

72167-11

08/05/2004

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

AUG 5 2004

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Mr. Michael Heckman
Nations Ag II, LLC
4680 Monticello Avenue 18i-174
Williamsburg, VA 23188

Dear Mr. Heckman::

Subject: Nations AG II Sulfometuron Methyl
EPA Registration No. 72167-11
Application Dated June 3, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable, provided you make the following changes before you release the product for shipment.

1. On page 4, under Resistance, the statement "Do not allow weed escapes to go to seed." must be revised to read as an advisory statement such as "Weed Escapes should not be allowed to go to seed."
2. Phrases such as "other industrial sites" on page 15 and "other noncrop sites" on page 16, are no longer permitted to appear on Agency approved labels. These types of statements must be deleted from the label and replaced with a list of specific noncrop or industrial sites.

Submit two (2) copies of your final printed labeling incorporating the above changes before you release the product for shipment. Amended labeling will supercede all previously accepted ones. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins for
James A Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

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ACCEPTED
with COMMENTS
In EPA Letter Dated
AUG - 5 2004

Under the Federal Insecticide
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under FIFRA Reg. No.
72167-11

Nations Ag II Sulfometuron Methyl 75

ACTIVE INGREDIENT:	
Sulfometuron methyl: (Methyl 2-[[[(4,6-dimethyl-2-pyrimidinyl)amino]- -carbonyl]amino]sulfonyl]benzoate)	75.0%
INERT INGREDIENTS:	25.0%
TOTAL:	100.0%

EPA Reg. No. 72167-11

EPA Est. No. 37429-GA-01

KEEP OUT OF REACH OF CHILDREN CAUTION

First Aid

- If in Eyes:**
- * Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.
 - * Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
 - * Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

For medical emergencies involving this product, call 1-800-308-5391.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye injury (irritation). Avoid contact with eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

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

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

Engineering Control Statement: When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in Worker Protection Standard

(WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

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

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 by cleaning of equipment or disposal of equipment washwaters.

GENERAL INFORMATION

Sulfometuron Methyl 75 is a dispersible granule that is mixed in water and applied as a spray. Sulfometuron Methyl 75 is non-corrosive, nonflammable, nonvolatile, and does not freeze. Sulfometuron Methyl 75 controls many annual and perennial grasses and broadleaf weeds in forestry and noncrop sites.

Sulfometuron Methyl 75 may be used for general weed control on terrestrial noncrop sites and for selective weed control in certain types of unimproved turf grasses on such sites. It can also be used for selective weed control in forest site preparation and in the release of certain conifers and hardwoods.

Sulfometuron Methyl 75 may be applied on forestry and noncrop sites that contain areas of temporary surface water resulting from collection of water between planting beds, in equipment ruts or in other such depressions created by management activities. It is permissible to treat intermittent drainage, non-irrigation drainage ditches, intermittently flooded low-lying areas, seasonally dry flood plains and/or deltas, and transitional areas between upland and lowland sites when the water has drained but may occur in isolated pockets due to uneven or unlevel surface conditions. It is also permissible to treat marshes, swamps and bog after water has receded.

DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams, canals, or irrigation ditches.

Sulfometuron Methyl 75 may be applied by conventional ground equipment or by helicopter, unless otherwise directed in specific use sections of this label.

Sulfometuron Methyl 75 can be tank mixed with other herbicides registered for use in forestry and noncrop sites. When tank mixing, use the most restrictive limitations from the labeling of both products.

Drift control agents may be used with Sulfometuron Methyl 75 according to the manufacturer's recommendations.

Sulfometuron Methyl 75 controls weeds by both preemergence and postemergence activity. Pre-emergence treatments control or suppress weeds through root uptake while postemergence control works through root and foliar uptake. The best results are obtained when the application is made before or during the early stages of weed growth before weeds develop an established root system. Moisture is required to move Sulfometuron Methyl 75 into the root zone of weeds for preemergence control. When rainfall is low, Sulfometuron Methyl 75 may not provide satisfactory control.

For best postemergence results, apply Sulfometuron Methyl 75 to young, actively growing weeds. The use rate depends upon the weed species, weed size at application, and soil texture. 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

Use a high rate on established plants and on fine-textured soils and a lower rate on smaller weeds and coarse-textured soils.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

Sulfometuron Methyl 75 is absorbed by both the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. Two to 3 weeks after application to weeds, leaf growth slows, and the growing points turn reddish-purple. Within 4 to 6 weeks of application, leaf veins and leaves become discolored, and the growing points subsequently die.

Warm, moist conditions following application accelerate the herbicidal activity of Sulfometuron Methyl 75; cold, dry conditions delay the herbicidal activity. In addition, weeds hardened-off by drought stress are less susceptible to Sulfometuron Methyl 75.

