresses may injure or kill the trees.
- Applications of Metcel™ VMF herbicide made for herbaceous release must only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- Do not apply Metcel™ VMF herbicide to conifers grown as ornamentals.
- Metcel™ VMF herbicide applications may result in damage and mortality to other species of conifers when they are present on sites with those listed in the preceding specifications for conifer plantations.

HARDWOOD PLANTATIONS

Application Information

Metcel™ VMF herbicide may be used at rates of up to 2 ounces per acre for the control of many weed species on sites where yellow poplar is growing or is to be planted, and on sites where red alder is to be planted. Apply by ground equipment or by air (helicopter only). Refer to the "Weeds Controlled" sections of this label for a listing of susceptible species.

Application Timing

Metcel™ VMF herbicide may be applied as a site preparation treatment prior to planting red alder or yellow poplar. As a prior to planting site preparation treatment for red alder, Metcel™ VMF herbicide may be tank mixed with other herbicides labeled for this use.

Metcel™ VMF herbicide may also be applied over-the-top of planted yellow poplar seedlings after the soil has settled around the root system, but before the seedlings have broken dormancy (prior to bud break).

Release-Herbaceous Weed Control

Metcel™ VMF herbicide may be applied to yellow poplar for the control of herbaceous competition. Consult the "Weeds Controlled" for a listing of the susceptible species and specified application rates. Best results are obtained when Metcel™ VMF herbicide is applied just before weed emergence until shortly after weed emergence.

Tank Mix Combinations—

Tank mix 1/2 ounce of Metcel™ VMF herbicide with 4 to 6 pints of “Velpar” L as directed on the package label for "RELEASE-HERBACEOUS WEED CONTROL" in pine plantations in the eastern U.S. Follow the “Velpar” L label directions regarding altering the application rate by soil texture.

IMPORTANT PRECAUTIONS—HARDWOOD PLANTATIONS ONLY

- Application of “Velpar” L and Metcel™ VMF herbicide made to yellow poplar that are suffering from loss of vigor caused by insects, disease, drought, winter damage, animal damage, excessive soil moisture, planting shock or other stresses may injure or kill the seedlings.
- Applications of Metcel™ VMF herbicide made for release must only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- The use of surfactant is not recommended for applications made over the tops of trees.
- Careful consideration must be given by an experienced and knowledgeable forester to match the requirements of yellow poplar and/or red alder to the conditions of the site. Treatment of yellow poplar and/or red alder planted on a site inadequate to meet its requirements may injure or kill the seedlings.

NON-AGRICULTURAL USES

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. Do not enter or allow others to enter the treated area until sprays have dried.

Non-crop industrial weed control and selective weed control in turf (industrial, unimproved only) are not within the scope of the Worker Protection Standard.

NON-CROP SITES

Application Information

Metcel™ VMF herbicide is registered for weed control on private, public and military lands as follows: Uncultivated nonagricultural areas (including airports, highway, railroad and utility rights-of-way, sewage disposal areas); uncultivated agricultural areas - non-crop producing (including farmyards, fuel storage areas, fence rows, soil bank land and barrier strips); industrial sites - outdoor (including lumberyards, pipeline and tank farms) including grazed areas on these sites. It may also be used for the control of certain noxious and troublesome weeds.

Consult the "Weeds Controlled" and "Brush Species Controlled" tables to determine the appropriate application rate.

Metcel™ VMF herbicide may be applied in tank mixture with other herbicides labeled for use on non-crop sites. Fully read the labels and follow all directions and restrictions on each label.

Applications may be made by ground or air. Use a sufficient volume of water to ensure thorough coverage of the target vegetation with the application equipment being used.

NATIVE GRASSES

Metcel™ VMF herbicide is registered for weed control and suppression in the establishment and maintenance of native grasses. It may be used where blue grama, bluestems (big, little, plains, sand, ww spar) bromegrasses (meadow), buffalograss, green sprangletop, indiagrass, kleingrass, lovegrasses (atherstone, sand, weeping, wilman), orchardgrass, sideoats grama, switchgrass (blackwell), wheatgrass (bluebunch, intermediate, pubescent, Siberian, slender, streamband, tall, thickspike, western), and Russian wildrye are established. It may also be applied over these species in the seedling stage, except for orchardgrass and Russian wildrye.

When used as directed, there are no grazing or haying restrictions for use rates of 1 2/3 ounce per acre or less. At use rates greater than 1 2/3 ounce per acre and up to 3 1/3 ounce per acre, forage grasses may be cut for hay, fodder or green forage and fed to livestock, including lactating animals, 3 days after treatment.

Rotation Intervals for Overseeding and Renovation

Location	Crop or Grass Species	Maximum Metcel™ VMF herbicide Rate (oz per A)	Minimum Rotation Interval (months)
AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV	Alfalfa, red clover, white clover, sweet clover, bermudagrass, bluegrass, ryegrass, tall fescue	1/10 to 3/10	4
	Wheat (except durum)	1/10 to 3/10	1
	Durum, barley, oat	1/10 to 3/10	10
ALL STATES NOT INCLUDED ABOVE	Red clover, white clover, and sweet clover	1/10 to 2/10	12
	Bermudagrass, bluegrass, ryegrass	1/10 to 2/10	6
	Tall Fescue	1/10 to 2/10	18
	Wheat (except durum)	1/10 to 2/10	1
	Durum, barley, oat	1/10 to 2/10	10

(continued)

Rotation Intervals for Overseeding and Renovation *(continued)*

Location	Crop or Grass Species	Maximum Metcel™ VMF herbicide Rate (oz per A)	Minimum Rotation Interval (months)
ALL AREAS WITH SOIL PH OF 7.5 OR LESS	Russian wildrye	1/10 to 1/2	1
	Green needlegrass, switchgrass, sheep fescue	1/10 to 1	1
	Meadow brome, smooth brome, alta fescue, red fescue, meadow foxtail, orchardgrass, Russian wildrye, timothy	1/10 to 1	2
ALL AREAS WITH SOIL PH OF 7.9 OR LESS	Alkali sacaton, mountain brome, blue grama thickspike wheatgrass	1/10 to 1	1
	Sideoats grama, switchgrass	1/10 to 1/2	2
	Western wheatgrass	1/10 to 1	2
	Sideoats grama, switchgrass, big bluestem	1/10 to 1	3

Application Information

Apply Metcel™ VMF herbicide at the rate of 1/10 ounce per acre for the control and suppression* of bur buttercup (testiculate), common purslane, common sunflower*, cutleaf eveningprimrose*, flixweed*, lambsquarters* (common and slimleaf), maretail*, pigweed (redroot and tumble), snow speedwell, tansymustard* and tumble mustard (Jim Hill mustard).

* Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. Degree of suppression will vary with the size of weed and environmental conditions following treatment.

Application Timing

For established grasses, apply when weeds are in the seedling stage.

For grasses in the seedling stage, apply preplant or preemergence where the soil (seed bed) has been cultivated.

IMPORTANT PRECAUTIONS—NATIVE GRASSES

• Grass species or varieties may differ in their response to various herbicides. If no information is available, limit the initial use of Metcel™ VMF herbicide to a small area. Components in a grass seed mixture will vary in tolerance to Metcel™ VMF herbicide, so the final stand may not reflect the seed ratio.

- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after Metcel™ VMF herbicide application, temporary discoloration and/or grass injury may occur. Injury may result when Metcel™ VMF herbicide is applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soils, disease, or insect damage. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.

GRASS REPLANT INTERVALS

Following an application of Metcel™ VMF herbicide to non-crop areas, the treated sites may be replanted with various species of grasses at the intervals listed below.

For soils with a pH of 7.5 or less, observe the following replant intervals:

Species	Rate (ounces per acre)	Replant Interval (months)
Brome, Meadow	1/2—1	2
	1—2	3
Brome, Smooth	1/2—1	2
	1—2	4
Fescue, Alta	1/2—1	2
	1—2	4
Fescue, Red	1/2—1	2
	1—2	4
Fescue, Sheep	1/2—1	1
	1—2	4
Foxtail, Meadow	1/2—1	2
	1—2	4
Green Needlegrass	1/2—2	1
Orchardgrass	1/2—1	2
	1—2	4
Russian wildrye	1/2—1	1
	1	2
	2	3
Switchgrass	1/2—1	1
	1—2	3
Timothy	1/2—1	2
	1—2	4
Wheatgrass, Western	1/2—1	2
	1—2	3

For soils with a pH of 7.5 or greater observe the following replant intervals:

Species	Rate (ounces per acre)	Replant Interval (months)
Alkali Sacaton	1/2—1 1—2	1 3
Bluestem, Big	1/2—2	3
Brome, Mountain	1/2—1 1—2	1 2
Grama, Blue	1/2—2	1
Grama, Sideoats	1/2 >1/2	2 >3
Switchgrass	1/2 >1/2	2 >3
Wheatgrass, Thickspike	1/2—2	1
Wheatgrass, Western	1—2 1/2—1	2 3

The specified intervals are for applications made in the Spring to early Summer. Because Metcel™ VMF herbicide degradation is slowed by cold or frozen soils, applications made in the late Summer or Fall should consider the intervals as beginning in the Spring following treatment.

Testing has indicated that there is considerable variation in response among the species of grasses when seeded into areas treated with Metcel™ VMF herbicide. If species other than those listed above are to be planted into areas treated with Metcel™ VMF herbicide, a field bioassay must be performed, or previous experience may be used, to determine the feasibility of replanting treated sites.

ADDITIONAL GRASS INFORMATION

APPLICATION INFORMATION FOR GRASS ESTABLISHMENT

Metcel™ VMF herbicide may be used for the control or suppression of broadleaf weeds to aid in the establishment of the following perennial native or improved grasses:

Blue Grama
Bluestems -
big
little
plains
sand
W W spar
Buffalograss

Green sprangletop
Kleingrass
Lovegrasses -
atherstone
sand
weeping
wilman
Orchardgrass

Sideoats grama
Switchgrass –
blackwell
Wheatgrasses –
bluebunch
crested
intermediate
pubescent

Siberian
slender
steambank
tall
thickspike
western
Wildrye grass –
Russian

Maximize potential for grass establishment by consulting with the Natural Resource and Conservation Service of other government agencies or local experts concerning planting techniques and other cultural practices.

Performance from Metcel™ VMF herbicide may not always be satisfactory due to the inability of newly planted grass stands to sufficiently compete with weeds, and the severity of weed pressure in new grass stands.

An additional herbicide application or mowing may be needed.

Use Rates and Application Timing for Grass Establishment Preplant (prior to planting) or Preemergence (after planting but before grass emergence)

Do not use more than 1/10 ounce per acre of Metcel™ VMF herbicide for grass establishment.

Apply Metcel™ VMF herbicide at 1/10 ounce per acre on all labeled grasses except orchardgrass and Russian wildrye grass. Do not apply Metcel™ VMF herbicide preplant or preemergence to orchardgrass and Russian wildrye grass as severe crop injury may result.

Early postemergence to new plantings

Apply Metcel™ VMF herbicide at 1/10 ounce per acre, plus a non-ionic surfactant at the rate of 2 to 4 pints per 100 gallons of spray solution on all labeled grasses anytime after grass emergence.

Do not use a spray adjuvant other than non-ionic surfactant.

Because grass species differ in time of emergence, apply only after the majority of grasses are in the 3 to 4 leaf stage.

Postemergence to stands with 1 – 5 leaf grasses planted the previous season

Apply Metcel™ VMF herbicide at 1/10 ounce per acre plus a non-ionic surfactant at the rate of 2 to 4 pints per 100 gallons of spray solution, on all labeled grasses when the majority of the grasses have one or more leaves.

Do not use a spray adjuvant other than non-ionic surfactant.

