



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

September 13, 2024

Nikki Benson
Regulatory Specialist
Nufarm Inc.
11901 S. Austin Ave.
Alsip, IL 60803

Subject: Label Amendment - Registration Review Mitigation for Metsulfuron-methyl
Product Name: NUP 9D 01 MSM 60 WDG Herbicide
EPA Registration Number: 71368-40
Application Date: February 13, 2024
Decision Number: 595103

Dear Nikki Benson:

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

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

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must

submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions about this letter, please contact Caleb Carr by phone at (202) 566-0636, or via email at carr.caleb@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington", with a stylized flourish at the end.

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

ENCLOSURE: Stamped label

METSULFURON METHYL GROUP 2 HERBICIDE

NUP 9D 01

MSM 60 WDG Herbicide

ACTIVE INGREDIENT:

Metsulfuron methyl: Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-
carbonyl]amino]sulfonyl]benzoate..... 60.0%

OTHER INGREDIENTS:..... 40.0%

TOTAL: 100.0%

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCION

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

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

ACCEPTED

Sep 13, 2024

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 71368-40

EPA REG. NO. 71368-40
EPA EST. NO.

NET CONTENTS: _____ Lbs. (_____ Kg)

MANUFACTURED FOR
NUFARM, INC
150 HARVESTER DRIVE
BURR RIDGE, IL 60527



071368-000040.20240910 SU ID Amendment

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor for treatment advice. • Have a person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 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.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCION**

Harmful if absorbed through skin. Causes moderate eye injury. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard [(40 CFR Part 170)] must wear:

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves

Follow manufacturer's instructions for cleaning/maintaining PPE. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Groundwater Advisory: Metsulfuron-methyl is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory: This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of metsulfuron-methyl from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

Non-target Organism Advisory: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Management section of this label.

IMPORTANT INFORMATION

PESTICIDE HANDLING

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Assure accurate measurement of pesticides by all operation employees.
- Mix only enough product for the job at hand.
- Avoid overfilling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates/uses.
- Avoid storage of pesticides near well sites.
- When triple rinsing the pesticide container, be sure to add the rinsate to the spray mix.

DIRECTIONS FOR USE

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

Do not apply this product 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 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 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
- Waterproof gloves

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.

Weed control in pastures and rangeland are not within the scope of the Worker Protection Standard.

This product should be used only in accordance with recommendations on this label or in separate published Nufarm recommendations.

Nufarm will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Nufarm.

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

WINDBLOWN SOIL PARTICLES

NUP 9D 01 MSM 60 WDG Herbicide has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and

direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying NUP 9D 01 MSM 60 WDG Herbicide if prevailing local conditions may be expected to result in off-site movement.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications:

- Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or coarser droplet size (ASABE S641).
- For all other applications, applicators are required to use a Medium or coarser droplet size (ASABE S641).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Ground Boom Applications:

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or coarser droplet size (ASAE S572.3).
- For all other applications, applicators are required to use a Medium or coarser droplet size (ASAE S572.3).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Boom-less Ground Applications:

- Applicators are required to use a Medium or coarser droplet size (ASAE S572.3) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles

designed to reduce drift.

Controlling Droplet Size – Aircraft

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

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

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.**

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Boom-less Ground Applications:

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

Handheld Technology Applications:

Take precautions to minimize spray drift.

WEED RESISTANCE MANAGEMENT

For resistance management, NUP 9D 01 MSM 60 WDG Herbicide is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to NUP 9D 01 MSM 60 WDG Herbicide and other Group 2 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of NUP 9D 01 MSM 60 WDG Herbicide or other Group 2 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds

in a field.

- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available. Users should report lack of performance to registrant or their representative.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- [For further information or to report suspected resistance, contact Nufarm [Nufarm contact] at [one of][any of] the following] [[[X]-XXX-XXX-XXXX] [],[or]] 1-800-345-3330 [],[or]] [Nufarm e-mail address] [],[or]] [Nufarm website] [],[or]] [XXXX].] 855-280-6609.

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. Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. Do not assume that each listed weed is being controlled by this mechanisms of action. Co-formulated active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredient in this product.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

GENERAL INFORMATION

This product is recommended for use on land primarily dedicated to the production of wheat, barley, fallow, pasture, and rangeland.

This product is recommended for use on wheat, barley, fallow, pasture and rangeland in most states, check with your state extension or Dept. of Agriculture before use, to be certain this product is registered in your state. This product is not registered for use in Alamosa, Conejos, Costilla, Rio Grande, and Saguache counties of Colorado.

This product is a dry-flowable granule that controls weeds in wheat (including durum), barley, pasture, rangeland grasses, and fallow. This product is mixed in water or can be preslurried in water and added to liquid nitrogen carrier solutions and applied as a uniform broadcast spray. A surfactant should be used in the spray mix unless otherwise specified on this label. This product is noncorrosive, nonflammable, nonvolatile, and does not freeze.

