OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
WASHINGTON, D.C. 20460

August 28, 2024

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

Subject: Label Amendment - Registration Review Mitigation for Metsulfuron-methyl & Chlorsulfuron-methyl
Product Name: NUP 08136
EPA Registration Number: 228-600
Application Dates: January 23, 2024
Decision Numbers: 596160 & 594961

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 & Chlorsulfuron-methyl Interim Decisions, 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,

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

ENCLOSURE: Stamped label

CHLORSULFURON & METSULFURON - METHYL	GROUP	2	HERBICIDES

NUP-08136 HERBICIDE

Dispersible Granule

For Use on Pastures, Rangeland or Established Grasses on Acres Enrolled in the Conservation Reserve Program and on Wheat and Barley.

ACTIVE INGREDIENTS:

Metsulfuron Methyl: ethyl 2-[[[[(4-methoxy-6-methyl-1,3,5-triazin-2yl)amino]carbonyl]amino]sulfonyl]benzoate	48.0%
Chlorsulfuron: 2-Chloro-N-[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)aminocarbonyl] benzenesulfonamide	15.0%
OTHER INGREDIENTS:	37.0%
TOTAL:	100.0%

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

SEE [BELOW] [INSIDE BOOKLET] [BACK PANEL] FOR [FIRST AID] [AND] [ADDITIONAL] [PRECAUTIONARY STATEMENTS] [AND] [DIRECTIONS FOR USE]

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

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

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EPA REG. NO. 228-600

EPA EST. NO.

MANUFACTURED BY
NUFARM AMERICAS INC.
11901 S. AUSTIN AVE.
ALSIP, IL 60803

NET [WEIGHT] [CONTENTS]_____LBS. (_____Kg)
[Designation as "NONREFILLABLE" or "REFILLABLE" for containers > 50 Lbs.]

Nufarm

000228-00600.20240821

ACCEPTED
Aug 28, 2024
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 228-600

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION/PRECAUCION

Harmful if absorbed through skin or if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid contact with skin or, clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Mixers, loaders, applicators, and other handlers must wear:

• Long-sleeved shirt and long pants

• Waterproof gloves

• Shoes plus socks

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

Engineering Controls Statement:

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the 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. • Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water. • Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

FIRST AID	
IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

Groundwater Advisory: Chlorsulfuron and metsulfuron-methyl are 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 chlorsulfuron and 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.

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 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 intervals. 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
- Waterproof gloves
- Shoes plus socks

Use NUP-08136 only in accordance with directions on this label or in separate published Nufarm directions. Nufarm will not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by Nufarm.

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

PESTICIDE HANDLING

All operators must be trained handling in the proper handling of this herbicide. All spray equipment must be routinely checked and calibrated prior to use. Store this product away from well sites. Dose levels must be verified before mixing. Prepare spray solutions according to the directions on this label, do not overfill spray tank, and dispose of container rinsates by adding to the spray tank. Do not prepare more spray solution than is necessary for the day's application, and do not discard excess material at a single spot on the soil in the field or near the location for mixing/loading. Read and follow all precautions and restrictions on this label.

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.

ENVIRONMENTAL CONDITIONS AND ACTIVATION OF NUP-08136

NUP-08136 moves into plants by absorption through the roots and foliage and rapidly inhibits the growth of susceptible weeds. Within one to three weeks after application, broadleaf weed growth slows, leaves of susceptible plants become yellow to white in color, and growing points die. Within four to six weeks after application, these effects are seen in annual weeds. Effects on perennial weeds and woody plants are seen one season following the application.

For optimum *preemergence* control of target weeds, NUP-08136 needs to reach the weed roots. Irrigation–rainfall or sprinkler irrigation–after an application (1-2 inches) moves the NUP-08136 into the top few inches of the soil and into the weed root zone. As the amount of crop or weed residue increases or if soils are fine in texture, an increased the amount of moisture is required for activation. When little or no rainfall or irrigation is received after an application, weeds that germinate will not be controlled because the NUP-08136 was not moved into the weed root zone by the moisture.

Optimum control of weeds shaded by rapidly growing crops or grasses is achieved with NUP-08136. Ineffective control of weeds may be seen where grass stands are thin. If the canopy of the grasses completely intercepts the spray solution, weed control will be reduced.

Under normal conditions, NUP-08136 will not harm desirable grasses. Injury to grasses may result from application of NUP-08136 to grasses that are growing under stress (due to extreme temperatures or moisture, abnormal soil conditions, or cultural practices) or to certain sensitive grass varieties.

Poor weed and brush control may be observed if rainfall, sprinkler irrigation, or snowfall occurs shortly after application. Under cold, dry conditions movement of NUP-08136 into the root zone of weeds and brush will be delayed. NUP-08136 is less effective to weeds and brush hardened off by cold weather or under stress from lack of water.

WEED RESISTANCE MANAGEMENT

For resistance management, this product contains two Group 2 herbicides – chlorsulfuron and metsulfuron-methyl. Any weed population may contain or develop plants naturally resistant to this product 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 this product 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.

• 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 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]].]

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.

INTEGRATED PEST MANAGEMENT

NUP-08136 may be used as part of an Integrated Pest Management (IPM) program. This program relies on tillage (or other mechanical), biological, cultural, and chemical control practices to prevent economic pest damage. IPM principles and practices include field monitoring, historical information related to herbicide use and crop rotation, correct identification of target pests, population monitoring, and treatment when target pest populations reach a locally-determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine the action treatment threshold levels for treating specific pest/crop systems in your area.

WINDBLOWN SOIL PARTICLES

This product 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 affects the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying this product if prevailing local conditions may be expected to result in off-site movement.

PASTURES, RANGELANDS AND GRASSES IN CRP

Use NUP-08136 on lands primarily dedicated to the production of pasture, rangeland, or established grasses in the Conservation Reserve Program (CRP), and in uncultivated areas (fence rows, farmyards, and rights-of-way) that are next to, or which transect or pass through, treated pastures, rangeland, or CRP, where grazing or harvesting for animal feed of those uncultivated areas may occur.

NUP-08136 is a dispersible granule that is applied in water or in liquid nitrogen carriers for control or suppression of broadleaf weeds and brush in pasture, rangeland and CRP. Apply NUP-08136 as a uniform broadcast spray and always add a spray adjuvant unless otherwise specified on this label.

Although NUP-08136 is registered for use most states, check with your state extension or Department of Agriculture before applying to be certain NUP-08136 is registered in your state. The use of NUP-08136 is prohibited in these Colorado counties: Alamosa, Conejos, Costilla, Rio Grande, and Saguache.