APPLICATION INFORMATION FOR ESTABLISHED GRASSES

Use Rates for Established Grasses

Apply up to 1 ounce Metcel™ VMF herbicide per acre as a broadcast application to established grasses. For spot applications, use 1 ounce per 100 gallons of water. Do not apply more than 1 2/3 ounces of Metcel™ VMF herbicide per acre per year.

Refer to the Weeds Controlled section of this label for a listing of the weeds controlled by Metcel™ VMF herbicide and the appropriate use rate to obtain control.

Application Timing – Established Grasses

Metcel™ VMF herbicide may be applied to established native grasses such as bluestems and grama, and on other established grasses such as bermudagrass, bluegrass, orchardgrass, bromegrass, fescue and timothy that were planted the previous growing season (or earlier) and are fully tillered, unless otherwise directed on this label. Specific application timing information on several of these grass species follows:

Grass	Minimum time from Grass establishment Metcel™ VMF herbicide application
Bermudagrass	2 months
Bluegrass, bromegrass, Orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue and Timothy Precautions

When used on fescue and timothy grasses, Metcel™ VMF herbicide may cause reduced first cutting yields due to temporary stunting, leaf yellowing, or seed head suppression. To help minimize these symptoms, follow the information below:

- Use the lowest labeled rate for the target weeds
- Tank mix 2,4-D with Metcel™ VMF herbicide applications
- Apply Metcel™ VMF herbicide at no more than 4/10 ounce per acre
- Make applications when the grasses are 5 to 6 inches tall in late summer or fall
- Use only a non-ionic surfactant at 1/2 pint per 100 gallons of spray solution
- When liquid nitrogen is the spray carrier, do not include the surfactant

Other Grasses:

Application of Metcel™ VMF herbicide to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of forage. Varieties and species of forage grasses differ in their tolerance to herbicides. When using Metcel™ VMF herbicide on a particular grass for the first time, limit use to a small area. In no injury occurs throughout the season, larger acreage may be treated the following season. Broadleaf forage species, such as alfalfa and clover, are highly sensitive to Metcel™ VMF herbicide and will be severely stunted or injured by Metcel™ VMF herbicide.

CROP ROTATION

Before using Metcel™ VMF herbicide, carefully consider your crop rotation plans and options.

Minimum Rotational Intervals

Minimum rotation intervals* are determined by the rate of breakdown of Metcel™ VMF herbicide applied. Metcel™ VMF herbicide breakdown in the soil is affected by soil pH, presence of soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture increase Metcel™ VMF herbicide breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow Metcel™ VMF herbicide breakdown.

Of these 3 factors, only soil pH remains relatively constant. Soil temperature, and to a greater extent, soil moisture, can vary significantly from year to year and from area to area. For this reason, monitor soil temperature and soil moisture on a regular basis when considering crop rotations.

* The minimum rotation interval represents the period of time from the last application to the anticipated date of the next planting.

Soil pH Limitations

Metcel™ VMF herbicide must not be used on soils having a pH above 7.9, as extended soil residual activity could extend crop rotation intervals beyond normal. Under certain conditions, Metcel™ VMF herbicide could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of Metcel™ VMF herbicide.

Checking Soil pH

Before using Metcel™ VMF herbicide, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0" to 4" samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil sampling procedures.

BIOASSAY

A field bioassay must be completed before rotating to any crop or grass species/variety not listed in the Rotation Intervals Table, or if the soil pH is not in the specified range, or if the use rate applied is not specified in the table.

To conduct a field bioassay, grow test strips of the crop(s) or grass(es) you plan to grow the following year in fields previously treated with Metcel™ VMF herbicide. Crop or grass response to the bioassay will indicate whether or not to rotate to the crop(s) or grass(es) grown in the test strips.

If a field bioassay is planned, check with your local Agricultural dealer or Agsurf representative for information detailing the field bioassay procedure.

IMPORTANT PRECAUTIONS

- Grass species or varieties may differ in their response to various herbicides. If no information is available, limit the initial use of Metcel™ VMF herbicide to a small area.
- Components in a grass seed mixture will vary in tolerance to Metcel™ VMF herbicide so the final stand may not reflect the seed ratio.
- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after Metcel™ VMF herbicide application, temporary discoloration and/or grass injury may occur. Metcel™ VMF herbicide applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soils, disease, or insect damage can result in grass injury. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.
- Applications of Metcel™ VMF herbicide to lands undersown with legumes may cause injury to the legumes. Legumes in a seeding mixture may be severely injured or killed following an application of Metcel™ VMF herbicide.
- The control of weeds in wheel track areas may be reduced if ground applications are made when dry, dusty field conditions exist. The addition of 2,4-D or MCPA should improve weed control under these conditions.

WEEDS CONTROLLED

1/3 to 1/2 ounce per acre

Annual sowthistle
Aster
Bahigrass
Beebalm
Bittercress
Bitter sneezeweed
Blackeyed-susan
Blue mustard
Bur buttercup
Chicory
Clover
Cocklebur
Common chickweed

Common groundsel
Common purslane
Common yarrow
Conical catchfly
Corn cockle
Cow cockle
Crown vetch
Dandelion
Dogfennel
False chamomile
Fiddleneck tarweed
Field pennycress
Flixweed

Goldenrod
Lambsquarters
Marestail/horseweed****
Maximillion sunflower
Miners lettuce
Pennsylvania smartweed
Plains coreopsis
Plantain
Redroot pigweed
Redstem filaree
Rough fleabane
Shepherd's purse
Silky crazyweed (locoweed)

Smallseed falseflax
Smooth pigweed
Sweet clover
Tansymustard
Treacle mustard
Tumble mustard
Wild carrot
Wild garlic
Wild lettuce
Wild mustard
Wooly croton
Wood sorrel
Yankeweed

1/2 to 1 ounce per acre

Blackberry
Black henbane
Broom snakeweed*
Buckhorn plantain
Bull thistle
Common crupina
Common sunflower

Curly dock
Dewberry
Dyer's woad
Garlic mustard
Gorse
Halogeton
Henbit

Honeysuckle
Multiflora rose and other
 wild roses
Musk thistle***
Oxeye daisy
Plumeless thistle
Prostrate knotweed