This product controls weeds by postemergence activity. For best results, apply product to young, actively growing weeds. The use rate depends upon the weed spectrum and size of weeds at application. The degree and duration of control may depend on the following factors:

- weed spectrum and infestation intensity
- weed size at application
- environmental condition at and following treatment

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

This product is absorbed through the foliage of, broadleaf weeds rapidly inhibiting their growth. Leaves of susceptible plants appear chlorotic from 1 to 3 weeks after application and the growing point subsequently dies.

Application of this product provides the best control in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not be as satisfactory. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

This product may injure crops that are stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, different varieties of the crop may be sensitive to treatment with this product under otherwise normal conditions. Treatment of such varieties may injure crops.

In warm, moist conditions, the expression of herbicide symptoms is accelerated in weeds; in cold, dry conditions, expression of herbicide symptoms is delayed. In addition, weeds hardened-off by drought stress are less susceptible to this product.

Weed control may be reduced if rainfall or snowfall occurs soon after application.

APPLICATION INFORMATION

Use Rates

Wheat (including durum) and Barley

Apply 1/10 oz this product per acre to wheat or barley.

Pasture and Rangeland

Apply 1/10 to 4/10 oz this product per acre as a broadcast treatment to pasture and rangeland. For spot applications, use 1 oz per 100 gal of water. Do not exceed 3/4 oz this product per acre.

Harvest Aid

Apply 1/10 oz this product per acre in combination with 2,4-D or Roundup® to aid in dry down of many broadleaved weeds, thereby aiding grain harvest.

Fallow

Apply this product at 1/10 oz per acre.

Application Timing – Wheat and Barley

Dryland Wheat and Barley

(Except Durum or Wampum Variety)

Make applications after the crop is in the 2-leaf stage but before boot.

Durum and Wampum Variety Spring Wheat

Make applications after the crop is tillering but before boot. Applications to durum and wampum varieties should be made in combination with 2,4-D.

Irrigated Wheat and Barley

Make applications after the crop begins tillering but before boot. First post-treatment irrigation should be delayed for at least 3 days after treatment and should not exceed 1 inch of water.

Wheat and Barley - Harvest Aid

Make applications after the crop has reached the hard dough stage but no later than 10 days before harvest. See section on Harvest Aid tank mixtures.

Fallow

This product may be used as a fallow treatment, in the spring or fall when the majority of weeds have emerged and are actively growing.

Do not apply during boot or early heading, as crop injury may result.

Application Timing – Pasture Grasses

This product may be used on some native grasses such as bluestems and grama, and on other pasture grasses such as bermudagrass, bluegrass, orchardgrass, bromegrass, fescue and timothy. Specific application information on several of these pasture grasses follows:

Pasture Grass	Minimum Time from Grass Establishment to Product Application
Bermudagrass	2 months
Bluegrass, Bromegrass, and orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue Precautions:

Note that this product may temporarily stunt fescue, cause it to turn yellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions:

- Tank mix this product with 2,4-D.
- Use the lowest recommended rate for target weeds.
- Use surfactant at 1/2 to 1 pt per 100 gal of spray solution (1/16 to 1/8% v/v).
- 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.

The first cutting yields may be reduced due to seedhead suppression resulting from treatment with this product.

Timothy Precautions:

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

- Tank mix this product with 2,4-D.
- Use the lowest recommended rate for target weeds.
- Use surfactant at 1/2 pt per 100 gal (1/16% v/v).
- Make applications in the later summer or fall.
- Do not use surfactant when liquid nitrogen is used as a carrier.

Ryegrass Pastures (Italian or perennial): Do not apply this product as injury to or loss of the pasture may result.

Other Pastures: Varieties and species of pasture grasses differ in their tolerance to herbicides. When using this product on a particular grass for the first time, limit use to one container. If no injury occurs throughout the season, larger acreage may be treated the following season.

Broadleaf pasture species, such as alfalfa and clover, are highly sensitive to this product and will be severely stunted or injured by this product.

WEEDS CONTROLLED

Unless otherwise directed, treat when weeds are less than 4" tall or in diameter and are actively growing. Effectiveness may be reduced if rainfall occurs within 4 hours after application.

Cereals, Pasture, Rangeland, and Fallow

1/10 oz per acre

Blue/purple mustard*	Miners lettuce
Bur buttercup (testiculate)	Pigweed (redroot, smooth, tumble)
Coast fiddleneck (tarweed)	Plains coreopsis
Common chickweed	Prickly Lettuce*
Common purslane	Russian thistle*
Conical catchfly	Shepherd's purse
Cowcockle	Smallseed falseflax
False chamomile	Smartweed (green, ladysthumb, pale)
Field pennycress (fanweed)	Snow speedwell
Filaree	Tansymustard*
Flixweed*	Treacle mustard (Bushy Wallflower)
Groundsel (common)	Tumble/Jim Hill mustard
Henbit	Volunteer sunflower
Kochia*	Waterpod
Lambsquarters (common, slimleaf)	Wild mustard
Mayweed Chamomile	