Moisture is needed to move Sulfometuron Methyl 75 into the soil for preemergence weed control, but postemergence weed control may be reduced if rainfall occurs too soon after application.

RESISTANCE

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using

herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

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. DO NOT let weed escapes go to seed. If applicable, see Weeds Controlled sections of this label for additional information on managing herbicide resistant weed 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.

DIRECTIONS FOR USE

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

Sulfometuron Methyl 75 should be used only in accordance with recommendation on this label or in separately published Nations Ag II recommendations.

Nations Ag II will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Nations Ag II. User assumes all risks associated with such non-recommended use

DO NOT apply more than 8 ounces per acre per year.

DO NOT use on food or feed crops.

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.

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
- Chemical resistant gloves, such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber \geq 14 mils.
- Shoes plus socks

FORESTRY

Application Information

Sulfometuron Methyl 75 may be applied on forestry sites that contain areas of temporary surface water resulting from collection of water between planting beds, in equipment ruts or in other such depressions created by management activities. It is permissible to treat intermittent drainage, non-irrigation drainage ditches, intermittently flooded low-lying areas, seasonally dry flood plains and/or deltas, and transitional areas between upland and lowland sites when the water has drained but may occur in isolated pockets due to uneven or unlevel surface conditions. It is also permissible to treat marshes, swamps and bog after water has receded.

DO NOT apply to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams, canals, or irrigation ditches.

Sulfometuron Methyl 75 is recommended to control many broadleaf weeds and grasses in forestry sites. Apply by ground equipment or by helicopter only. If applied by helicopter, DO NOT apply within 200 feet of any homestead or nontarget plantings.

Sulfometuron Methyl 75 can be tank mixed with other herbicides registered for use in forestry. When tank mixing, use the most restrictive limitations from the labeling of both products.

Refer to **ADDITIONAL USE DIRECTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES** section of this label for additional application, mixing, equipment cleanup and precautionary instructions.

Application Timing

Apply Sulfometuron Methyl 75 before herbaceous weeds emerge or shortly thereafter. Apply only during seasons when rainfall is sufficient to activate the herbicide in the soil.

Weeds Controlled

Sulfometuron Methyl 75 effectively controls the following weeds when applied at the use rates indicated for the respective crop species:

Chickweed	Panicum, broadleaf
Crabgrass	Panicum, fall
Dogfennel	Panicum, narrow
Fescue	Pokeweed
Fireweed (willowweed)	Ragweed
Goldenrod	Shepherd's purse
Horseweed	White snakeroot
Kentucky bluegrass	Yellow sweetclover
Nutsedge (yellow)	

See also weeds controlled under **NONCROP SITES, Application Information** (below).

Application Rates

Apply Sulfometuron Methyl 75 at the rates indicated by region. Use a low rate on coarse-textured soils (i.e., loamy sands, sandy loams) and a higher rate on fine-textured soils (i.e. sandy clay loams and silty clay loams).

CONIFERS

Conifer Site Preparation: Application Before Transplanting

Make all applications before transplanting to control herbaceous weeds.

Southeast: Apply 2 to 8 oz per acre for loblolly, longleaf, slash, and Virginia pine. Pines may be transplanted into treated areas in the planting season following application.

Northeast and Lake States: Apply 2 to 4 oz per acre for black spruce. Transplant at least 13 months after treatment.

Apply 1 to 2 oz per acre for red pine. Transplant the following spring or summer but not less than 3 months after application. Areas receiving 1/2 to 1 oz per acre may be transplanted after at least 30 days after application.

Apply 2-1/2 to 4 oz Sulfometuron Methyl 75 plus glyphosate (as registered) for larch and tamarack. Transplant the following spring or summer but not less than 8 months after treatment.

West: Apply 2 to 4 oz per acre for coastal redwood, Douglas fir, grand fir, hemlock, lodgepole pine, ponderosa pine, western larch, western white pine, and white fir. For ponderosa pine in California and other arid areas, apply in the fall and transplant the following spring. Where western red cedar is a predominant species, apply 2 to 3 oz per acre, since higher rates may cause unacceptable injury. Other conifer species may be treated; however, Nations Ag II has not tested the response of unlisted conifer species and, therefore, cannot assume responsibility for any injury that may occur to species not listed above. Without previous experience, it is recommended that small area plantings be tested for tolerance to Sulfometuron Methyl 75 before undertaking large scale plantings.

Conifer Release: Application After Transplanting

Apply Sulfometuron Methyl 75 after transplanting to control herbaceous weeds.

Southeast: Apply 2 to 8 oz per acre for loblolly, longleaf, slash or Virginia pine. Apply 1 to 1-1/2 oz per acre for eastern white pine.