Rosering gaillardia
Seaside arrowgrass
Sericea lespedeza
Tansy ragwort
Teasel
Wild caraway

1 to 2 ounces per acre

Common mullein
Common tansy
Field bindweed**
Greasewood
Gumweed
Houndstongue

Lupine
Old world climbing fern
 (Lygodium)
Perennial pepperweed
Poison hemlock
Purple loosestrife

Purple scabious
Scotch thistle
Scouringrush
Salsify
Snowberry
St. Johnswort

Sulphur cinquefoil
Western salsify
Whitetop (hoary cress)
Wild Iris

1 1/2 to 2 ounces per acre

Canada thistle**
Dalmation toadflax**

Dunecap larkspur
Russian knapweed**

Tall larkspur
Wild parsnip

Yellow toadflax**

2 ounces per acre

Onionweed

3 to 4 ounces per acre

Kudzu

* Apply fall through spring.

** Suppression, which is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. Apply as a full coverage spray for best performance.

*** Certain biotypes of musk thistle are more sensitive to Metcel™ VMF herbicide and may be controlled with rates of 1/4 to 1/2 ounce per acre. Treatments of Metcel™ VMF herbicide may be applied from rosette through bloom stages of development.

**** Certain biotypes of maretail/horsetail are less sensitive to Metcel™ VMF herbicide and may be controlled by tank mixes with herbicides with a different mode of action.

Problem Weed Control

For broader spectrum control and for use on certain biotypes of broadleaf weeds which may be resistant to Metcel™ VMF herbicide and herbicides with the same mode of action, the following tank mixes may be used.

Dicamba + 2,4-D

Weed	Rate of Metcel™ VMF herbicide	Rate of dicamba (fluid ounces/acre)	Rate of 2,4-D (fluid ounces/acre)
Kochia control	1/2	8	16
Spotted knapweed control	1/2	8	16
Rush skeletonweed suppression	1	8	16

INDUSTRIAL TURFGRASS UNIMPROVED ONLY

Application Information

Metcel™ VMF herbicide is registered for selective weed control in unimproved industrial turfgrass where certain grasses are well established and desired as ground cover. Metcel™ VMF herbicide may also be used for the control of certain noxious and troublesome weeds in turfgrass.

In addition to conventional spray equipment, Metcel™ VMF herbicide may also be applied with invert emulsion equipment. When using an invert emulsion, mix the prescribed rate of Metcel™ VMF herbicide in the water phase.

Consult the "Weeds Controlled" table to determine which weeds will be controlled by the following application rates:

Turfgrass Type	Rate of Metcel™ VMF herbicide (ounces/acre)
Fescue and Bluegrass	1/4 to 1/2
Crested Wheatgrass and Smooth Brome	1/4 to 1
Bermudagrass	1/4 to 2

Application Timing

Applications may be made at anytime of the year, except when the soil is frozen.

When a spring application is made on fescue or bluegrass, a second application may be made during the summer after full seedhead maturation.

Growth Suppression and Seedhead Inhibition

(Chemical Mowing)

Application Information

Metcel™ VMF herbicide may be used for growth suppression and seedhead inhibition in well established fescue and bluegrass turfgrass at the use rate of 1/4 to 1/2 ounce per acre.

Tank Mix Combination

Metcel™ VMF herbicide may be tank mixed with "Embark" for improved performance in the regulation of growth and seedhead suppression. Tank mix 1/4 to 1/2 ounce of Metcel™ VMF herbicide with 1/8 to 1/4 pint of "Embark".

Application Timing

Application may be made after at least 2 to 3 inches of new growth has emerged until the appearance of the seed stalk.

IMPORTANT PRECAUTIONS—INDUSTRIAL TURFGRASS ONLY

- An application of Metcel™ VMF herbicide may cause temporary discoloration (chlorosis) or stunting of the turfgrasses. Use the lower specified rates for minimum discoloration or stunting.
- With fescue and bluegrass, sequential applications made during the same or consecutive growth periods (i.e. spring and fall) may result in excessive injury to turfgrass.
- Excessive injury may result when Metcel™ VMF herbicide is applied to turfgrass that is under stress from drought, insects, disease, cold temperatures (winter injury) or poor fertility.
- Metcel™ VMF herbicide is not recommended for use on bahiagrass.

BRUSH CONTROL

Application Information

Metcel™ VMF herbicide is registered for the control of undesirable brush growing in non-crop areas including grazed areas on these sites. Applications may be made by air, high volume ground application, low volume ground application and ultra-low volume ground application. Except as noted for multiflora rose, Metcel™ VMF herbicide must be applied as a spray to the foliage.

The application volume required will vary with the height and density of the brush and the application equipment used. Generally, aerial applications will require 15 to 25 gallons of water per acre; high volume ground application will require 100 to 400 gallons of water per acre; low volume ground application will require 20 to 50 gallons of water per acre; and ultra-low volume ground application will require 10 to 20 gallons of water per acre. Regardless of the application volume and equipment used, thorough coverage of the foliage, particularly the terminal growing points, is necessary to optimize results.

BRUSH SPECIES CONTROLLED

Species	High Volume Rate (ounces/100 gallon)	Broadcast Rate (ounces/acre)
Ash	1—2	1—3
Aspen	1—2	1—3
Black locust	1—2	1—3
Blackberry	1—2	1—3
Camelthorn	1—2	1—3
Cherry	1—2	1—3
Cottonwood	1—2	2—3
Eastern red cedar	1—2	2—3
Elder	1—2	2—3
Elm	1—2	1—3
Firs	3	1—2
Hawthorn	1—2	1—3
Honeysuckle	1—2	1/2—1
Mulberry	1—2	2—3
Multiflora rose	1—2	1—3
Muscadine (wild grape)	1—2	2—3
Oaks	1—2	1—3
Ocean spray (<i>Holodiscus</i>)	1—2	2—3
Osage orange	1—2	2—3
Red maple	1—2	2—3
Salmonberry	1/2—1	1—3
Snowberry	1/2—1	1—3
Spruce (black and white)	3	2—3
Thimbleberry	1/2—1	1—3

(continued)

BRUSH SPECIES CONTROLLED (continued)

Species	High Volume Rate (ounces/100 gallon)	Broadcast Rate (ounces/acre)
Tree of heaven (<i>Ailanthus</i>)	1—2	1—2
Wild roses	1/2—1	1—3
Willow	1/2—1	1—3
Yellow poplar	1/2—1	1—3

For low volume and ultra-low volume ground applications, mix 4 to 8 ounces of Metcel™ VMF herbicide per 100 gallons of spray solution.