Additional Weeds in Pasture/Rangeland Only

1/10 to 2/10 oz per acre

Bitter sneezeweed	Dandelion
Buttercup	Marestail
Carolina geranium	Plantain
Common broomweed	Wild garlic*
Common mullein	Woolly croton*
Curly dock	

2/10 to 3/10 oz per acre

Annual marshelder	Horsemint (beebalm)
Blackeyed-Susan	Musk thistle*
Buckbrush †	Pensacola bahiagrass*
Burclover	Purple scabious
Common yarrow	Western snowberry ‡
Dogfennel	Wild Carrot

4/10 oz per acre

Sericea lespedeza*

Weeds Suppressed ‡ *

Cereals, Pasture, Rangeland, and Fallow

1/10 oz per acre

Canada Thistle *	Knotweed (prostrate)*
Common sunflower*	Sowthistle (annual)*
Corn gromwell *	Wild buckwheat*

Brush Suppressed ‡

3/10 oz per acre

Blackberry	Multiflora rose*
Dewberry	

Weeds/Brush Suppressed with Spot Application (Pasture/Rangeland Only)

1 oz per 100 gal of water

Blackberry *	Dewberry*
Canada thistle*	Multiflora rose *

* See the **Specific Weed Problems** section

‡ Weed suppression is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of suppression varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

Specific Weed Problems

Note: Thorough spray coverage of all weed species listed below is very important.

Blue Mustard, Flixweed, and Tansymustard: For best results, apply NUP 9D 01 (MSM 60 WDG) tank mixtures with 2,4-D or MCPA postemergence to mustards, but before bloom.

Canada Thistle and Sowthistle: Apply either NUP 9D 01 (MSM 60 WDG) plus surfactant or this product plus 2,4-D or MCPA in the spring after the majority of thistles have emerged and are small (rosette stage to 6" elongating stems) and actively growing. The application will inhibit the ability of emerged thistles to compete with the crop.

For Spot applications to Canada Thistle in pasture and rangeland, apply as a foliar spray once plant is fully leafed. Apply to runoff and include a surfactant in the spray mix at 1 to 2 qt per 100 gal of spray solution. Complete coverage of all foliage and stems is required for control. On tall, dense stands, it is often necessary to spray from both sides to obtain adequate coverage.

Corn Gromwell and Prostrate Knotweed: Apply this product plus surfactant when weeds are actively growing, are no larger than 2" tall, and when crop canopy will allow thorough coverage. Tank mixing 2,4-D or MCPA with this product can improve results.

Kochia, Russian thistle, Prickly lettuce: Naturally occurring resistant biotypes of these weeds are known to occur. For best results, use this product in a tank mix with Banvel®/Banvel SGF and 2,4-D, or bromoxynil and 2,4-D (such as 3/4 to 1 pt Buctril® + 1/4 to 3/8 lb active 2,4-D ester). This product should be applied in the spring when kochia, Russian thistle, and prickly lettuce are less than 2" tall or 2" across and are actively growing (refer to the Tank Mixtures section of this label for additional details).

Sunflower (common/volunteer): Apply either NUP 9D 01 (MSM 60 WDG) plus surfactant or this product plus 2,4-D or MCPA after the majority of sunflowers have emerged, are 2" to 4" tall and are actively growing. Use spray volumes of at least 3 gal by air or 5 gal by ground (10 gal by ground in pastures).

Wild Buckwheat: For best results, apply this product plus 2,4-D or MCPA when plants have no more than 3 true leaves (not counting the cotyledons). If plants are not actively growing, delay treatment until environmental conditions favor active weed growth.

Musk Thistle: Apply this product at 2/10 to 3/10 oz per acre in the spring or early summer prior to flowering or in the fall after newly emerged plants have reached the rosette stage of growth. Fall applications should be made before the soil freezes.

Multiflora Rose: For best control, apply this product as a broadcast application when multiflora rose is less than 3' tall. Application should be made in the spring, soon after multiflora rose is fully leafed.

For spot applications in pasture and rangeland, apply as a foliar spray once plant is fully leafed. Apply to runoff and include a surfactant in the spray mix at 1 to 2 qts per 100 gals of spray solution. Complete coverage of all foliage and stems is required for control. On tall, dense stands, it is often necessary to spray from both sides to obtain adequate coverage.

Blackberry and Dewberry: For spot applications in pasture and rangeland, apply as a foliar spray once plant is fully leafed. Apply to runoff and include a surfactant in the spray mix at 1 to 2 qts per 100 gals of spray solution. Complete coverage of all foliage and stems is required for control. On tall, dense strands, it is often necessary to spray from both sides to obtain adequate coverage.

Pensacola bahiagrass control in established Bermudagrass pasture:

Apply this product at 3/10 oz per acre plus surfactant. Apply after green-up in the spring but before bahiagrass seedhead formation. Application should be made when moisture is sufficient to enhance grass growth.