Both preemergent and postemergent applications of NUP-08136 will control weeds. This control is optimized when NUP-08136 is applied when weeds are young and actively growing. Several factors (including use rate, weed growth stage and degree of infestation at the time of application, and post-application weather conditions) will affect the range of weeds controlled and the length of residual activity.

Use of NUP-08136 is permitted in floodplains where surface water is not present, in terrestrial areas of deltas, and in low lying areas where water is drained but may be found in isolated pockets due to uneven or unlevel conditions.

PRECAUTIONS AND RESTRICTIONS

Read the following restrictions and precautions to avoid injury to or loss of desirable trees or other desirable plants or vegetation. NUP-08136 will affect growing plants whose roots, stems or foliage come in contact with NUP-08136. FOLLOW THE USE PRECAUTIONS ON THIS LABEL.

- To avoid severe injury or death, do not drain or flush equipment rinses on or near desirable trees or other plants, on areas where their roots may extend, or in areas where the product may be washed or moved into contact with desirable plant roots. Do not use this product on areas such as athletic fields, commercial sod farms (including high-maintenance fine turfgrass areas), driveways, golf courses, lawns, tennis courts, walks, or similar areas.
- Do not apply to grasses grown for seed.
- Do not contaminate irrigation ditches or water used for domestic purposes.
- Do not apply to irrigated land if the tailwater will be used to irrigate crops.
- To avoid the possibility of surface runoff, do not apply to frozen ground or to snow-covered ground.
- Before using NUP-08136, consult your state experiment station, university, or extension agent as to sensitivity of grass species or varieties to various herbicides. If the sensitivity of the grass variety is unknown, test NUP-08136 on a small area. Tolerance of grass seed mixtures to NUP-08136 varies and the resulting stand may not reflect the seed ratio.
- NUP-08136 will discolor and/or cause injury to grasses when certain conditions exist either before or after the application, including heavy rainfall, high soil pH, extended cold weather, or wide fluctuations in day/night temperatures. To avoid injury, do not apply NUP-08136 to grass growing under conditions of stress as a result of severe weather conditions (such as drought, low fertility, water-saturated soils, disease, or insect damage). Injury to grasses is possible if application is followed by severe winter stress from drought, disease, or insect damage.
- To avoid injury to legumes, do not apply NUP-08136 to pastures, rangeland or CRP which are undersown with legume crops. Severe injury or death may occur to legumes in seedling mixtures as a result of NUP-08136 application.
- To minimize off-site movement of product on treated soils which can lead to damage of susceptible crops, do not apply if soils are powdery, dry or light, or sandy. Treated soil particles may move off-site to non-target crop sites through wind or water. Low levels of NUP-08136 may injure or kill crops, especially if crops are irrigated.
- Injury to agricultural crops may occur if runoff water from applications flows onto non-target agricultural lands.
- Do not apply NUP-08136 under the following conditions: during heavy rainfall, if soils are water-logged, if soils will not allow penetration of irrigation water which could result in off-site movement of NUP-08136. Do not disturb treated soil to minimize off-site movement of NUP-08136 by soil erosion due to wind or water.
- Weeds in wheel tracks may not be completely controlled from ground applications if dry, dusty field conditions exist.
- **Maximum amount of chlorsulfuron per year:** 1 ounce per acre.
- **Maximum amount of metsulfuron-methyl per year:** 1 ounce per acre.
- Leave treated areas undisturbed from cultivating or mowing for at least 7 days after application.

APPLICATION DIRECTIONS FOR PASTURES AND RANGELAND

Application Timing – Pastures and Rangeland: Apply NUP-08136 to established native and other pasture grasses such as those listed below:

Native Grass	Other Pasture Grass
Bluestems	Bermudagrass
Blue grama	Bluegrass
Buffalograss	Orchardgrass
	Bromegrass
	Fescue
NOTE: Do not use NUP-08136 on susceptible grass pastures such as: Bentgrass, timothy, carpetgrass, Matua bromegrass, St. Augustine grass.	

Severe injury and/or loss of these grasses may occur as a result of NUP-08136 application: Pensacola Bahiagrass, ryegrass (Italian or perennial), and Garrison's creeping foxtail.

Directions specific to some of these pasture grasses are provided below.

Follow the time periods noted in the table below for the length of time to wait after establishing the listed grasses before applying NUP-08136:

Pasture Grass	Amount of time to wait after establishing grasses before NUP-08136 application
Bermudagrass	2 months
Bluegrass, bromegrass (except Matua bromegrass and orchardgrass)	6 months
Fescue	24 months

Buffalograss Precautions: Allow Buffalograss to become established for at least 1 year before using NUP-08136. Do not apply NUP-08136 on stands grown for seed production. Maximum application rate: 0.625 ounces NUP-08136 per acre.

Fescue Precautions: Fescue may become temporarily stunted, turn yellow or show suppression of seedhead from NUP-08136. These symptoms are minimized by the following:

- Apply no more than 0.5 ounces per acre of NUP-08136
- Add a non-ionic surfactant at a rate of ½ to 1 pint per 100 gallon of spray solution (1/16 to 1/8% v/v). Only use non-ionic surfactant as the spray adjuvant. If liquid nitrogen is used as a carrier, do not add the surfactant.
- Delay application until later in the spring when the new growth is 5 to 6 inches tall, or wait until the fall.
- Seedhead suppression from NUP-08136 application may result in reduced yields in the first cutting.

Other Pasture and Rangeland Grasses Precautions: The sensitivity of grass species or varieties to NUP-08136 may vary. If the sensitivity of the grass is unknown, test NUP-08136 on a small area. If the grass is uninjured throughout the season, then larger areas may be treated the next season. Severe injury and/or stunting of sensitive broadleaf species (such as alfalfa and clover) will result from applications of NUP-08136.

APPLICATION DIRECTIONS FOR CONSERVATION RESERVE PROGRAM (CRP)

Use NUP-08136 to control or suppress broadleaf weeds in established stands (planted previous year or earlier) of the following perennial native or improved grasses grown on land enrolled in the Conservation Reserve Program (CRP):

Blue Grama	Indiangrass	Sideoats grama
Bluestems (big, little, plains, sand, WW spar)	Kleingrass	Switchgrass (Blackwell)
Buffalograss	Lovegrasses (atherstone, sand, weeping, wilman)	Wheatgrasses (crested, intermediate, pubescent, slender, streambank, tall, thickspike, western)
Green sprangletop	Orchardgrass	Wildrye grass- (Russian)

Satisfactory control by NUP-08136 may not be achieved if newly planted CRP grass stands do not sufficiently compete with weeds, or if weed pressure in CRP fields is severe. Follow up treatments such as another herbicide application or mowing may be required.