Application Timing

Make a foliar application of the specified rate of Metcel™ VMF herbicide during the period from full leaf expansion in the spring until the development of full fall coloration on deciduous species to be controlled. Coniferous species may be treated at anytime during the growing season.

Spot Treatment

Metcel™ VMF herbicide may be used for the control of many species of weeds including noxious/invasive weeds in certain established grasses growing on non-crop areas.

Refer to the "Weeds Controlled" section for a listing of susceptible weed species and the application rate per acre per the target weed.

Or, mix one gram of Metcel™ VMF herbicide per one gallon of water along with a surfactant. Spray to the point of wetting the entire surface of the target weeds, approximately 40 gallons of solution per acre.

Tank Mix Combinations—

Metcel™ VMF herbicide may be tank mixed with any product labeled for non-crop brush control at the application rates specified on the companion product's label for the pests specified on the product's companion label. Read and follow the label instructions of both products when tank mixing. Follow the most restrictive limitations of any of the product labels being tank mixed.

Low Rate Applications

Imazapyr (2 pound active per gallon)

Combine 1 to 2 ounces of Metcel™ VMF herbicide with 1 to 4 pints of imazapyr herbicide per acre and apply as a broadcast spray. For aerial applications use a minimum of 15 gallons per acre spray volume. In addition to species listed above controlled by Metcel™ VMF herbicide, this combination controls black gum, hophornbeam, sassafras, sweetgum, *Vaccinium* species, dogwood, myrtle dahoon, hickories, and persimmon.

Picloram (2 pound active per gallon) + Imazapyr (2 pound active per gallon)

Combine 1 to 1 1/2 ounce of Metcel™ VMF herbicide with 2 to 8 fluid ounces of imazapyr and 1 to 2 pints of picloram per 100 gallons of water. Apply as a high volume spray. This tank mix controls cherry, elms, box elder, maples, hackberry, redbud, ash, oaks (including shingle oak), black locust and sassafras.

*Picloram is a restricted use pesticide.

Spotgun Basal Soil Treatment

For control of multiflora rose, prepare a spray suspension of Metcel™ VMF herbicide by mixing 1 ounce per gallon of water. Mix vigorously until the Metcel™ VMF herbicide is dispersed and agitate periodically while applying the spray suspension.

Apply the spray preparation with an exact delivery handgun applicator. Apply at the rate of 4 milliliters for each 2 feet of rose canopy diameter. Direct the treatment to the soil within 2 feet of the stem union. When treating large plants and more than one delivery is required, make applications on opposite sides of the plant.

For best results, make applications from early spring to summer.

IMPORTANT PRECAUTIONS—NON-CROP BRUSH ONLY

- When using tank mixtures of Metcel™ VMF herbicide with companion herbicides, read and follow all use instructions, application rates, warnings and precautions appearing on the labels. Follow the most restrictive label instructions for each of the herbicides used.

SPRAY EQUIPMENT

Low rates of Metcel™ VMF herbicide can kill or severely injure most crops. Following a Metcel™ VMF herbicide application, the use of spray equipment to apply other pesticides to crops on which Metcel™ VMF herbicide is not registered may result in their damage. The most effective way to reduce this crop damage potential is to use dedicated mixing and application equipment.

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of Metcel™ VMF herbicide.
3. Continue agitation until the Metcel™ VMF herbicide is fully dispersed, at least 5 minutes.
4. Once the Metcel™ VMF herbicide is fully dispersed, maintain agitation and continue filling tank with water. Metcel™ VMF herbicide must be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the necessary volume of nonionic surfactant. Always add surfactant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Metcel™ VMF herbicide spray preparations are stable if they are pH neutral or alkaline and stored at or below 100° F.
8. If Metcel™ VMF herbicide and a tank mix partner are to be applied in multiple loads, pre-slurry the Metcel™ VMF herbicide in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the Metcel™ VMF herbicide.

PRODUCT PRECAUTIONS

- When used as directed, there is no grazing or haying restriction for use rates of 1 2/3 ounce per acre or less. At use rates greater than 1 2/3 ounce per acre and up to 3 1/3 ounce per acre, forage grasses may be cut for hay, fodder or green forage and fed to livestock, including lactating animals, 3 days after treatment.
- Injury to or loss of desirable trees or other plants may result if spray equipment is drained or flushed on or near these trees or plants, or on areas where their roots may extend, or in locations where the product may be washed or moved into contact with their roots.

- Treatment of powdery, dry soil or light, sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops when soil particles are moved by wind or water. Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to Metcel™ VMF herbicide may injure or kill most crops. Injury may be more severe when the crops are irrigated. Do not apply Metcel™ VMF herbicide when these conditions are identified and powdery, dry soil or light or sandy soils are known to be prevalent in the area being treated.
- Applications made where runoff water flows onto agricultural land may injure crops. Applications made during periods of intense rainfall, to soils saturated with water, to surfaces paved with materials such as asphalt or concrete, or to soils through which rainfall will not readily penetrate may result in runoff and movement of Metcel™ VMF herbicide.
- Do not treat frozen or snow covered soil.
- Leave treated soil undisturbed to reduce the potential for Metcel™ VMF herbicide movement by soil erosion due to wind or water.

PRODUCT RESTRICTIONS

- Do not use on lawns, walks, driveways, tennis courts or similar areas.
- Do not apply through any type of irrigation system.
- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.
- Do not use this product in California.

SPRAYER CLEANUP

Spray equipment must be cleaned before Metcel™ VMF herbicide is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the six steps outlined below.