This product is very effective for removal of bahiagrass from bermudagrass pastures. In highly infested pastures, the use of this product can clear the areas of useful forage until the bermudagrass has time to cover the area. Therefore, this product treatments should be spread out over a period of years. Do not apply to an entire farm or ranch in one year. Fertilization (particularly with nitrogen and potassium) and/or replanting may accelerate the process of reestablishment of bermudagrass.

Under heavy bahiagrass pressure, grazing pressure, or adverse weather conditions (heat and drought), bahiagrass regrowth may occur.

Note: This product should not be used for the control of common or Argentine bahiagrass. Also, this product should not be applied in liquid fertilizer solutions for Pensacola bahiagrass control, as poor control and/or regrowth may occur.

Sericea lespedeza: Apply this product at 4/10 oz per acre plus a surfactant at 1 to 2 qt per 100 gal of total spray solution. For best results, make applications to sericea lespedeza beginning at flower bud initiation through the full bloom stage of growth.

Note: Do not make applications if drought conditions exist at intended time of application.

Wild Garlic: Apply 1/10 to 2/10 oz per acre of this product in the early spring when wild garlic is less than 12" tall with 2" to 4" of new growth.

Woolly Croton: Apply 1/10 to 2/10 oz per acre of this product in the late spring or early summer at preemergence through 2 true leaf stage.

Surfactants

Unless otherwise specified, add a Nufarm recommended nonionic surfactant having at least 80% active ingredient at 1 to 2 qt per 100 gal of spray solution (0.25 to 0.5% v/v).

Exceptions: (1) On all spring wheat and spring or winter barley use 1/2 to 1 qt per 100 gals; (2) on Fescue pastures use 1/4 qt per 100 gals; (3) on Timothy pastures use 1/4 qt per 100 gals.

Consult your agricultural dealer, applicator, or Nufarm representative for a listing of recommended surfactants.

Antifoaming agents may be used if needed.

Do not use low rates of liquid fertilizer as a substitute for surfactant.

Ground Application

To obtain optimum spray distribution and thorough coverage, use flat-fan or low-volume flood nozzles.

For flood nozzles on 30" spacings, use at least 10 gallons per acre (GPA), flood nozzles no larger than TK10 (or equivalent), and pressure of at least 30 pounds per square inch (psi). For 40" nozzle spacings, use at least 13 GPA; for 60" spacings, use at least 20 GPA. It is essential to overlap the nozzles 100% for all spacings.

With Raindrop RA® nozzles, use at least 30 GPA and ensure that nozzle spray patterns overlap 100%.

For flat-fan nozzle, use at least 3 GPA for applications to wheat or barley. Use at least 10 GPA for application to pasture or rangeland.

Use 50-mesh screens or larger.

Aerial Application

Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.

Wheat, Barley and Fallow- use 1 to 5 GPA. Use at least 3 GPA in Idaho, Oregon, or Utah.

Pasture and Rangeland- Use 2 to 5 GPA.

When applying this product by air in areas adjacent to sensitive crops, use solid stream nozzles oriented straight back. Adjust the swath to avoid spray drift damage to sensitive crops downwind and/or use ground equipment to treat the border edge of fields. See the **Spray Drift Management** section of this label.

TANK MIXTURES

This product may be tank mixed with other suitable registered herbicides to control weeds listed under **Weeds Suppressed**, weeds resistant to this product, or weeds not listed under **Weeds Controlled**. Read and follow all manufacturer's label recommendations for the companion herbicide. If those recommendations conflict with this label, do not tank mix the herbicide with this product.

Tank Mixtures in Cereals (Wheat and Barley)

With 2,4-D (amine or ester) or MCPA (amine or ester)

This product can be used as a tank-mix treatment with 2,4-D or MCPA (ester formulations provide best results) herbicides after weeds have emerged. For best results, use 1/10 oz of this product per acre; add 2,4-D or MCPA herbicides to the tank at 1/4 to 1/2 lb active ingredient. Surfactant may be added to the mixture at 1/2 to 1 qt per 100 gal of spray solution; however, adding surfactant may increase the potential for crop injury.

Apply this product plus MCPA after the 3- to 5-leaf stage but before boot (with Durum and Wampum varieties do not apply before tillering). Apply this product plus 2,4-D after tillering (refer to appropriate 2,4-D manufacturer's label), but before boot.

With Banvel / Banvel SGF

For best results, apply this product at 1/10 oz per acre; add 1/16 to 1/8 lb active ingredient Banvel / Banvel SGF. Surfactant may be added to the mixture at 1/2 to 1 qt per 100 gal of spray solution; however, adding surfactant may increase the potential for crop injury. Also refer to Banvel / Banvel SGF labels for application timing and restrictions.

With 2,4-D (amine or ester) and Banvel

This product may be applied in a 3-way tank mix with formulations of Banvel and 2,4-D. Observe all applicable directions, restrictions and precautions on labels of all products used.