Tank Mix Combinations (Southeast only): To control a broader spectrum of weeds in stands of loblolly, longleaf, or slash pine, apply 2 to 4 oz of Sulfometuron Methyl 75 plus 2 to 3 pt of Velpar² L or 2/3 to 1 lb of Velpar² DF. Tank mix may injure or kill trees when applied during high humidity and temperature.

To enhance control of Bermudagrass and Johnsongrass in stands of loblolly pine, apply 2 oz of Sulfometuron Methyl 75 plus 4 to 6 fl oz of Arsenal³ Applicators Concentrate. For best results, make the application during late winter through spring when weeds first emerge. Arsenal³ may temporarily inhibit pine growth if it is applied when pine is actively growing.

For control of many annual weeds particularly on crop land conversion areas, apply 2 to 4 oz of Sulfometuron Methyl 75 plus 4 to 8 pt of Aatrex⁴ 4L per acre. Use the higher rates on medium to fine texture soils where organic matter exceeds 2%. Use only on tree species specifically listed on both the Sulfometuron Methyl 75 and Aatrex⁴ 4L labels.

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Northeast and Lake States: Apply 2 to 8 oz per acre for jack or Virginia pine. Apply 1 to 1-1/2 oz per acre for eastern white pine. Apply 1-1/2 to 3 oz per acre for white spruce. Apply 1/2 to 2 oz per acre for red pine not less than 1 year after transplanting. Make applications when trees are dormant. Applications at bud break and later stages of active growth may severely injure or kill trees.

West: Apply 2 to 4 oz per acre for coastal redwood, Douglas fir, grand fir, hemlock, lodgepole pine, ponderosa pine, western larch, western white pine and white fir. Where western red cedar is a predominant species, apply 2 to 3 oz per acre, since higher rates may cause unacceptable injury. Application may be made for the release of other conifer species present on the site; however, Nations Ag II has not tested the response of unlisted conifer species and, therefore, cannot assume responsibility for any injury that may occur to conifers not listed above. Without previous experience, it is recommended that small areas be treated with Sulfometuron Methyl 75 to determine selectivity on specific conifer species before making large scale applications. Dormant trees are less susceptible to injury. Applications made after dormancy break in the spring and before the final resting bud has hardened in the fall may severely injure or kill trees. For ponderosa pine in California and other arid areas, apply Sulfometuron Methyl 75 over dormant seedlings in the spring following fall plantings or in the fall over dormant trees following spring plantings.

HARDWOODS

Hardwood Site Preparation: Application Before Transplanting

Apply 3 to 5 oz on sites where northern red oak, white oak, chestnut oak, American sycamore, ash (white or green), red maple, sweetgum, or yellow poplar are to be planted. Make all applications before transplanting.

West: For hybrid poplar west of the Cascade Mountains, apply 1/2 to 1-1/4 oz per acre for heavy weed infestations and where maximum residual control is desired. Use 1/2 to 3/4 oz per acre for light weed infestations or where small diameter cuttings are to be planted. Allow at least 3 days between application and planting. Limit the first use to a small area to determine the selectivity of Sulfometuron Methyl 75 on specific clones. Sulfometuron Methyl 75 must be activated by rainfall or overhead irrigation before weeds become well established. Use of Sulfometuron Methyl 75 may cause temporary chlorosis (yellowing) or a minor reduction in tree height during the year of product use.

Hardwood Release: Application After Transplanting

Apply 1 to 4 oz per acre in stands of American sycamore, ash (white or green), bald cypress, oaks (such as chestnut, northern red, southern red, overcup, pin, swamp chestnut, cherrybark, water, white, pin, etc.), red maple, sweetgum, or yellow poplar.

Apply Sulfometuron Methyl 75 before the hardwood tree seedlings or transplants break dormancy (bud swell stage). Applications made over the top after the trees have broken dormancy may injure or kill the trees.

West: For hybrid poplar west of the Cascade Mountains, apply 1/2 to 1-1/4 oz per acre for heavy weed infestations and where maximum residual control is desired. Use 1/2 to 3/4 oz per acre for light weed infestations or where small diameter cuttings are to be planted. Apply only to trees that have been established for at least 1 year. Apply when trees are dormant and avoid spray contact to green buds or tissue to avoid injury to trees. Avoid applications during the period when hybrid poplars are actively growing; i.e., from bud swell in the spring until leaf drop in the fall. Limit the first use to a small area to determine the selectivity of Sulfometuron Methyl 75 on specific clones. Sulfometuron Methyl 75 must be activated by rainfall or overhead irrigation before weeds become well established. Use of Sulfometuron Methyl 75 may cause temporary chlorosis (yellowing) or a minor reduction in tree height during the year of product use.