When multiple loads of Metcel™ VMF herbicide are applied, it is recommended that at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits that can accumulate in the application equipment.

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal of household ammonia (contains 3% active minimum) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. Dispose of the rinsate on a labeled site or at an approved waste disposal facility. If a commercial cleaner is used follow the commercial cleaner directions for rinsate disposal.

Notes:

1. Mixing chlorine bleach with ammonia can cause dangerous gases to form. Clean spray equipment outdoors.
2. Use steam cleaning or other commercial cleaners to facilitate the removal of any caked pesticide deposits.
3. When Metcel™ VMF herbicide is tank mixed with other pesticides, all cleanout procedures for each product must be examined and the most rigorous procedure must be followed.
4. In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products must be followed as per the individual product labels.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

Controlling Droplet Size - General Techniques

- **Nozzle Type** - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- **Flow Rate/Orifice Size** - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

Controlling Droplet Size - Aircraft

- **Nozzle Type** - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles** - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum

- **Nozzle Orientation** - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- **Pressure** - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT

- **Boom Length (aircraft)** - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- **Application Height (aircraft)** - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- **Application Height (ground)** - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature 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. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

STORAGE AND DISPOSAL

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

Pesticide Storage: Store product in original container only. Store in a cool, dry place.

Pesticide Disposal: Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling:

Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other

STORAGE AND DISPOSAL *(continued)*

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. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners: Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Fiber Drums With Liners: Refillable container (fiber drum only). *Refilling Fiber Drum:* Refill this fiber drum with Metcel™ VMF herbicide containing metsulfuron methyl only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. *Disposing of Fiber Drum and/or Liner:* Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

(continued)

STORAGE AND DISPOSAL *(continued)*

All Other Refillable Containers: Refillable container. *Refilling Container:* Refill this container with Metcel™ VMF herbicide containing metsulfuron methyl only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact Agsurf at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact Agsurf at the number below for instructions. *Disposing of Container:* Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact Agsurf at 1-888-261-1410, day or night.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

Metcel™ is a trademark of Agsurf Corporation

"Velpar" and "Oust" are registered trademarks of E.I. duPont de Nemours & Company.

"Embark" is a registered trademark of PBI Gordon Corporation.

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This 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.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Agsurf. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants. **WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.**

Agsurf warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, AGSURF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL AGSURF OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF AGSURF OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND 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 AGSURF OR SELLER, THE REPLACEMENT OF THE PRODUCT.

To the extent consistent with applicable law that allows such requirement, Agsurf or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify Agsurf or an Agsurf Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise or be barred from any remedy.

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

Sold by Agsurf Corporation

© 2009-2012 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801

Product information: www.agsurf.com

All rights reserved.

NOTES

Metcel™ VMF

Herbicide

GROUP 2 HERBICIDE

Dry flowable

Active Ingredient *By Weight*

Metsulfuron methyl
Methyl 2-[[[(4-methoxy-
6-methyl-1,3,5-triazin-2-yl)
amino]-carbonyl]amino]
sulfonyl]benzoate. 60%
Other Ingredients. 40%
TOTAL 100%

EPA Reg. No. 352-439-85588

EPA Est. 352-IL-001

**KEEP OUT OF
REACH OF CHILDREN**

CAUTION

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

See side and back panel for additional Precautionary Statements.

**NET: 1 lb
Nonrefillable Container**

Agsurf™
Corporation

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely effected from drift and run-off.

Refer to accompanying labeling for additional precautions and complete directions for use.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Notice to Buyer: Purchase of this material does not confer any rights under patents of countries outside of the United States.

Metcel™ VMF

 Herbicide

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further 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 further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-261-1410 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Sold by: Agsurf Corporation
1209 Orange Street
Wilmington, DE 19801
A01550048 (SL-1758 053012 02-29-12)

OPEN HERE



SUPPLEMENTAL LABELING

LICENSED

LICENSED

LICENSED

PERIOD 2009-2011 LIC. NO.

PERIOD 2012-2014 LIC. NO.

PERIOD 2015-2017 LIC. NO.

Metcel™ VMF Herbicide

EPA Reg. No. 352-439-85588

8690.1

FOR USE ON PASTURE AND RANGELAND

DIRECTIONS FOR USE

Metcel™ VMF Herbicide is recommended for the control of broadleaf weeds, brush and several woody vine species in forage grasses growing in pasture and rangeland.

Metcel™ VMF Herbicide may be tank mixed with other pesticides labeled for use in pasture and rangeland. Read and follow the labels on all products used in the tank mix. Observe the most restrictive precautions on each of the product's labels.

Application of Metcel™ VMF Herbicide to pasture and rangeland may be made by ground or air. Use a sufficient volume of water to ensure thorough coverage of the targeted weeds with the equipment being used. In Idaho, Oregon and Washington use a minimum application volume of 3 gallons of spray solution per acre.

APPLICATION INFORMATION FOR GRASS ESTABLISHMENT IN PASTURE AND RANGELAND

Metcel™ VMF Herbicide is recommended for the control or suppression of broadleaf weeds to aid in the establishment of the following perennial native or improved grasses planted in pasture and rangeland:

- | | | |
|-------------------|----------------|-----------------|
| Blue Grama | Lovegrasses - | crested |
| Bluestems - | Atherstone | intermediate |
| Big | Sand | pubescent |
| Little | Weeping | Siberian |
| Plains | Wilman | slender |
| Sand | Orchardgrass | steambank |
| W W spar | Sideoats grama | tall |
| Buffalograss | Switchgrass - | thickspike |
| Green sprangletop | Blackwell | western |
| Kleingrass | Wheatgrasses - | Wildrye grass - |
| | bluebunch | Russian |

Sold by Agsurf Corporation

© 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801

Product information: www.agsurf.com

All rights reserved.

Maximize potential for grass establishment by consulting with the Natural Resource and Conservation Service of other government agencies or local experts concerning planting techniques and other cultural practices.