Application Timing and Use Rates for CRP: Apply NUP-08136 postemergence at 0.125 to 0.25 ounces NUP-08136 per acre to the grasses listed in the table above that were planted the previous season and are fully tillered.

WEEDS AND BRUSH CONTROLLED OR SUPPRESSED IN PASTURES, RANGELAND OR CRP

Apply when weeds are no taller or wider in diameter than 4 inches and are actively growing (unless specified otherwise in the **Additional Directions for Specific Weeds** section of this label). Before using NUP-08136, carefully consider your crop rotation plans and options. Do not treat all acres (pasture, rangeland, CRP) at the same time if rotational crop plant back flexibility is desired.

WEEDS AND BRUSH APPLIATION RATES

1/8 (0.125) ounce per Acre of NUP-08136		
Bitter sneezeweed	False chamomile	Russian thistle*
Blue/purple mustard*	Field pennycress (tanweed)	Shepherd's purse
Broomweed, common	Filaree	Smallseed falseflax
Bur buttercup (testiculate)	Flixweed*	Smartweed (green, ladysthumb, pale)
Buttercup	Groundsel (common)	Snow speedwell
Canada thistle*‡	Henbit	Tansymustard*
Carolina geranium	Kochia*	Treacle mustard (Bushy Wallflower)
Coast fiddle neck (tarweed)	Lambsquarters (common, slimleaf)	Tumble/Jim Hill mustard
Common chickweed	Marestail (horseweed)	Volunteer sunflower*
Common purslane	Mayweed chamomile	Waterpod
Conical catchfly	Miners lettuce	Wild buckwheat*‡
Corn gromwell*‡	Pigweed (redroot, smooth, tumble)	Wild garlic*
Cowcockle	Plains coreopsis	Wild mustard
Curly dock	Plantain	Wild sunflower*‡
Cutleaf eveningprimrose*‡	Prickly lettuce*	Woolly croton*
Dandelion	Prostrate knotweed*‡	

¼ (0.25) ounce per Acre of NUP-08136		
Annual marshelder	Common yarrow	Purple scabious
Blackeyed-Susan	Dogfennel	Scotch thistle*
Buckbrush‡	Horsemint (beebalm)	Western snowberry‡
Burclover	Musk thistle*	Wild carrot

0.375 to 0.625 ounce per Acre of NUP-08136		
Annual sowthistle	Crown vetch	Seaside arrowgrass
Aster	Goldenrod	Sericea lespedeza*
Bittercress	Maximillion sunflower	Silky crazyweed (locoweed)
Chicory	Multiflora rose*‡	Sweet clover
Clover	Pennsylvania smartweed	Wild lettuce
Cocklebur	Pensacola bahiagrass*	Wood sorrel
Common mullein	Redstem filaree	Yankeeweed
Corn cockle	Rough fleabane	

0.625 to 1.25 ounce per Acre of NUP-08136		
Black henbane	Dyer's woad	Rosering gaillardia
Blackberry	Gorse	Spotted knapweed*
Broom snakeweed*	Halogeton	Teasel
Buckhorn plantain	Honeysuckle	Wild caraway
Common crupina	Multiflora rose and other wild roses*	Yucca*‡
Dewberry	Plumeless thistle	

1.25 ounce per Acre of NUP-08136		
Bull thistle	Perennial pepperweed	Scouringrush
Common tansy	Poison hemlock	Snowberry (Common, Mountain)
Field bindweed‡	Purple loosestrife	St. Johnswort
Gumweed	Rush skeletonweed*‡	Western salsify
Houndstongue	Salsify	Whitetop (hoary cress)

***** Refer to the section **Additional Directions for Specific Weeds** for additional information on these weeds.

† These weeds are suppressed and/or controlled. Evidence of suppression includes a visual reduction in numbers of weeds as well as a significant loss of vigor. The extent that weeds are suppressed will depend on the use rate, weed size at application and post-application environmental conditions.

ADDITIONAL DIRECTIONS FOR SPECIFIC WEEDS – PASTURES, RANGELANDS AND CRP

Additional directions for certain weed species is listed below. For optimum results, a thorough, uniform spray is necessary to ensure coverage of all weeds.

Blue/Purple Mustard, Flixweed, and Tansymustard	For optimum results, apply NUP-08136 postemergence as a tank mix with another herbicide (such as 2,4-D or MCPA which also controls these weeds). Apply prior to bloom.
Broom Snakeweed	For optimum results, apply 0.625 ounces per acre NUP-08136 in the fall. NUP-08136 provides suppression only from spring applications.
Canada Thistle	For suppression, time the application of NUP-08136, or NUP-08136 as a tank mix with 2,4-D or MCPA, to occur in the spring after the majority of thistles emerge, are small (rosette stage to 6" stems) and are actively growing. Emerged thistles treated with NUP-08136 will be unable to compete with grass. Spot applications to fully-leafed weeds, applied as a foliar spray, also suppress this weed.
Corn Gromwell, Cutleaf Eveningprimrose and Prostrate Knotweed	Time the application of NUP-08136, or NUP-08136 as a tank mix with 2,4-D or MCPA, to occur when weeds are actively growing (2" or less in height) and when thorough coverage of the spray onto the weeds through the grass canopy is ensured.
Kochia, Russian thistle, Prickly lettuce	These weeds are known to have naturally occurring resistant biotypes which can be best controlled from application of NUP-08136 in a tank mix with dicamba (such as Banvel/Banvel SGF/Clarity) and/or 2, 4-D. Apply in the spring when weeds are actively growing but 2" or less in height or 2" across. Refer to the **Tank Mix** section for additional details.
Multiflora Rose	Apply NUP-08136 as a broadcast application in the spring to multiflora rose that is fully leafed and is no taller than 3 feet.
Musk Thistle, Scotch Thistle	For optimum results, apply 0.25 ounces per acre NUP-08136 in the spring or early summer before flowering, or in the fall (before soil becomes frozen) after newly emerged plants are at the rosette growth stage. Not all biotypes of musk and scotch thistles will be controlled by NUP-08136. Additional information on use rates and tank mixes for your area can be obtained from your local Nufarm representative, dealer or applicator.
Pensacola bahiagrass control in established Bermudagrass pasture	For optimum results, apply 0.375 ounces NUP-08136 per acre. Apply in the spring after greenup but prior to formation of bahiagrass seedhead. Make application only if there is sufficient moisture to ensure growth of grass. Bahiagrass can be successfully removed from Bermudagrass pastures using NUP-08136. Use NUP-08136 in areas with high Bahiagrass infestations to completely clear the area of useful forage; the Bermudagrass will slowly recover. Make the applications of NUP-08136 to different sections of an entire ranch or farm every year and do not apply to the entire farm or ranch in one year since there will be no useful forage available. To speed the reestablishment of the Bermudagrass, fertilize (particularly with nitrogen and potassium) and/or replant. Bahiagrass may regrow if the bahiagrass infestation is severe, the treated areas are under grazing pressure, or the weather conditions are not optimum. To avoid poor weed control and/or reqrowth, do not apply NUP-08136 in liquid fertilizer solutions for Pensacola bahiagrass control. Do not use NUP-08136 to control common or Argentine bahiagrass.
Plumeless Thistle	For optimum results, apply 0.625 ounces NUP-08136 per acre. Apply in the early spring or early summer. Weeds should be newly emerged and at the rosette growth stage. If a fall application is made, do not apply if the soil becomes frozen.
Rush skeletonweed	Apply 1.25 ounces NUP-08136 per acre in a tank mix with dicamba (8 fluid ounces of products such as Banvel or Clarity per acre) and 2,4-D (16 fluid ounces per acre).
Sericea lespedeza	For optimum results, apply 0.625 ounces NUP-08136 per acre from flower bud initiation through the full bloom stage of growth. Delay applications if drought conditions exist at the time of application.
Spotted Knapweed	For optimum results, apply 0.625 ounces NUP-08136 per acre with dicamba (8 fluid ounces of products such as Banvel or Clarity) and 2,4-D (16 fluid ounces per acre).