Lake States: For hybrid poplar west in the Lake States, apply 1 to 2 oz per acre in the fall or early winter. For late winter or early spring applications, use 1 oz per acre. Apply only to trees that have been established for at least 1 year. Apply when trees are dormant and avoid spray contact to green buds or tissue to avoid injury to trees. Avoid applications during the period when hybrid poplars are actively growing; i.e., from bud swell in the spring until leaf drop in the fall. Limit the first use to a small area to determine the selectivity of Sulfometuron Methyl 75 on specific clones. Sulfometuron Methyl 75 must be activated by rainfall or overhead irrigation before weeds become well established. Use of Sulfometuron Methyl 75 may cause temporary chlorosis (yellowing) or a minor reduction in tree height during the year of product use.

Natural Hardwood Regeneration

Sulfometuron Methyl 75 is recommended for herbaceous weed control in commercial reforestation areas where hardwood seedling regeneration is desired following shelterwood seed cuts. Apply 2 to 5 oz per acre using appropriate ground equipment. To control striped maple and beech, tank mix with 1 to 2 qts glyphosate per acre. For best results, apply from late summer to mid-fall. Note: Hardwood seedlings present at the time of application may be severely injured or killed.

IMPORTANT PRECAUTIONS - FORESTRY ONLY

Applications of Sulfometuron Methyl 75 made to trees, conifers, or hardwoods 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 Sulfometuron Methyl 75 made for release (trees present) should only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.

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DO NOT apply Sulfometuron Methyl 75 to conifers or hardwoods grown for Christmas trees or ornamentals.

If a surfactant is used with Sulfometuron Methyl 75, allowing the spray to contact tree foliage may injure or kill trees. The user assumes all responsibility for tree injury if a surfactant is used with Sulfometuron Methyl 75 treatments applied after planting.

Sulfometuron Methyl 75 application may result in damage and mortality to other species of trees when they are present on sites with those listed in the preceding recommendations for forestry uses.

Use on hardwood trees growing in soils having a pH of 7 or greater may injure or kill the trees.

Careful consideration must be given by an experienced and knowledgeable forester to match the requirements of the hardwood tree species to the conditions of the site. Treatment of species mismatched to the site may injure or kill the trees.

Sulfometuron Methyl 75 is not recommended for use on poorly drained or marshy sites, but it may be used where plantings are on raised beds.

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.

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

Keep unprotected persons out of treated areas until sprays have dried.

NONCROP SITES

Application Information

Sulfometuron Methyl 75 is recommended for use for general weed control on private, public and military noncrop sites such as: Uncultivated Nonagricultural Areas including but not limited to airports, roadsides and highway, railroad, and utility rights-of-way, sewage disposal areas, etc.; Uncultivated Agricultural Noncrop Areas including but not limited to farmyards, fuel storage areas, fence rows, areas enrolled in Conservation Reserve Programs (CRP), soil bank land, barrier strips, etc.; and Outdoor Industrial Sites

including but not limited to lumberyards, petroleum tank farms, pipelines, pumping installations, storage areas, plant sites, etc.

Sulfometuron Methyl 75 may be applied on noncrop sites that contain areas of temporary surface water resulting from collection of water between planting beds, in equipment ruts or in other such depressions created by management activities. It is permissible to treat intermittent drainage, non-irrigation drainage ditches, intermittently flooded low-lying areas, seasonally dry flood plains and/or deltas, and transitional areas between upland and lowland sites when the water has drained but may occur in isolated pockets due to uneven or unlevel surface conditions. It is also permissible to treat marshes, swamps and bog after water has receded.

DO NOT apply to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams, canals, or irrigation ditches.

DO NOT apply Sulfometuron Methyl 75 on recreational areas or to paved surfaces.

Apply by ground equipment or by helicopter unless directed otherwise by this label or supplemental labeling. If applied by helicopter, DO NOT apply within 200 feet of any homestead, agricultural land or other desirable plantings.

Combination with other herbicides broadens the spectrum of weeds controlled. In addition, total vegetation control can be achieved with higher rates of Sulfometuron Methyl 75 plus residual-type companion herbicides. To improve the control of weeds, add surfactant at 0.25% by volume.

DO NOT use equipment (booms, hoses, pumps, tanks, etc.) that has been used to mix or spray Sulfometuron Methyl 75 for applications on ornamentals or crops. Mixing and application equipment may be used for noncrop and forestry applications only. This is critical in that low rates of Sulfometuron Methyl 75 can severely injure or kill most crops.

Refer to **ADDITIONAL USE DIRECTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES** section of this label for additional application, mixing, equipment cleanup and precautionary instructions.