Performance from Metcel™ VMF Herbicide may not always be satisfactory due to the inability of newly planted grass stands to sufficiently compete with weeds, and the severity of weed pressure in new grass stands.

An additional herbicide application or mowing may be needed.

Use Rates and Application Timing for Grass Establishment in pasture and rangeland Preplant (prior to planting) or Preemergence (after planting but before grass emergence)

Do not use more than 1/10 ounce/acre of Metcel™ VMF Herbicide for grass establishment in pasture and rangeland.

Apply Metcel™ VMF Herbicide at 1/10 ounce/acre on all labeled grasses except orchardgrass and Russian wildrye grass. Do not apply Metcel™ VMF Herbicide preplant or preemergence to orchardgrass and Russian wildrye grass as severe crop injury may result.

Early postemergence to new plantings

Apply Metcel™ VMF Herbicide at 1/10 ounce/acre, plus a non-ionic surfactant at the rate of 2 to 4 pints/100 gallons of spray solution on all labeled grasses anytime after grass emergence.

Do not use a spray adjuvant other than non-ionic surfactant. Because grass species differ in time of emergence, apply only after the majority of grasses are in the 3 to 4 leaf stage.

Postemergence to stands with 1 – 5 leaf grasses planted the previous season

Apply Metcel™ VMF Herbicide at 1/10 ounce/acre plus a non-ionic surfactant at the rate of 2 to 4 pints/100 gallons of spray solution, on all labeled grasses when the majority of the grasses have one or more leaves.

Do not use a spray adjuvant other than non-ionic surfactant.

**APPLICATION INFORMATION FOR ESTABLISHED GRASSES
IN PASTURE AND RANGELAND**

Use Rates for Established Grasses in Pasture and Rangeland

Apply up to 1 ounce Metcel™ VMF Herbicide per acre as a broadcast application to established grasses in pasture and rangeland. For spot applications, use 1 ounce per 100 gallons of water. Do not apply more than 1 2/3 ounces of Metcel™ VMF Herbicide per acre per year.

Refer to the Weeds Controlled section of the section 3 label for a listing of the weeds controlled by Metcel™ VMF Herbicide and the appropriate use rate to obtain control.

Sold by Agsurf Corporation
© 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801
Product information: www.agsurf.com
All rights reserved.

Application Timing – Established Grasses in Pasture and Rangeland

Metcel™ VMF Herbicide may be applied to established native grasses such as bluestems and grama, and on other established grasses such as bermudagrass, bluegrass, orchardgrass, bromegrass, fescue and timothy that were planted the previous growing season (or earlier) and are fully tillered, unless otherwise directed on this label. Specific application timing information on several of these grass species follows:

<u>Grass</u>	<u>Minimum time from Grass establishment Metcel™ VMF Herbicide application</u>
Bermudagrass	2 months
Bluegrass, bromegrass, Orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue Precautions:

Note that Metcel™ VMF Herbicide may temporarily stunt tall fescue, cause it to turn yellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions:

- Do not use more than 4/10 ounce/acre of Metcel™ VMF Herbicide
- Tank mix Metcel™ VMF Herbicide with 2,4-D
- Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at 1/2 to 1 pint per 100 gallons of spray solution
- Make application later in the spring after the new growth is 5 to 6 inches tall, or in the fall
- Do not use surfactant when liquid nitrogen is used as a carrier
- Do not use a spray adjuvant other than non-ionic surfactant

The first cutting yields may be reduced due to seedhead suppression resulting from treatment with Metcel™ VMF Herbicide.

Timothy Precautions:

Timothy should be at least 6 inches tall at application and be actively growing. Applications of Metcel™ VMF Herbicide to timothy under any other conditions may cause crop yellowing and/or stunting. To minimize these symptoms, take the following precautions:

- Do not use more than 4/10 ounce/acre Metcel™ VMF Herbicide
- Tank mix Metcel™ VMF Herbicide with 2,4-D
- Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at 1/2 pint per 100 gallons of spray solution (1/16%)
- Make applications in the late summer or fall
- Do not use surfactant when liquid nitrogen is used as a carrier
- Do not use spray adjuvant other than non-ionic surfactant

Application of Metcel™ VMF Herbicide to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of forage.

Sold by Agsurf Corporation
© 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801
Product information: www.agsurf.com
All rights reserved.

Other Pasture and Rangeland Grasses

Varieties and species of forage grasses differ in their tolerance to herbicides. When using Metcel™ VMF Herbicide on a particular grass for the first time, limit use to a small area. In no injury occurs throughout the season, larger acreage may be treated the following season.

Broadleaf forage species, such as alfalfa and clover, are highly sensitive to Metcel™ VMF Herbicide and will be severely stunted or injured by Metcel™ VMF Herbicide.

SPOT TREATMENTS

Metcel™ VMF Herbicide is recommended for use as spot treatment to control noxious and troublesome weeds on pasture, rangeland, non-crop areas, such as, roadsides and industrial sites including government and private lands.

Application Information

Metcel™ VMF Herbicide is recommended to control many species of weeds, including noxious weeds, in certain established grasses growing on non-crop areas and forage grasses growing on pasture and rangeland. Refer to the "Weeds Controlled" section of the package label or supplemental labeling for a listing of susceptible weed species. If the sprayer is calibrated, consult the package label or other supplemental labeling to select the application rate per acre of Metcel™ VMF Herbicide appropriate for the target weeds. Or mix one gram of Metcel™ VMF Herbicide per one gallon of water along with a suitable surfactant. Spray to the point of wetting the entire surface of the target weeds, approximately 40 gallons of solution per acre. When applied in this manner there is no grazing restrictions following the use of Metcel™ VMF Herbicide. Applications may be made at anytime of the year, except when the soil is frozen.

CROP ROTATION

Before using Metcel™ VMF Herbicide, carefully consider your crop rotation plans and options. For rotational flexibility, do not treat all of your pasture, rangeland or CRP acres at the same time.