Snowberry (Western, Common, Mountain)	Time applications of NUP-08136 (1.25 ounces per acre) to begin when plants are actively growing continuing throughout the growing season up until fall defoliation. Improved control is achieved with a tank mixture with 2,4-D (ester formulation; refer to Tank Mixtures section of this label for additional information).
Sunflower (wild or volunteer)	Apply NUP-08136 as a tank mix with 2,4-D or MCPA by ground (in a minimum spray volume of 10 gal per acre) or air (in a minimum spray volume of 3 gal per acre). Wait until most of the sunflowers have emerged, are actively growing and are between 2 and 4 inches in height.
Wild Buckwheat	Time application of NUP-08136 plus 2,4-D or MCPA to occur only when conditions allow weeds to actively grow. Treat when plants have no more than 3 true leaves (not counting the cotyledons).
Wild Garlic	For optimum results, apply 0.125 to 0.25 ounces NUP-08136 per acre. Wild garlic is best controlled in the early spring when plants are no taller than 12 inches and no more than 2 to 4 inches of new growth.
Woolly Croton	For optimum results, apply 0.125 to 0.25 ounces NUP-08136. Weeds are best controlled in the late spring or early summer when plants are in the cotyledon through 2 true leaf stage.
Yucca	For best results, apply 0.625 to 1 ounce NUP-08136. Tank mixes with 2,4-D, dicamba, dicamba plus 2,4-D, or Remedy® provide additional control when applied two weeks before bloom to two weeks post-bloom.

SPRAY ADJUVANTS – PASTURES, RANGELANDS AND CRP

Always include a crop oil concentrate or nonionic surfactant when applying NUP-08136 unless otherwise directed. Your Nufarm representative can provide additional information if other adjuvant systems are used. Only use adjuvants that are permitted for use with the combination herbicide products to be tank-mixed with NUP-08136. Only product that are EPA-exempt (40 CFR 180) must be used. Additional details can be found in the table below. **Do not use low rates of liquid fertilizer as a substitute for spray adjuvants.**

Additive	Instructions
Nonionic Surfactant (NIS)	Apply at a rate (concentration) of 0.25 (1 qt. per 100 gal spray solution). If arid conditions exist, apply at a rate of 0.5%. The surfactant must contain a minimum of 60% nonionic surfactant that has a hydrophilic/lipophilic balance (HLB) not less than 12. **Exceptions**: On Fescue pastures, do not more than ½ to 1 pint non-ionic surfactant per 100 gallons.
Crop Oil Concentrate (COC) – Petroleum or Modified Seed Oil (MSO)	Apply at a rate of 1 gal. Per 100 gal. Of spray solution (1%) (use 2 gal per 100 gal spray solution if arid conditions exist). Use only oil adjuvants that have 80% high quality petroleum (mineral) or modified vegetable-seed oil containing at least 15% surfactant emulsifiers.
Special Types of Adjuvants	To achieve required amounts of NIS, COS, MSO and/or ammonium nitrogen fertilizer, use of a combination of adjuvants are permitted as long as the use rates and restrictions on the product labels are followed. Other specialty adjuvants may be used providing they have similar functionality as the other adjuvants listed on this label, and have been approved for use by Nufarm. Consult Nufarm representatives prior to using adjuvants not specified on this label.
Ammonium Nitrogen Fertilizer	Apply at a rate of 2% (v/v). Use only high quality urea ammonium nitrates (UANs; 28% N or 32% N). Another option is to apply no more than 17 lb per acre of a sprayable ammonium sulfate (AMS).
Antifoaming agents	Use these products if needed.

TANK MIXES WITH OTHER PRODUCTS – PASTURES, RANGELANDS, AND CRP

Before making tank mix applications of NUP-08136 and other registered herbicides, insecticides, fungicides, or liquid nitrogen fertilizers, read the table below for specific directions for tank mixes with other products. Read and follow all manufacturers' label recommendations for the tank mix partner. If the recommendations conflict with this label, do not tank mix the product with NUP-08136. Before mixing the tank mix product with NUP-08136, be sure all recommendations on the product labels do not conflict with those on this label. Read the section **Instructions for Preparing Tank Mixes of NUP-08136**, above, regarding preparation of pre-slurries of NUP-08136 before adding tank mix partners.