Make applications at 1/10 oz of this product + 2 to 3 oz Banvel (4 to 6 oz Banvel SGF) + 4 to 6 oz active 2,4-D Ester or Amine per acre. Use higher rates when weed infestation is heavy. Add 1 to 2 pt of surfactant to the 3-way mixture, where necessary, as deemed by local recommendations. Use of additional surfactant may not be needed with the higher phenoxy rates and ester phenoxy formulations. Consult the specific 2,4-D or Banvel label, or local recommendations for more information.

Apply this 3-way combination to winter wheat after the crop is tillering and prior to jointing (first node). In Spring Wheat (including Durum wheat) apply after the crop is tillering and before it exceeds the 5-leaf stage.

Do not apply this 3-way mixture at high rates more than once a year or more than twice per year at the low rates.

With bromoxynil (such as Buctril, Bronate®)

This product may be tank mixed with bromoxynil containing herbicides registered for use on wheat, barley, or fallow. For best results, add bromoxynil containing herbicides to the tank at 3 to 6 oz active ingredient per acre (such as Bronate or Buctril at 3/4 to 1-1/2 pt per acre).

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using these tank mixtures. Follow the most restrictive labeling.

With grass control products

Tank mixtures of this product and grass control products may result in poor grass control. Nufarm recommends that you first consult your state experiment station, university, or extension agent, Agricultural dealer, or Nufarm representative as to the potential for antagonism before using the mixture. If no information is available, limit the initial use of this product and the grass product to a small area.

To control wild oat, tank mix this product with Avenge® or Assert®.

When tank mixing this product with Assert, always include 2,4-D ester, MCPA ester, or Bromoxynil containing products (such as Buctril or Bronate). Tank-mixed applications of this product plus Assert may cause temporary crop discoloration, stunting, or injury when heavy rainfall occurs shortly after application.

Do not tank mix this product with HOELON® 3EC, as grass control may be reduced.

With Express®

This product may be tank mixed with Express based on local recommendations.

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using this tank mixture.

With Harmony® Extra

This product may be tank mixed with Harmony Extra based on local recommendations.

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using this tank mixture.

With Insecticides and Fungicides

This product may be tank mixed or used sequentially with insecticides and fungicides registered for use on cereal grains.

However, under certain conditions (drought stress, cold weather, or if the crop is in the 2- to 4-leaf stage), tank mixes or sequential applications of this product with organophosphate insecticides (such as parathion, Di-Syston®) may produce temporary crop yellowing or, in severe cases, crop injury.

The potential for crop injury is greatest when wide fluctuations in day/night temperatures occur just prior to or soon after applications.

Test these mixtures in a small area before treating large areas.

Do not apply this product within 60 days of crop emergence where organophosphate insecticide (such as Di-Syston®) has been applied as an in-furrow treatment, as crop injury may result.

Do not use this product plus Malathion, as crop injury will result.

With Liquid Nitrogen Solution Fertilizer

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing this product in fertilizer solution.

This product must first be slurried with water and then added to liquid nitrogen solutions (e.g. 28-0-0, 32-0-0). Ensure that the agitator is running while the product is added. Use of this mixture may result in temporary crop yellowing and stunting.

If using low rates of liquid nitrogen fertilizer in the spray solution (less than 50% of the spray solution volume), the addition of surfactant is necessary. Add surfactant at 1/2 pt to 1 qt per 100 gal of spray solution (0.06 to 0.25% v/v) based on local recommendations.

When using high rates of liquid nitrogen fertilizer in the spray solution, adding surfactant increases the risk of crop injury. Consult your agricultural dealer, consultant, fieldman, or Nufarm representative for specific recommendation before adding an adjuvant to these tank mixtures.

If 2,4-D or MCPA is included with this product and fertilizer mixture, ester formulations tend to be more compatible (See manufacturer's label). Do not add surfactant when using this product in tank mix with 2,4-D ester or MCPA ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid fertilizer as a substitute for a surfactant.

Do not use with liquid fertilizer solutions with pH less than 3.0.

Tank Mixtures in Harvest Aid

A tank mix of this product plus 2,4-D and surfactant, or Roundup, will typically aid in dry down of many broadleaved weeds, thereby aiding grain harvest. Postemergence applications should be made to actively growing weeds after the crop is in the hard dough stage. If weeds are not dry within 10 days after application, delay harvest until weeds are dry.

See weeds listed in Weeds Controlled chart of this label

With 2,4-D

Use 1/10 oz this product plus 1/4 to 1/2 lb active ingredient 2,4-D per acre on moderate weed infestations; higher rates of 2,4-D may be used on large weeds if permitted by the 2,4-D brand labeling. Include 1 to 2 qt surfactant per 100 gal of spray solution.

In addition to the weeds listed in the Weeds Controlled chart of this label, the 2,4-D combination will also dry down common cocklebur, marehail, puncturevine and common and wild sunflower. In areas where 2,4-D use is restricted, apply this product with surfactant only; however, this treatment may be less effective.