AREAS OF 20" OR LESS ANNUAL RAINFALL (ARID AREAS)

Application Timing

Apply Sulfometuron Methyl 75 as a preemergence or early postemergence spray during the rainy season when weeds are actively germinating or growing.

Weeds Controlled

Sulfometuron Methyl 75 effectively controls the following broadleaf weeds and grasses when applied at the rates shown.

Application Rates

Apply Sulfometuron Methyl 75 at the rates indicated by weed type. When applied at lower rates, Sulfometuron Methyl 75 provides short-term control of weeds listed; when applied at higher rates, weed control is extended.

Broadleaf Weeds: 1-1/3 to 2 oz per acre

Annual sowthistle	Common yarrow
Black mustard	Curly dock
Buckhorn plantain	Prickly coontail
Burclover	Seaside heliotrope
Carolina geranium	Spreading orach
Chickweed	Sunflower
Common mallow	Western ragweed
Common speedwell	Whitestem filaree

Grasses (up to 6 to 12" tall): 3/4 to 1-1/2 oz per acre

Cheat	Medusahead
Smooth brome	

Grasses (up to 6 to 12" tall): 1-1/3 to 2 oz per acre

Annual bluegrass	Red brome
Barnyardgrass	Reed Canarygrass
Foxtail barley	Ripgut brome
Foxtail fescue	Seashore saltgrass
Italian ryegrass	Signalgrass
Jointed goatgrass	Yellow foxtail

Grasses: 2 to 3 oz per acre

Smooth brome

The weeds listed in **Areas of 20" or More Annual Rainfall** can also be controlled in **Arid Areas**; however, Sulfometuron Methyl 75 must be applied at 3 to 8 oz per acre to control those weeds. These higher rates also provide control of severe infestations and longer term control of weeds listed for arid areas.

AREAS OF 20" OR MORE ANNUAL RAINFALL

Application Timing

Apply Sulfometuron Methyl 75 as a preemergence or early postemergence spray during the rainy season when weeds are actively germinating or growing

Weeds Controlled

Sulfometuron Methyl 75 effectively controls the following broadleaf weeds and grasses when applied at the rates shown.

Application Rates

Apply Sulfometuron Methyl 75 at the rates indicated by weed type. When applied at lower rates, Sulfometuron Methyl 75 provides short term control of weeds listed; when applied at higher rates, weed control is extended.

Broadleaf Weeds: 3 to 5 oz per acre

Bouncingbet	Pigweed
Burclover	Purple starthistle
Carolina geranium	Ragweed
Common chickweed	Sowthistle (annual)
Common dandelion	Sunflower
Common speedwell	Sweet clover
Common yarrow	Tansymustard
Crimson clover	Tansy ragwort
Dogfennel	Tumble mustard
Hoary cress (whitetop)	Vetch
Little mallow	Wild carrot
Mustard	Wild oats
Ox-eye daisy	Yellow rocket
Pepperweed	

Broadleaf Weeds: 6 to 8 oz per acre

Bedstraw	Horsetail (Equisetum)
Canada thistle	Kudzu
Curly dock	Musk thistle
Redstem filaree	Turkey mullein
Goldenrod	Wild blackberry

Grasses: 3 to 5 oz per acre

Alta fescue	Kentucky bluegrass
Annual bluegrass	Little barley
Annual ryegrass	Red brome
Bahiagrass	Red fescue
Barnyardgrass	Reed canarygrass

Downy brome	Ripgut brome
Fescue	Ryegrass
Foxtails (except green)	Smooth brome
Foxtail barley	Sprangletop (annual)
Indiangrass	Wheat (volunteer)
Italian ryegrass	

Grasses: 6 to 8 oz per acre

Johnsongrass

For short-term (up to 3 months) control of Johnsongrass, apply early postemergence. Repeat treatment if additional control is desired or if regrowth occurs.

Note: Use the higher level of recommended dosage ranges under the following conditions:

- Heavy weed growth
- Soil containing more than 2-1/2% organic matter
- High soil moisture areas, such as along road edges or railroad shoulders

For planting areas treated with Sulfometuron Methyl 75, refer to the **GRASS REPLANT INTERVALS** section of this label.

Specific Weed Problems: Noncrop Sites

Kochia, Russian Thistle and Prickly Lettuce

Since biotypes of kochia, Russian thistle, and prickly lettuce are known to be resistant to Sulfometuron Methyl 75, tank mixture combinations with herbicides having different modes of action, such as Payload¹, Karmex⁵ DF, Hyvar² X, or Krovar² I DF, must be used. In areas where resistance is known to exist, these weeds should be treated postemergence with other herbicides registered for their control, such as 2,4-D or dicamba. DO NOT allow kochia, Russian thistle, or prickly lettuce to form mature seed.