Minimum Rotational Intervals

Minimum rotation intervals* are determined by the rate of breakdown of Metcel™ VMF Herbicide applied. Metcel™ VMF Herbicide breakdown in the soil is affected by soil pH, presence of soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture increase Metcel™ VMF Herbicide breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow Metcel™ VMF Herbicide breakdown.

Of these 3 factors, only soil pH remains relatively constant. Soil temperature, and to a greater extent, soil moisture, can vary significantly from year to year and from area to area. For this reason, soil temperatures and soil moisture should be monitored regularly when considering crop rotations.

* The minimum rotation interval represents the period of time from the last application to the anticipated date of the next planting.

Sold by Agsurf Corporation
© 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801
Product information: www.agsurf.com
All rights reserved.

Location	Crop or Grass Species	Maximum Metcel™ VMF Herbicide Rate on Pasture (oz per A)	Minimum Rotation Interval (months)
AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV	Alfalfa, red clover, white clover, sweet clover, bermudagrass, bluegrass, ryegrass, tall fescue	1/10 to 3/10	4
	Wheat (except durum)	1/10 to 3/10	1
	Durum, barley, oat	1/10 to 3/10	10
ALL STATES NOT INCLUDED ABOVE	Red clover, white clover, and sweet clover	1/10 to 2/10	12
	Bermudagrass, bluegrass, ryegrass	1/10 to 2/10	6
	Tall fescue	1/10 to 2/10	18
	Wheat (except durum)	1/10 to 2/10	1
	Durum, barley, oat	1/10 to 2/10	10
ALL AREAS WITH SOIL pH of 7.5 OR LESS	Russian wildrye	1/10 to 1/2	1
	Green needlegrass, switchgrass, sheep fescue	1/10 to 1	1
	Meadow brome, smooth brome, alta fescue, red fescue, meadow foxtail, orchardgrass, Russian wildrye, timothy	1/10 to 1	2
ALL AREAS WITH SOIL pH of 7.9 OR LESS	Alkali sacaton, mountain brome, blue grama, thickspike wheatgrass	1/10 to 1	1
	Sideoats grama, switchgrass	1/10 to 1/2	2
	Western wheatgrass	1/10 to 1	2
	Sideoats grama, switchgrass, big bluestem	1/10 to 1	3

Soil pH Limitations

Metcel™ VMF Herbicide should not be used on soils having a pH above 7.9, as extended soil residual activity could extend crop rotation intervals beyond normal. Under certain conditions, Metcel™ VMF Herbicide could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of Metcel™ VMF Herbicide.

Checking Soil pH

Before using Metcel™ VMF Herbicide, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0" to 4" samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil sampling procedures.

BIOASSAY

A field bioassay must be completed before rotating to any crop or grass species/variety not listed in the Rotation Intervals Table, or if the soil pH is not in the specified range, or if the use rate applied is not specified in the table.

To conduct a field bioassay, grow test strips of the crop(s) or grass(es) you plan to grow the following year in fields previously treated with Metcel™ VMF Herbicide. Crop or grass response to the bioassay will indicate whether or not to rotate to the crop(s) or grass(es) grown in the test strips.

If a field bioassay is planned, check with your local Agricultural dealer or Agsurf representative for information detailing the field bioassay procedure.

Sold by Agsurf Corporation
 © 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801
 Product information: www.agsurf.com
 All rights reserved.

GRAZING/HAYING

When used as directed, there is no grazing or haying restriction for use rates of 1 2/3 ounces per acre and less.

Coveralls, shoes plus socks must be worn if cutting within 4 hours of treatment.

IMPORTANT PRECAUTIONS

- Do not apply more than 1 2/3 ounces of Metcel™ VMF Herbicide per acre per year on pasture or rangeland.
- Grass species or varieties may differ in their response to various herbicides. Agsurf recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of Metcel™ VMF Herbicide to a small area. Components in a grass seed mixture will vary in tolerance to Metcel™ VMF Herbicide so the final stand may not reflect the seed ratio.
- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after Metcel™ VMF Herbicide application, temporary discoloration and/or grass injury may occur. Metcel™ VMF Herbicide should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soils, disease, or insect damage as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.
- Applications of Metcel™ VMF Herbicide to pasture and rangeland undersown with legumes may cause injury to the legumes. Legumes in a seeding mixture may be severely injured or killed following an application of Metcel™ VMF Herbicide.
- Applications made to some established grasses may cause temporary stunting, yellowing or seedhead suppression (i.e. fescue, timothy).
- Applications made to newly established grasses less than 2 years from seeding may result in injury or loss.
- Do not apply to forage grasses known to be sensitive to Metcel™ VMF Herbicide such as ryegrass (Italian and perennial), bahia or Garrison's creeping foxtail.
- Broadleaf forage species, such as alfalfa and clover, are highly sensitive to Metcel™ VMF Herbicide and will be severely injured or killed.
- The control of weeds in wheel track areas may be reduced if ground applications are made when dry, dusty field conditions exist. The addition of 2,4-D or MCPA should improve weed control under these conditions.
- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.
- Do not use this product in California.

Sold by Agsurf Corporation
© 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801
Product information: www.agsurf.com
All rights reserved.

IMPORTANT NOTICE BEFORE BUYING OR USING THE AGSURF PRODUCT COVERED BY THIS LABEL, READ THIS LABEL AND THE LABELS FOR ALL PRODUCTS REFERENCED IN THIS LABEL, IN THEIR ENTIRETY. FOLLOW ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS.

This label contains supplemental instructions for use of the referenced Agsurf product. Follow these instructions carefully. This label must be in the possession of the user at the time of application.

Read the Limitation of Warranty and Liability on the Section 3 Federal product label before buying or using THIS product. If terms are not acceptable, return the unopened package at once to Seller for full refund of purchase price paid. Otherwise, use by Buyer or any other User constitutes acceptance of the terms of the Limitation of Warranty and Liability on the Section 3 Federal product label.

R-1438 031609 11-08-07

Sold by Agsurf Corporation
© 2009 Agsurf Corporation, 1209 Orange Street, Wilmington, Delaware, 19801
Product information: www.agsurf.com
All rights reserved.