With Roundup

Use 1/10 oz this product plus the locally recommended rate of Glyphosate (See Glyphosate label for maximum seasonal rate). This product requires the use of adjuvant for optimum activity - Consult the Glyphosate label or local recommendation for the amount of adjuvant to include.

Tank Mixtures in Fallow

This product may be used as a fallow treatment, and may be tank mixed with other herbicides that are registered for use in fallow.

Read and follow all manufacturer's label recommendations for the companion herbicide. If those recommendations conflict with this label, do not mix the herbicide with this product.

Tank Mixtures in Pastures or Rangeland

This product can be applied in a tank-mix combination with Grazon® P+D, Tordon® 22K, 2,4-D, Banvel, or Weedmaster® in states where these products are labeled for postemergence control of the following weeds:

Annual marshelder	Common ragweed
Burclover	Giant ragweed
Carolina horsenettle	Prickly lettuce
Common cocklebur	Sunflower
Common milkweed	Western ragweed

For best results, apply this product at 1/10 to 2/10 oz per acre with one of the following products:

Product	Rate (oz/A)
Grazon P+D	8 to 32
Tordon 22K	4 to 16
2,4-D	16 to 32
Banvel	4 to 32
Weedmaster	8 to 32
Remedy®	8
Amber®	0.35*

* For suppression of Ragweed in Phenoxy Restricted and Herbicide Regulated Counties

With Liquid Nitrogen Solution Fertilizer

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing this product in fertilizer solution.

This product must first be slurried with water and then added to liquid nitrogen solutions (e.g. 28-0-0, 32-0-0). Ensure that the agitator is running while the product is added. Use of this mixture may result in temporary crop yellowing and stunting.

If using low rates of liquid nitrogen fertilizer in the spray solution (less than 50% of the spray solution volume), the addition of surfactant is necessary. Add surfactant at 1/4 pt per 100 gal of spray solution (0.03% v/v).

When using high rates of liquid nitrogen fertilizer in the spray solution, adding surfactant increases the risk of crop injury. Consult your agricultural dealer, consultant, fieldman, or Nufarm representative for a specific recommendation before adding an adjuvant to these tank mixtures.

If 2,4-D or MCPA is included with this product and fertilizer mixture, ester formulations tend to be more compatible (See manufacturer's label). Do not add surfactant when using this product in tank mix with 2,4-D ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid fertilizer as a substitute for a surfactant.

Do not use with liquid fertilizer solutions with a pH less than 3.0.

CROP ROTATION

Before using this product, carefully consider your crop rotation plants and options. For rotational flexibility, do not treat all of your wheat, barley, fallow, pasture, or rangeland acres at the same time.

Minimum Rotational Intervals

Minimum rotational intervals* are determined by the rate of breakdown of this product applied. This product's 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 this product breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow this product 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.

Soil pH Limitations

This product 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, this product 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 this product.

Checking Soil pH

Before using this product, 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 your local extension publications for additional information on recommended soil sampling procedures.

Rotational Intervals for Cereals

All Areas - Following Use of this product at 1/10 oz per Acre

Crop	Soil pH	Minimum Cumulative Precipitation (inches)	Minimum Rotation Interval (months)
Winter and Spring wheat	7.9 or lower	No restrictions	1
Durum wheat, barley, spring/winter oat	7.9 or lower	No restrictions	10

Rotation Intervals For Crops in Non-Irrigated Land
Following Use of this product at 1/10 oz per Acre on Wheat, Barley, Fallow or Pasture

Location		Crop	Soil pH	Minimum Cumulative Precipitation (inches)	Minimum Rotation Interval (months)
State	County or Area				
Colorado	Statewide	Grain sorghum, Proso Millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Generally N. of I-70	Field corn	7.9 or lower	15	12
Idaho	Southern Idaho	Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Statewide	Peas Lentils Canola	6.8 or lower	18	10
		Peas	6.9 to 7.9	18	15
		Lentils	6.9 to 7.9	18	34
		Canola	6.9 to 7.9	18	22
Kansas	Statewide	Grain sorghum Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Central and Western Kansas (west of the Flint Hills)	Field corn	7.9 or lower	15	12
	Western Kansas W. of Hwy. 183	Soybeans	7.5 or lower 7.6-7.9	22 33	22 34
	Central Kansas; generally E of Hwy. 183 and W of the Flint Hills	Soybeans	7.9 or lower	15	12
Montana	Statewide	Grain sorghum, Proso millet, Field corn	7.9 or lower	22	22
		Alfalfa (hay only)	7.6-7.9	No restrictions	34
			7.5 or lower	No restrictions	22
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
Nebraska	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	Generally W. of Hwy. 77 and E of the Panhandle	Field corn	7.9 or lower	15	12
		Soybeans	7.5 or lower	22	22
			7.6 – 7.9	33	34