TANK MIX COMBINATIONS

To improve preemergence to early postemergence control of weeds and grasses, add 2 to 8 oz of Sulfometuron Methyl 75 per acre to the recommended rates of the following herbicides; Payload¹, Hyvar² X, Karmex⁵ DF, Krovar² I DF, Velpar² L, Velpar², Escort² (DO NOT use in California), Telar², glyphosate, dicamba, or 2,4-D, or registered generic equivalents of the trade names listed.

Apply Sulfometuron Methyl 75 plus a companion herbicide at the rates and timing as shown on package labels for target weeds. For application method and other use specifications, use the most restrictive directions for the intended combination.

DO NOT tank mix Sulfometuron Methyl 75 with Hyvar² X-L.

UNDER ASPHALT AND CONCRETE PAVEMENT

Application Information

Apply Sulfometuron Methyl 75 with conventional ground equipment to control weeds under asphalt and concrete pavement, such as that used in parking lots, highway shoulder, median strips, roadways, and other industrial sites.

Sulfometuron Methyl 75 will not control tubers, rhizomes, woody vegetation such as small trees, brush or woody vines.

Sulfometuron Methyl 75 should only be used in an area that has been prepared according to good construction practices. Use sufficient water to ensure uniform coverage, generally 100 gal per acre. Agitate the tank continuously to keep Sulfometuron Methyl 75 in suspension.

Application Timing

Apply Sulfometuron Methyl 75 immediately before paving to avoid lateral movement of the herbicide as a result of soil movement from rainfall or mechanical means.

Application Rate

Apply Sulfometuron Methyl 75 at 4 to 8 oz per acre. Use a higher rate on hard-to-control weeds and for long-term control.

Tank Mix Combinations: Under Asphalt and Concrete Pavement

For broader spectrum control or for an extended period of control under asphalt or concrete pavement, Sulfometuron Methyl 75 may be applied as a tank mix with Hyvar² X at 6 to 15 lb per acre or Krovar² I DF at 7 to 15 lb per acre.

IMPORTANT PRECAUTIONS -- UNDER ASPHALT ONLY

DO NOT use Sulfometuron Methyl 75 under pavement in residential properties such as driveways, or in recreational areas, including jogging or bike paths, tennis courts, or golf cart paths.

Desirable plants may be injured if their roots extend into treated areas or if planted in treated areas.

TURF (UNIMPROVED ONLY)

Application Information

Sulfometuron Methyl 75 is recommended to control weeds on unimproved industrial turf, on roadsides, or on other noncrop sites where the turf is well established as a ground cover. Applications may temporarily suppress grass growth and inhibit seedhead formation (chemical mowing).

Sulfometuron Methyl 75 may be applied by ground equipment or by helicopter, where practical.

Refer to **ADDITIONAL USE DIRECTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES** section of this label for additional application, mixing, equipment cleanup and precautionary instructions.

Bermudagrass Release

Application Timing

Apply Sulfometuron Methyl 75 after bermudagrass has broken dormancy and is well established, usually 30 days after initial spring flush. If additional applications are necessary, apply Sulfometuron Methyl 75 again during late spring to early summer. On established weeds, apply Sulfometuron Methyl 75 at 1 to 2 weeks after mowing for the best results.

Sulfometuron Methyl 75 may also be applied in late fall or early winter. Use the lower rates on small seedling weeds and a higher rate on larger weeds. Also, refer to the listing of Weeds Controlled under **NONCROP SITES** section of this label.

Weeds Controlled

Sulfometuron Methyl 75 may be used to control the following weeds when applied at the use rates shown.

Late Spring to Early Summer: 1 to 2 oz/acre

Carolina Geranium	Goldenrod
Fescue	Spotted Spurge
Foxtail	Wild carrot

Spring to Fall: 2 to 3 oz/acre

Johnsongrass

Late Fall to early Winter: 1 to 4 oz/acre

Carolina geranium	Little barley
Common chickweed	Wild blackberry
Fescue	

Tank Mix Combinations: Bermudagrass (South Only)

Apply 1 to 2 oz Sulfometuron Methyl 75 per acre as a tank mix with 3 to 4 lb active ingredient of MSMA per acre on well-established bermudagrass during the summer. Refer to the MSMA package label for a list of additional weeds that may be controlled. Two or more sequential applications of MSMA alone may be necessary to maintain weed control.

Centipedegrass Release**Application timing**

Apply 1 to 2 ounces of Sulfometuron Methyl 75 in the fall or early winter, or in the early summer following greenup of the centipede. Refer to the listing of Weeds Controlled under the **Bermudagrass Release** section of this label.