Tank-Mix Partner	Application Directions
Insecticides or Fungicides	Tank mixes of NUP-08136 with insecticides and fungicides registered for use on pastures, rangelands or CRP are permitted as directed in the table below. NUP-08136 may also be used sequentially with insecticides and fungicides on pastures, rangeland or CRP. Drought, stress or cold weather may affect tank mixes or sequential applications of NUP-08136 with organophosphate insecticides (such as methyl parathion) producing temporary yellowing and/or severe injury of grasses. These symptoms are most prevalent during periods when day and night temperatures vary greatly immediately before or soon after the application. Before large areas are treated, test NUP-08136 in small test plots. Do not use NUP-08136 in tank mixes with 14alathion as this tank mix will result in grass injury.
Liquid Nitrogen Fertilizers for CRP	Liquid nitrogen fertilizers (such as 28-0-0 or 32-0-0) may replace water as the carrier in spray solutions. Check for physical compatibility before mixing NUP-08136 in liquid fertilizers. Follow the directions in the sections **Instructions for Preparing Tank Mixes of NUP-08136** and **Tank Mixes**, especially regarding preparing a pre-slurry of NUP-08136 with water before adding the liquid nitrogen fertilizer. This tank-mix may cause temporary crop yellowing and stunting. Always add a non-ionic surfactant (1/4 pint per 100 gal spray solution; 0.03% v/v) when using low rates of liquid nitrogen fertilizers (between 5% and 50% of spray solution by volume). Only use non-ionic surfactants. The use of low rates of liquid fertilizers may not be used in place of a spray adjuvant. Grass injury may result when liquid nitrogen fertilizer solutions are greater than 5% of the spray solution by volume and the NUP-08136 rate is more than 0.25 ounces, Grass injury may occur if a surfactant is used when using higher rates of liquid nitrogen fertilizers (greater than 50% of the spray solution by volume). Obtain specific recommendations from your agricultural dealer, consultant, or your Nufarm representative prior to adding adjuvants to these tank mixes. Do not use NUP-08136 with liquid fertilizers that have a pH of 3.0 or less. When tank mixing NUP-08136 with 2,4-D or MCPA, the ester formulations are recommended for increased compatibility. Increased chances of grass injury may occur when surfactants are added to liquid fertilizer tank mixes of NUP-08136 plus 2,4-D ester or MCPA ester: do not include a surfactant to these tank mixes when the liquid nitrogen fertilizer is greater than 5% of the spray solution by volume.
Herbicides for tank mixes in Pasture or Rangeland	Tank mixes of NUP-08136 with other registered herbicides may be applied to pasture and rangelands to control or suppress weeds listed in the **Weeds Controlled or Suppressed** table, weeds which are resistant to NUP-08136, or other weeds not listed on this label. Read and follow all manufacturers' label recommendations for the tank mix partner. Before mixing the tank mix product with NUP-08136, be sure all recommendations on the herbicide labels do not conflict with those on this label. Refer to the other registered herbicide labels to confirm that the product is labeled for control of the weeds listed above and is registered for use in your state. NUP-08136 can be applied in a tank mix with one of the following products. 8-32 oz. Grazon® P+D/A 4-16 oz. Tordon® 22/A 8-32 oz. Weedmaster®/A 8 oz. Remedy /A 8-16 oz. A.I. 2,4-D 2-16 oz. A.I. dicamba (such as Banvel or Clarity) 3 oz. A.I. 2,4-D plus 1 oz. A.I. dicamba to 12 oz. A.I. 2,4-D plus 4 oz. A.I. dicamba
Herbicides for tank mixes in CRP –Preplant Applications	Apply tank mixes of NUP-08136 and glyphosate (such as GLYFOS® X-TRA or Roundup UltraMax™) pre-plant (before planting CRP grasses) for control of broadleaf and grass weeds. Do not plant grasses for at least 7 days after this NUP-08136 plus glyphosate tank mix application. Read all product labeling and fact sheets for glyphosate before use.

Herbicides for tank mixes in CRP – Postemergence Applications	A tank mix of NUP-08136 plus 2,4-D (ester formulation is recommended) or dicamba (such as Banvel or Clarity) will provide the best weed control performance in CRP, Apply the tank mix of NUP-08136 using ¼ lb A.I. 2,4-D per Acre if labeled grasses exceed the 5-leaf stage. Use rates of ½ lb. A.I. 2,4-D per Acre when stands are fully tillered. Although addition of a spray adjuvant is permitted, the chances for injury to grasses will increase. Apply the tank mix of NUP-08136 using between 1/8 and ¼ lb A.I. dicamba per Acre if labeled grasses exceed the 3-leaf stage. Use rates of ¼ to ½ lb. A.I. dicamba per Acre when stands are fully established (2 year stands). Although addition of a spray adjuvant is permitted, the chances for injury to grasses will increase.

BROADLEAF WEED CONTROL IN WHEAT AND BARLEY – COLORADO, KANSAS, NEW MEXICO, OKLAHOMA AND TEXAS

NUP-08136 is a dispersible granule that is applied in water or in liquid nitrogen carriers for control or suppression of broadleaf weeds in wheat and barley. Apply NUP-08136 as a uniform broadcast spray at rates of 0.125 ounces per acre alone to control or suppress emerged broadleaf weeds postemergence, or combine NUP-08136 with other herbicides registered for use on wheat and barley. Read and follow all manufacturers' label recommendations for the tank mix partner. Before mixing the tank mix product with NUP-08136, be sure all recommendations on the herbicide labels do not conflict with those on this label. Refer to the other registered herbicide labels to confirm that the product is labeled for control of the weeds listed above and is registered for use in your state.

NUP-08136 is registered for use on wheat and barley only in the states of Colorado, Kansas, New Mexico, Oklahoma and Texas.

Refer to the section below on **Spray Adjuvants**. Always include a nonionic surfactant, petroleum based crop oil concentrate, or vegetable-seed oil-based product (methylated seed oils are considered a vegetable seed-based oil) in spray tanks unless otherwise directed on this label. When applying NUP-08136 with other herbicides, choose the adjuvants based on the partner herbicide products limitations regarding adjuvants.

APPLICATION DIRECTIONS FOR WHEAT AND BARLEY

Apply 0.125 ounces NUP-08136 per acre to wheat and barley to control or suppress broadleaf weeds that are actively growing and are no more than 4 inches in height or in diameter. Crop injury may occur if applications are made during boot and early heading. To prevent reduced weed control, do not apply if rainfall is expected within 4 hours of application.

For irrigated wheat and barley, apply when the crop begins tillering but prior to boot. Delay the initial irrigation until at least 3 days after application. Keep this irrigation to less than 1 inch of water.

For dryland wheat and barley, apply when the crop has reached the 2-leaf stage but prior to boot. Make a single application per use season at a rate of 0.125 ounces NUP-08136 per acre.