Location		Crop	Soil pH	Minimum Cumulative Precipitation (inches)	Minimum Rotation Interval (months)
State	County or Area				
New Mexico	Statewide	Grain sorghum Proso millet	7.9 or lower	No restrictions	10
		Flax, Safflower Sunflower	7.9 or lower	No restrictions	22
	Eastern New Mexico	Cotton (dryland Only)	7.9 or lower	30	22
North Dakota	W. of Hwy. 1	Grain sorghum, Proso millet, Field corn, Dry beans, Flax, Safflower, Sunflower	7.9 or lower	22	22
	E. of Hwy. 1	Grain sorghum, Proso millet, Field corn, Dry beans, Flax, Safflower, Sunflower	7.9 or lower	34	34
Oklahoma	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restriction	10
		Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
		Field corn	7.9 or lower	15	12
	Panhandle	Cotton (dryland only)	7.9 or lower	30	22
	E. of the Panhandle	Cotton (dryland only)	7.9 or lower	25	14
Oregon	Statewide	Peas Lentils Canola	6.8 or lower	18	10
		Peas	6.9 to 7.9	18	15
		Lentils	6.9 to 7.9	18	34
		Canola	6.9 to 7.9	18	22
South Dakota	Statewide	Flax, Safflower, Sunflower	7.9 or lower	No restrictions	22
	S. of Hwy. 212 & E. of the Missouri River, & S. of Hwy. 34 & W. of Missouri River.	Grain sorghum, Proso millet	7.9 or lower	13	12
	Generally E. of Missouri River & S. of Hwy. 14, & W. of Missouri River	Field corn	7.9 or lower	15	12

Location		Crop	Soil pH	Minimum Cumulative Precipitation (inches)	Minimum Rotation Interval (months)
State	County or Area				
Texas	Statewide	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
		Flax Safflower Sunflower	7.9 or lower	No restrictions	22
	Panhandle	Field corn	7.9 or lower	15	12
		Cotton (dryland only)	7.9 or lower	30	22
	N. Central Texas *	Field corn	7.9 or lower	15	12
		Cotton (dryland only)	7.9 or lower	25	14
	* The counties of N. Central Texas are: Archer, Baylor, Bell, Bosque, Bowie, Callahan, Camp, Cass, Clay, Collin, Cooke, Coryell, Dallas, Delta, Denton, Eastland, Ellis, Falls, Fannin, Foard, Franklin, Grayson, Hardeman, Haskell, Hill, Hood, Hopkins, Hunt, Jack, Johnson, Kaufman, Knox, Lamar, Limestone, McLennan, Milam, Montague, Morris, Nafarro, Palo Pinto, Parker, Rains, Red River, Robertson, Rockwall, Shackelford, Somervell, Stephens, Tarrant, Throckmorton, Titus, Upshur, Van Zandt, Wilbarger, Wichita, Williamson, Wise, Wood, Young.				
Washington	Statewide	Peas Lentils Canola	6.8 or lower	18	10
		Peas	6.9 to 7.9	18	15
		Lentils	6.9 to 7.9	18	34
		Canola	6.9 to 7.9	18	22
Utah	Statewide	Flax Safflower Sunflower	7.9 or lower	No restrictions	22
Wyoming	Statewide	Flax, Safflower Sunflower	7.9 or lower	No restrictions	22
	Southern Wyoming	Grain sorghum, Proso millet	7.9 or lower	No restrictions	10
	Southern Wyoming (Goshen, Laramie, and Platte counties only)	Field corn	7.9 or lower	15	12
	Northern Wyoming	Grain sorghum, Proso millet, Field corn	7.9 or lower	22	22

Rotation Intervals not covered above- The minimum rotation interval is 34 months with at least 28" of cumulative precipitation during the period:

- To any major field crop not listed (See the Rotation Intervals table)
- If the soil pH is not in the specified range
- If the use rate applied is not specified in the table
- Or if the minimum cumulative precipitation has not occurred since application.

To rotate to a major field crop at an interval shorter than recommended, a field bioassay must be successfully completed to that crop. A field bioassay must be successfully completed before rotation to any minor crops (as determined by the USDA criteria). See section on Field Bioassay for further information.

Rotation Intervals in Pasture or Rangeland for Overseeding and Renovation

Location	Crop	Maximum Product 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, orchardgrass, bromegrass, ryegrass, fescue, timothy	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 AREAS NOT INCLUDED ABOVE *	Red clover, white clover, and sweet clover	1/10 to 2/10	12
	Bermudagrass, bluegrass, orchardgrass, bromegrass, ryegrass, timothy	1/10 to 2/10	6
	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

Rotation Intervals not covered above- The minimum rotation interval is 34 months with at least 28" of cumulative precipitation during the period:

- To any major field crop or pasture crop not listed (See the Rotation Intervals Table)
- If the use rate applied is not specified in the table

To rotate to a major field crop at an interval shorter than recommended, a field bioassay must be successfully completed before rotation to that crop. A field bioassay must be successfully completed before rotation to any minor crops (as determined by the USDA criteria). See section on Field Bioassay for further information.