Bahiagrass Release and Seedhead Suppression**Application Timing**

Apply 1/2 to 1 oz Sulfometuron Methyl 75 per acre to turf after green-up and before seedheads emerge (boot stage). Ensure that desirable grasses are well established at application, as premature treatment may result in top kill and stand reduction of desirable turf. Make only one application per year.

Smooth Brome and Crested Wheatgrass Release and Suppression**Application timing**

Apply 1 oz Sulfometuron Methyl 75 per acre to turf after green-up and before seedheads emerge (boot stage). Ensure that desirable grasses are well established at application, as premature treatment may result in top kill and stand reduction of desirable turf. Make only one application per year.

Weeds Controlled

Sulfometuron Methyl 75 may be used to control the following weeds when applied at the use rates shown

Late Spring to Early Summer: 1 oz /acre

Downy Brome
Foxtail

Goldenrod

IMPORTANT PRECAUTIONS - UNIMPROVED TURF

Excessive injury to turf may result if a surfactant is used with Sulfometuron Methyl 75 application made to actively growing turf. The user assumes all responsibility for turf injury if a surfactant is used with Sulfometuron Methyl 75 treatments applied to actively growing turf.

Sulfometuron Methyl 75 may temporarily discolor or cause top kill of turf grasses. Applications made while turf is dormant may delay green-up in the spring.

Annual retreatments may reduce vigor, particularly at the higher recommended rates, where bahiagrass, crested wheatgrass and smooth brome are grown.

Sulfometuron Methyl 75 application on turf that is under stress from drought, insects, disease, cold temperatures or late spring frost, may result in injury.

DO NOT apply Sulfometuron Methyl 75 to turf within 1 year of planting as stand reduction may result.

GRASS REPLANT INTERVALS

Following spring applications of Sulfometuron Methyl 75 at use rates up to 2 oz per acre, applied to soils with a pH of less than 7.5, the following grasses may be replanted after at least 3 months:

Green needlegrass, meadow brome, Russian wild rye and switchgrass.

The following grasses may be replanted after at least 6 months after a spring application:

Alta fescue, meadow foxtail, orchard grass, smooth brome, sheep fescue and western wheatgrass.

Replanting of treated soils with a pH greater than 7.5 will require longer replant intervals. Also, because degradation of Sulfometuron Methyl 75 is retarded by cold or frozen soils, replant intervals should be determined as beginning in the spring following the fall application.

Testing indicates that there is considerable variability in response among species and types of grasses when seeded into areas treated with Sulfometuron Methyl 75. If species other than those listed above are to be planted into areas treated with Sulfometuron Methyl 75, a field bioassay should be performed to determine the feasibility of replanting treated areas.

ADDITIONAL USE DIRECTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES

SPRAY EQUIPMENT

Following a Sulfometuron Methyl 75 application, DO NOT use sprayer for application to agricultural or ornamental crops. The mixing and application equipment must be used for forestry and noncrop applications only. This is extremely important as even small residual amounts of Sulfometuron Methyl 75 from mixing or application equipment can kill or severely injure most crops.

BROADCAST APPLICATION

Ground

When applying Sulfometuron Methyl 75, use sufficient spray volumes (typically 10 to 40 gallons) and delivery systems that will ensure thorough coverage and a uniform spray pattern. Be sure the sprayer is calibrated before use. Avoid overlapping and shut off spray booms while starting, turning, slowing, or stopping to avoid injury to desired species.

Aerial (Helicopter Only)

When applying Sulfometuron Methyl 75 by helicopter, use sufficient spray volumes (typically 5 to 15 gallons) and delivery systems that will ensure thorough coverage and a uniform spray pattern. DO NOT use fixed-wing aircraft. Be sure the sprayer is calibrated. Avoid overlapping and shut off spray booms while starting, turning or slowing to avoid injury to desired species.

MIXING INSTRUCTIONS

1. Fill spray tank ½ full of water.
2. With the agitator running, add the recommended amount of Sulfometuron Methyl 75.
3. If using a companion product, add the recommended amount.
4. For postemergent applications, add the proper amount of spray adjuvant (i.e. surfactants, drift control agents, etc.).
5. Add the remaining water.
6. Agitate the spray tank thoroughly.

Sulfometuron Methyl 75 spray preparations are stable if pH neutral or alkaline and stored at or below 100° F. If the spray preparation is left standing, agitate it thoroughly before using

SPRAYER CLEANUP

Thoroughly clean all mixing and spray equipment following applications of Sulfometuron Methyl 75 as follows:

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water.
2. Fill the tank with clean water and 1 gal of household ammonia (contains 3% active) for every 100 gal 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 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank. Equivalent amounts of an alternate-strength ammonia solution or a commercial cleaner can be used in the cleanout procedure. If a commercial cleaner is used, carefully read and follow the individual cleaner instructions.
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 directions for rinsate disposal on the label.