WEEDS CONTROLLED

0.125 ounce per Acre of NUP-08136		
Blue/purple mustard*	Groundsel (common)	Smallseed falseflax*
Bur buttercup (testiculate)	Henbit	Smartweed (green, ladysthumb, pale)
Coast fiddleneck (tarweed)	Kochia*	Snow speedwell
Common chickweed	Lambsquarters (common slimleat)	Tansymustard*
Common purslane	Mayweed chamomile	Treacle mustard* (Bushy Wallflower)
Conical catchfly	Miners lettuce	Tumble/Jim Hill mustard
Cowcockle	Pigweed (redroot, smooth, tumble)	Volunteer sunflower
False chamomile	Plains coreopsis	Waterpod
Field pennycress (fanweed)	Prickly lettuce*	Wild mustard
Filaree	Russian thistle*	
Flixweed*	Shepherd's purse	

WEEDS SUPPRESSED

0.125 ounce per Acre of NUP-08136		
Canada thistle* †	Corn gromwell* †	Sowthistile (annual)* †
Common sunflower* †	Knotweed (prostrate)* †	Wild buckwheat* †

* Refer to the section **Additional Directions for Specific Weeds** for additional information on these weeds.

† These weeds are suppressed and/or controlled. Evidence of suppression includes a visual reduction in numbers of weeds as well as a significant loss of vigor. The extent that weeds are suppressed will depend on the use rate, weed size at application and post-application environmental conditions.

ADDITIONAL DIRECTIONS FOR SPECIFIC WEEDS – WHEAT AND BARLEY

Additional directions for certain weed species is listed below. For optimum results, a thorough, uniform spray is necessary to ensure coverage of all weeds.

Blue Mustard, Treacle mustard, Flixweed, Small seeded falseflax, and Tansymustard	For optimum results, apply NUP-08136 postemergence to mustards as a tank mix with another herbicide (such as 2,4-D or MCPA) which also controls these weeds. Apply prior to bloom. **Tansy mustard, Flixweed, Treacle mustard and Small seeded falseflax**: use 0.1 ounce NUP-08136 plus ¼ pound A.I. 2,4-D ester for control of these weeds. **Tansy mustard, Flixweed or Treacle mustard only**: use 0.083 ounces NUP-08136 plus ¼ pound active 2,4-D ester for control of these weeds.
Canada Thistle and Sowthistle:	Apply in the spring using NUP-08136 plus surfactant or NUP-08136 plus 2,4-D or MCPA. Time applications to occur after most of the thistles have emerged, are small (rosette stage to 6" stems) and are actively growing. Emerged thistles treated with NUP-08136 will be unable to compete with the crop.
Corn gromwell and Prostrate knotweed:	Time the application of NUP-08136 plus surfactant to occur when weeds are actively growing (2" or less in height) and when thorough coverage of the spray onto the weeds through the grass canopy is ensured. Results may be improved using a tank mix of NUP-08136 plus 2,4-D or MCPA.
Kochia, Russian thistle, Prickly lettuce	These weeds are known to have naturally occurring resistant biotypes which can be best controlled from application of NUP-08136 in a tank mix with dicamba plus 2, 4-D, or with bromoxynil plus 2,4-D. Apply in the spring when weeds are actively growing but 2" or less in height or diameter. Refer to the **Tank Mix** section for additional details.
Sunflower (common/volunteer):	Apply NUP-08136 plus surfactant or NUP-08136 as a tank mix with 2,4-D or MCPA by ground (in a minimum spray volume of 10 gal per acre) or air (in a minimum spray volume of 3 gal per acre). Wait until most of the sunflowers have emerged, are actively growing and are between 2 and 4 inches in height.
Wild buckwheat	Time application of NUP-08136 plus 2,4-D or MCPA to occur only when conditions allow weeds to actively grow. Treat when plants have no more than 3 true leaves (not counting the cotyledons).

SPRAY ADJUVANTS Nonionic Surfactant (NIS) – WHEAT AND BARLEY

Always include a nonionic surfactant, petroleum based crop oil concentrate, or vegetable-seed oil-based product (methylated seed oils are considered a vegetable seed-based oil) in spray tanks unless otherwise directed on this label. When applying NUP-08136 with other herbicides, choose the adjuvants based on the partner herbicide products limitations regarding adjuvants. Additional details can be found in the table below.

Additive	Instructions
Nonionic Surfactant (NIS)	Apply at a rate (concentration) of 0.25-0.5% v/v (1-2 qt. per 100 gal spray solution). If hot and arid conditions exist, apply at a rate of 0.5%.
Crop Oil Concentrate (COC) – Petroleum or Modified Seed Oil (MSO)	Replace the NIS with a COC if desired when arid conditions or cool weather conditions exist. Apply at a rate of 1-2 gal. Per 100 gal. Of spray solution (1-2% v/v). Use only petroleum based COCs that have 80% high quality petroleum (mineral) or modified vegetable-seed oil containing at least 15% surfactant/emulsifiers.

Ammonium Nitrogen Fertilizer	To enhance weed control, add an ammonium nitrogen fertilizer to the surfactant or COC. Another option is to use a high quality, sprayable grade of ammonium sulfate (AMS; 21-0-0).

GROUND APPLICATION – PASTURES, RANGELANDS, CRP, WHEAT AND BARLEY

The use of flat-fan or low-volume flood nozzles will provide optimum spray distribution and thorough coverage of spray solution. Use the following spray volumes for the type of nozzle selected:

- flat-fan nozzles – minimum 10 gal. Per Acre (GPA) broadcast;
- flood jet on 30 inch spacings – minimum 10 GPA (flood nozzles are TK10, or equivalent with a minimum of 30 psi);
- flood jet on 40 inch spacings – minimum 13 GPA;
- flood jet on 60-inch spacings – minimum 20 GPA.

It is essential to overlap the nozzles 100% for all spacings. Use Raindrop RA nozzles with at least 30 GPA and ensure that nozzle spray patterns overlap 100%. Screens must be 50-mesh or larger.

AERIAL APPLICATION – PASTURES, RANGELANDS, CRP, WHEAT AND BARLEY

Apply NUP-08136 in a minimum of 3 gallons per Acre using spray nozzle types and arrangements that optimizes spray distribution and provides maximum coverage.

To prevent drift into adjacent areas or onto sensitive crops, apply NUP-08136 by air using solid stream nozzles oriented straight back. To minimize spray drift, supplement aerial applications of NUP-08136 with ground applications to borders and edges of fields. See additional precautions in the section **Spray Drift Management**.

DIRECTIONS FOR CROP ROTATION – PASTURES, RANGELANDS, CRP, WHEAT AND BARLEY

Do not treat all acres (pasture, range, CRP, wheat or barley) at the same time with NUP-08136 if rotational crop plant back flexibility is desired. Before using NUP-08136, plan your application and rotation crop strategy.