BIOASSAY

A field bioassay must be completed before rotating to any crop not listed (See 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, or if the minimum cumulative precipitation has not occurred since application.

Field Bioassay

To conduct a field bioassay, grow test strips of the crop or crops you plan to grow the following year in fields previously treated with this product. Crop response to the bioassay will indicate whether or not to rotate to the crop(s) grown in the test strips.

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

GRAZING

There are no grazing restrictions on this product.

IMPORTANT PRECAUTIONS

Treated vegetation may be cut for forage or hay. Coveralls, shoes plus socks must be worn if cutting within 4 hours of treatment.

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water (if using liquid nitrogen fertilizer solution in place of water, see Tank Mixtures sections for additional details).
2. While agitating, add the required amount of this product.
3. Continue agitation until the product is fully dispersed, at least 5 minutes.
4. Once the product is fully dispersed, maintain agitation and continue filling tank with water. This product should 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. Apply this product spray mixture within 24 hours of mixing to avoid product degradation.
8. If this product and a tank mix partner are to be applied in multiple loads, pre-slurry the product in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of this product.

Do not use this product with spray additives that reduce the pH of the spray solution to below 3.0.

SPRAY EQUIPMENT

For specific application equipment, refer to the manufacturer's recommendations for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc.

Be sure to calibrate air or ground equipment properly before application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern with minimum drift. Use higher spray volumes to obtain better coverage when the crop canopy is dense. Avoid swath overlapping, and shutoff spray booms while starting, turning, slowing, or stopping to avoid crop injury.

Do not make applications using equipment and/or spray volumes or under weather conditions that might cause spray to drift onto nontarget sites. For additional information on spray drift, refer to the Spray Drift Management section of the label.

Continuous agitation is required to keep this product in suspension.

SPRAYER CLEANUP

Spray equipment must be cleaned before this product is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the six steps outlined in **After Spraying NUP 9D 01 (MSM 60 WDG)** section of this label.

At the End of the Day

When multiple loads of this product 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.

After Spraying NUP 9D 01 (MSM 60 WDG) and Before Spraying Crops Other than Wheat, Barley, Fallow, Pasture, or Rangeland

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of this product as follows:

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) 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.
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. If only Ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of alternate-strength ammonia solution or an Nufarm-approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or Nufarm representative for a listing of approved cleaners.

Notes:

1. **Attention:** Do not use chlorine bleach with ammonia, as dangerous gasses will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When this product is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of this product and applications of other pesticides to this product sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to this product to further reduce the chance of crop injury.

PRECAUTIONS

- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:
 - Do not apply, drain or flush equipment 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.
 - Do not use on lawns, walks, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas.
 - Do not use on grasses grown for seed.
- Do not apply to irrigated land where tailwater will be used to irrigate crops other than wheat and barley.
- Do not apply to frozen ground as surface runoff may occur.
- Do not apply to snow-covered ground.
- Wheat and barley varieties may differ in their response to various herbicides. Nufarm 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 this product to a small area.
- Under certain conditions such as heavy rainfall, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after application of this product, temporary discoloration and/or crop injury may occur. This product should not be applied to wheat or barley that is stressed by severe weather conditions, drought, low fertility, water-saturated soil, disease, or insect damage or crop injury may result. Risk of injury is greatest when crop is in the 2- to 5-leaf stage. Severe winter stress, drought, disease, or insect damage following application also may result in crop injury.
- The combined treatment effects of NUP 9D 01 (MSM 60 WDG) postemergence preceded by preemergence wild oat herbicides may cause crop injury to spring wheat when crop stress (soil crusting, planting too deep, prolonged cold weather, or drought) causes poor seedling vigor.
- In the Pacific Northwest, to prevent cold weather-related crop injury, avoid making applications during winter months when weather conditions are unpredictable and can be severe.
- Do not apply to wheat, barley or pastures undersown with legumes, as injury to the forage may result.
- To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, trashy mulch, reduced tillage, or other cultural practices. Injury to immediately adjacent crops may occur when treated soil is blown onto land used to produce crops other than cereal grains or pasture/rangeland.
- For ground applications applied to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced. The addition of 2,4-D or MCPA should improve weed control under these conditions.
- Preplant or preemergence applications of 2,4-D or herbicides containing 2,4-D made within 2 weeks of planting spring cereals may cause crop injury when used in conjunction with early postemergence applications of this product. For increased crop safety, delay this product treatment until crop tillering has begun.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food, or feed in storage. Store in cool, dry place.

PRODUCT DISPOSAL: Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste facility.

Container Disposal: For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities. **For Fiber Drums With Liners:** Completely empty liner by shaking and tapping

sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. **For Bags Containing Water Soluble Packets:** Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Paper and Plastic Bags:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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