Notes:

1. **Caution:** DO NOT use chlorine bleach with ammonia as dangerous gases will form. DO NOT clean equipment in an enclosed area.
2. Steam-cleaning aerial spray tanks is recommended before performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When Sulfometuron Methyl 75 is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.

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 way to reduce drift potential is to apply large droplets (>150 – 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

Controlling Droplet Size: General Techniques

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

Pressure: Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

Nozzle Type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size: Helicopters

Number of Nozzles: Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

Nozzle Orientation: Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.

Nozzle Type: Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

BOOM LENGTH AND HEIGHT

Boom Length (helicopters): Use a boom length and position that prevents droplets from entering the rotor vortices.

Boom Height (helicopters): Application more than 10 ft above the canopy increases the potential for spray drift.

Boom Height (ground equipment): Setting the boom at the lowest height that provides uniform coverage and reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes 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. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while 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 preventing drift and not interfering with uniform deposition of the product.

IMPORTANT PRECAUTIONS FOR AGRICULTURAL AND NONAGRICULTURAL USES

Injury to or loss of desirable trees or other plants may result from failure to observe the following:

If equipment is drained or flushed on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical 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. DO NOT apply Sulfometuron Methyl 75 when these conditions are identified and powdery, dry soil or light, sandy soil are known to be prevalent in the area to be treated. Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to Sulfometuron Methyl 75 may injure or kill most crops. Injury may be more severe when the crops are irrigated.

Applications made where runoff water flows onto agricultural land may injure crops. Applications, made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of Sulfometuron Methyl 75. DO NOT treat frozen soil. Treated soil should be left undisturbed to reduce the potential for Sulfometuron Methyl 75 movement by soil erosion due to wind or water.

DO NOT allow contact with fertilizers, insecticides, fungicides, and seeds.

DO NOT use on lawns, walks, driveways, tennis courts, or similar areas.

DO NOT apply in or on irrigation ditches or canals including their outer banks.

DO NOT apply through any type of irrigation system.

DO NOT use the equipment (tanks, pumps, hoses, booms, etc.) used to mix or spray Sulfometuron Methyl 75 for applications on crops or ornamentals. The mixing and application equipment may be used for forestry and noncrop applications only. This is extremely important as low rates of Sulfometuron Methyl 75 can kill or severely injure most crops.

If noncrop or forested sites treated with Sulfometuron Methyl 75 are to be converted to a food, feed, or fiber agricultural crop, or to a horticultural crop, DO NOT plant the treated sites for at least one year after application of Sulfometuron Methyl 75. To avoid damage to crops planted in these areas, and to ensure complete Sulfometuron Methyl 75 dissipation in treated sites, a field bioassay should be conducted before planting to crops. To conduct a field bioassay, grow to maturity test strips of the crop(s) intended for planting the following year. The test strips should cross the entire field including knolls and low areas. Crop response to the bioassay will indicate whether or not to plant the crop(s) grown in the test strips.

If offsite movement of Sulfometuron Methyl 75 to cropland is suspected, soils samples should be collected and quantitatively analyzed for sulfometuron methyl or any other herbicide that might cause adverse effects to the crop(s) – in addition to conducting the field bioassay described above.

DO NOT use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store product in original container only.

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

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT: Read the information below before using this product. If the terms are not acceptable, you should return the unopened product container immediately for a complete refund.

LIMITED WARRANTY, TERMS OF SALE, AND LIMITATION OF LIABILITY

Upon purchase or use of this product, purchaser and user agree to the following terms:

Warranty: Nations Ag II, LLC (the Company) warrants that this product conforms to the chemical description on the label in all material respects and is reasonably fit for the purpose referred to in the directions for use, subject to the exceptions noted below, which are beyond the Company's control. The Company makes no other representation or warranty, express or implied, concerning the product, including no implied warranty of merchantability or fitness for a particular purpose. No such warranty shall be implied by law, and no agent or representative is authorized to make any such warranty on the Company's behalf.

Terms of Sale: The Company's directions for use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, and the manner of use or application (including failure to adhere to label directions), all of which are beyond the Company's control. All such risks are assumed by the user.

Limitation of Liability: The exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damages, and in no event shall damages or any other recovery of any kind exceed the price of the product which caused the alleged loss, damage, injury or other claim. Under no circumstances shall the Company be liable for any special, indirect, incidental or consequential damages of any kind, including loss of profits or income, and any such claims are hereby waived. Some states do not allow the exclusion or limitation of incidental or consequential damages.

The Company and the seller offer this product, and the purchaser and user accept this product, subject to the foregoing warranty, terms of sale and limitation of liability, which may be varied or modified only by an agreement in writing signed on behalf of the Company by an authorized representative.

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