Follow the rotation crop intervals specified in the tables below. Minimum rotation crop intervals are defined as the amount of time that must elapse from the last application to the anticipated date of the next planting. These intervals have been established based on how quickly NUP-08136 breaks down in the soil. Factors that influence the rate of breakdown include soil pH, soil temperature, soil microbes, and soil moisture. Soils that have a low pH (less than 7.0), high moisture (regions that receive over 20” of annual rainfall), and high soil temperatures (greater than 40°F) facilitate the breakdown of NUP-08136 in soil. Conversely, soils with high soil pH, low moisture and low soil temperatures tend to break down NUP-08136 more slowly. Because soil temperatures and soil moisture can vary from season to season, monitor this information when considering crop rotations.

SOIL PH LIMITATIONS: If soils have a pH above 7.9, do not apply NUP-08136 to these fields or residues of NUP-08136 may persist for 34 months or longer. This residual activity may require crop rotation intervals longer than the timing listed in the table below in order to avoid injury to sensitive crops (wheat, barley and other sensitive crops) or grasses.

Testing Soil pH: Do not apply NUP-08136 until you have tested the soil pH in areas where treatment is planned. To determine the pH of the soil, sample soils taken from different, representative areas at depths of between 0 and 4 inches. Send the samples to a laboratory for individual pH determinations. Additional information on soil sampling can be obtained from local extension publications.

BIOASSAY: Before planting crops (other than wheat, barley) or grass species/varieties not listed in the table for Rotation Crop Intervals into areas previously treated with NUP-08136, a field bioassay test is required. A bioassay is also needed if the soil pH is outside the specified range or use rate is not listed in the table. Test the crop(s) or grass(es) intended to be planted the year following a treatment with NUP-08136 by growing the crop in small plots which received the NUP-08136 treatment. The crop or grass response will determine the feasibility of rotating this crop or grass to large areas which had been treated

with NUP-08136. Additional information on the procedures for carrying out field bioassays can be obtained from your local dealer or Nufarm representative.

ROTATION CROP INTERVAL TABLE FOR PASTURE, RANGELAND OR CRP FOR OVERSEEDING AND RENOVATION

The listed crops or grasses can be rotated after the checked (√) period of time has elapsed after application of NUP-08136.

State, County or Area	Plantback Crop or Species	Maximum Application Rate of NUP-08136 (oz/A)	Rotation Interval – Months							
			1	2	3	4	6	10	12	18
AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV	Alfalfa, Red clover, White clover, Sweet clover, Bermudagrass, Bluegrass, Ryegrass, Tall fescue	0.25				√				
	Wheat (except Durum)	0.375	√							
	Durum, Barley, Oat	0.375						√		
ALL STATES NOT INCLUDED ABOVE	Red clover, White clover, and Sweet clover	0.25							√	
	Bermudagrass, Bluegrass, Ryegrass	0.25					√			
	Tall fescue	0.25								√
	Wheat (except Durum)	0.25	√							
	Durum, Barley, Oat	0.25						√		
ALL AREAS WITH SOIL pH OF 7.5 OR LESS	Russian wildrye	0.625	√							
	Green needlegrass, Switchgrass, Sheep fescue	1.25	√							
	Meadow brome, Smooth brome, Alta fescue, Red fescue, Meadow foxtail, Orchardgrass, Russian wildrye, Timothy	1.25		√						
ALL AREAS WITH SOIL pH of 7.9 OR LESS	Alkali sacoton, Mountain brome, Blue grama, Thickspike wheatgrass	1.25	√							
	Sideoats grama, Switchgrass	0.625		√						
	Western wheatgrass	1.25		√						

State, County or Area	Plantback Crop or Species	Maximum Application Rate of NUP-08136 (oz/A)	Rotation Interval – Months							
			1	2	3	4	6	10	12	18
	Sideoats grama, Switchgrass, Big bluestem	1.25			√					
	STS™ soybean	0.25					√			
AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV with soil pH of 7.0 or less	Field corn, Soybeans	0.25							√	

ROTATION CROP INTERVAL TABLE FOR GRAIN CROPS

The minimum rotation crop intervals are based upon the soil pH and the crop to be planted back after application. The minimum interval is the amount of time that must elapse from the date of the last application to the anticipated date of planting. The crops that can be rotated are listed under the corresponding minimum recropping interval column in the table below.

Location	Soil pH	Cumulative Precipitation (Inches)	Minimum Rotation Crop Plantback Interval	
			1 Month	10 Months
All Areas	7.9 or lower	No restriction	W/W, SW	DW, B, SO and WO
W/W = winter wheat SW = spring wheat B = barley SO = spring oats WO = winter oats				

ROTATION CROP INTERVAL TABLE FOR CROPS IN NON-IRRIGATED LAND – NUP-08136 APPLIED AT 0.125 OUNCES PER ACRE TO WHEAT AND BARLEY

The listed crops can be rotated after the checked (√) period of time has elapsed after application of 0.125 ounces NUP-08136 per acre to wheat and barley.

State, County or Area	Plantback Crop(s)	Soil pH	Cumulative Precipitation (Inches)	Minimum Rotation Crop Plantback Interval – Months						
				0	4	10	12	14	22	34
CO All areas	Grain Sorghum, Prosso Millet	7.9 or lower	No restriction			√				
	Flax, Safflower, Sunflower		No restriction						√	
	Field corn		15				√			
	IR Corn		No restriction		√					
	STS Soybeans		No restriction		√					
KS, Central & Western (West of the Flinthills)	Field corn	7.9 or lower	15				√			
	IR Corn		15		√					
KS Western (W. of Hwy. 183)	Soybeans	7.5 or lower	22						√	
	Soybeans	7.6-7.9	33							√
KS, Central (Generally E. of Hwy. 183 and W. of the Flinthills)	Soybeans	7.9 or lower	15				√			
	STS Soybeans		15		√					
NM, All Areas	Grain Sorghum, Prosso Millet	7.9 or lower	No restriction			√				
	Flax, Safflower, Sunflower		No restriction						√	
NM, Eastern	Cotton (dryland only)	7.9 or lower	30						√	
OK, All areas	Grain Sorghum, Prosso Millet	7.9 or lower	No restriction			√				
	Flax, Safflower, Sunflower		No restriction						√	
	Field corn		15				√			
	IR Corn, STS Soybeans		No restriction		√					
OK, Panhandle	Cotton (dryland only)	7.9 or lower	30						√	

State, County or Area	Plantback Crop(s)	Soil pH	Cumulative Precipitation (Inches)	Minimum Rotation Crop Plantback Interval – Months						
				0	4	10	12	14	22	34
OK, East of the Panhandle	Cotton (dryland only)	7.9 or lower	25					√		
TX, All areas	Grain Sorghum, Prosso Millet	7.9 or lower	No restriction			√				
	Flax, Safflower, Soybean, Sunflower		No restriction						√	
TX, Panhandle	Field corn	7.9 or lower	15				√			
	Cotton (dryland only)		30						√	
TX, North Central (*)	Field corn	7.9 or lower	15				√			
	Cotton (dryland only)		25					√		

*The counties of N. Central Texas are: Archer, Baylor, Bell, Bosque, Bowie, Callahan, Camp, Cass, Clay, Collin, Cooke, Coryell, Dallas, Delta, Demon, 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, Tarrent, Throckmorton, Titus, Upshur, Van Zandt, Wilbarger, Wichita, Williamson, Wise, Wood, Young.

GRAZING RESTRICTIONS – PASTURES, RANGELANDS, CRP, WHEAT AND BARLEY

There are no grazing restrictions when using NUP-08136 on range, pasture, CRP or other uncultivated areas (fence rows, farmyards, and rights-of-way) that are next to, or which transect or pass through, treated areas. There are no grazing restrictions when using NUP-08136 in wheat and barley.

HARVESTING OF HAY – PASTURES, RANGELANDS, CRP, WHEAT AND BARLEY

There are no restrictions on harvesting hay when NUP-08136 is applied to wheat, barley, range, pasture, CRP, and/or undesirable vegetation in uncultivated areas (fence rows, farmyards, and rights-of-way) which are adjacent to, or pass through or transect, treated areas. Wear coveralls and shoes plus socks if cutting occurs within 4 hours of treatment.

INSTRUCTIONS FOR PREPARING TANK MIXES OF NUP-08136

1. Using clean fresh water, fill the spray tank ¼ to 1/3 full. If a liquid nitrogen fertilizer solution is used in place of water, refer to the **Tank Mixtures** section for additional details.
2. Begin agitation and then add the required amount of NU-08136.
3. Allow the solution to agitate for 5 minutes to completely disperse the NU-08136.
4. Continue agitation and fill the spray tank with the remaining water. Do not add any other material until the NU-08136 is thoroughly mixed with the water.
5. As the tank is filling with the remaining amount of water, add any tank mix partners followed by the necessary volume of spray adjuvant. Always add the spray adjuvant last. Do not mix NU-08136 with spray additives that reduce the pH of the spray solution below 3.0.
6. NOTE: Continuous agitation is required or settling will occur. Before spraying, reagitate the solution to ensure a uniform solution is sprayed.
7. Make only a sufficient amount of NU-08136 spray mixture that can be used within 24 hours of mixing. The product may degrade if allowed to sit unused.
8. For application of multiple loads of NU-08136 and a tank mix partner, make a pre-slurry of NUP-08136 in clean water and then add to the spray tank. This pre-mix helps to prevent the tank mix partner from interfering with the dissolution of the NUP-08136.

SPRAY EQUIPMENT FOR APPLICATION OF NUP-08136

Refer to the manufacturer's recommendations for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc. Use calibrated air or ground equipment and apply using a spray volume and delivery system to ensure a thorough, uniform spray coverage of weed pests. Use precautions to minimize drift. Higher spray volumes will produce better coverage to dense canopies of weeds. Do not overlap sprays. To avoid injury to desirable species, turn off spray booms while starting, turning, slowing, or stopping. Do not make applications using equipment and/or spray volumes or under weather conditions that might cause spray drift onto nontarget sites. Additional information is provided in the section on **Spray Drift Management**. Use application equipment that will ensure constant agitation of NUP-08136 spray solutions.

HOW TO CLEAN SPRAYER EQUIPMENT

Clean all spray equipment before making an application of NUP-08136. Immediately after an application or multiple applications of NUP-08136, clean all spray equipment using the cleanup procedures described on the labels of previously applied products. If there are no cleanup directions, use the following cleanup procedures. After spraying is completed at the end of the day, rinse the interior of the tank with fresh water. Partially refill the tank with fresh water and flush the boom and hoses. These rinses will prevent deposits of dried pesticide residues that can remain in the application equipment.

Residues of NUP-08136 that remain in the spray equipment may injure desirable crops if the equipment is used to make applications to crops other than wheat, barley, pasture, rangeland or CRP. Use the following steps to clean all mixing and spray equipment immediately following applications of NUP-08136:

1. Drain the spray tank and then use fresh water to rinse the interior surfaces of the tank. Then flush the tank, boom, and hoses with water for at least 5 minutes. Physically remove any solid deposits that are found around the equipment.
2. Use fresh clean water to fill the tank and add one gallon of household ammonia (3%)† per 100 gallons of water. Flush the boom, hoses, and nozzles with this cleaning solution. Completely fill the tank with fresh water and circulate the solution through the tank and hoses for 15 minutes. Flush the boom, hoses, and nozzles, and then drain the tank.
3. Remove and clean the nozzles and screens separately. Use a bucket filled with the cleaning solution.
4. Repeat step 2.
5. Use clean water to rinse the tank, boom and hoses.
6. If the cleaner used is only ammonia, the rinsate solution may be discarded by being applied 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.

† Other Nufarm-approved cleaning solutions or different strengths of ammonia solution can also be used as cleaning agents. Use the same amounts as noted in step 2, above. Carefully follow the directions for use on the labels of the individual cleaner. Consult your Agricultural dealer, applicator, or Nufarm representative for a listing of approved cleaners.

Notes for Sprayer Equipment Cleaning:

- Do not use chlorine bleach with ammonia as dangerous gases will form. Clean equipment in well-ventilated areas.
- Before following the above cleanout procedure for aerial spray tanks, steam-clean the tanks to aid in removing caked deposits.
- Follow the most rigorous cleanout procedure for all pesticides which are tank-mixed with NUP-08136.
- After completing the above cleanout procedure and before using the sprayer equipment to make the next pesticide application, clean out the sprayer following the procedures on the pesticide product label that will be applied.
- It is recommended that a dedicated sprayer be kept for NUP-08136 applications during the growing season. Dedicated equipment for NUP-08136 applications will help to minimize the potential for injury to NUP-08136-sensitive crops if routine spraying practices include equipment shared between applications of NUP-08136 and applications of other pesticides during the same spray season.

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: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

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