

SPRINKLER CHEMIGATION IN WINTER & SPRING WHEAT & SPRING BARLEY IN IDAHO

General Information

PRODUCT INFORMATION

This product is a dry flowable granule that is used for selective postemergence weed control in wheat (including durum), barley, triticale, oats, post-harvest burndown, fallow and pre-plant burndown. The best control is obtained when this product is applied to young, actively growing weeds. The use rate will depend on weed spectrum and size of weed at time of application. The degree and duration of control may depend on the following:

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

This product is noncorrosive, nonflammable, nonvolatile, and does not freeze. This product should be mixed in water and applied as a uniform broadcast spray.

BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS

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.

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 have differing levels of sensitivity to treatment with this product under otherwise normal conditions.

Treatment of sensitive crop varieties may injure crops. To reduce the potential of

crop injury, tank mix this product with 2,4-D (ester formulations perform best – see “TANK MIXTURES” section of this label) and apply after the crop is in the tillering stage of growth.

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-of by drought stress are less susceptible to this product. Weed control may be reduced if rainfall or snowfall occurs soon after application. Several hours of dry weather are needed to allow this product to be sufficiently absorbed by weed foliage.

USE RESTRICTIONS

Do not apply to wheat, barley, oats or triticale underseeded with another crop. 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, or similar areas. Prevent drift of spray to desirable plants.
- Do not contaminate any body of water.

USE PRECAUTIONS

Varieties of wheat (including durum), barley, oats and triticale may differ in their response to various herbicides. Nufarm recommends that you first consult your state experiment station, university, or extension agent as to crop sensitivity to any herbicide. If no information is available, limit the initial use 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 this product application, temporary discoloration and/or crop injury may occur. To reduce the potential of crop injury, tank mix this product with 2,4-D (ester formulations perform best- see the “TANK MIXTURES” section of this label) and apply after the crop is in the tillering stage of growth.

This product should not be applied to wheat, barley, oats or triticale that is stressed by severe weather conditions, drought, low fertility, water-saturated soil, disease, or insect damage, as 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.

Dry, dusty field conditions may result in reduced control in wheel track areas. Injury to or loss of adjacent sensitive crops and vegetation may result from failure to observe the following:

- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than wheat, barley, oats or triticale.

RESISTANCE

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

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

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

INTEGRATED PEST MANAGEMENT

Nufarm recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target

pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

SPRAY ADJUVANTS - ALL CROPS AND USES

Include a spray adjuvant with applications of this product. In addition an ammonium nitrogen fertilizer may be used. Consult your Ag dealer or applicator local Nufarm fact sheets and technical bulletins prior to using an adjuvant system. If another herbicide is tank mixed with this product, select adjuvants authorized for use with both products. Products must contain only EPA exempt ingredients.

NONIONIC SURFACTANT (NIS)

Apply at a rate (concentration) of 0.06-0.5% v/v (0.5 to 4 pints per 100 gallons spray solution).

Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

CROP OIL CONCENTRATE (COC) PETROLEUM OR MODIFIED SEED OIL (MSO)

Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under and conditions MSO adjuvants may be used at 0.5% v/v if specified on local Nufarm product literature or service policies.

Oil adjuvants must contain at least 80% high quality petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

SPECIAL ADJUVANT TYPES

Combination adjuvant products may be used at doses that provide the required amount of NIS COC MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.

In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by Nufarm product management. Consult separate Nufarm technical bulletins for detailed information before using adjuvant types not specified on this label.

AMMONIUM NITROGEN FERTILIZER

Use 2 quarts per acre of a high quality urea ammonium nitrate (UAN) such as 28%N or 32%N or 2 pounds per acre of a spray grade ammonium sulfate (AMS). Use 4

quarts per

acre UAN or 4 pounds per acre AMS under arid conditions.

See “TANK MIXTURES” “With Liquid Nitrogen Fertilizer” for instructions on using fertilizer as a carrier in place of water.

GRAZING

Allow at least 7 days between application and grazing of treated forage. In addition, allow at least 7 days between application and feeding of forage (green chop) from treated areas to livestock. Allow at least 30 days between application and feeding of hay from treated areas to livestock. Allow at least 45 days between application and harvesting of grain. Harvested straw may be used for bedding and/or feed.

CROP ROTATION

Labeled crops may be planted at specified time intervals following application of this product. Use the time intervals in the chart below to determine the required time interval before planting

APPLICATION INFORMATION

PRODUCT MEASUREMENT

This product can be measured using this product’s volumetric measuring cylinder included in the case. The degree of accuracy of this cylinder varies by $\pm 7.5\%$. For more precise measurement, use scales calibrated in ounces.

APPLICATION METHOD

GROUND APPLICATION

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

Select nozzles and pressure that deliver medium spray droplets.

Nozzles that deliver coarse spray droplets may be used to reduce drift provided spray volume is increased to maintain coverage on small weeds. For optimal product performance and minimal spray drift adjust the spray boom to the lowest possible spray height listed in manufacturer’s specifications. Overlaps or starting, stopping, slowing, and turning while spraying may result in crop injury.

For flat-fan nozzles, use a spray volume of at least 5 gallons per acre (GPA).

For flood nozzles on 30” spacing, use flood nozzles no larger than TK10 (or the

equivalent), a pressure of at least 30 psi and a spray volume of at least 10 gallons per acre only.

For 40" nozzle spacing, use at least 13 GPA; for 60" spacing use at least 20 gallons per acre. It is essential to overlap the nozzles 100% for all spacings. Raindrop RA nozzles are not recommended for this product applications, as weed control performance may be reduced.

Use screens that are 50-mesh or larger.

For application in California refer to the "CALIFORNIA APPLICATION REQUIREMENTS FOR PROTECTION OF SENSITIVE CROPS" section of this label for specific ground application requirements.

AERIAL APPLICATION

For aerial application select nozzles and pressure that deliver medium or coarse spray and that provide optimum spray distribution and maximum coverage at 2 to 5 gallons per acre.

Use at least 2 gallons per acre In Idaho Oregon and Utah use at least 3 gallons per acre.

Do not apply this product by air in the state of New York.

For aerial applications do not apply during a temperature inversion when wind speed is less than 3 mph or above 10 mph or when conditions favor poor coverage and/or off target spray drift.

See the "Spray Drift Management" section of this label.

For application in California refer to the "CALIFORNIA APPLICATION REQUIREMENTS FOR PROTECTION OF SENSITIVE CROPS" section of this label for specific aerial application requirements.

CHEMIGATION / SPRINKLER IRRIGATION APPLICATION

(For tank mix use only with bromoxynil in wheat and spring barley in Idaho)

Apply this tank mix through sprinkler irrigation systems including center pivot, lateral move, side (wheel) roll, solid set or hand move irrigation systems only. Do not apply these herbicides through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for this product's application to any public water system. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The sprinkler chemigation system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

SPECIFIC REQUIREMENTS FOR APPLICATION THROUGH SPRINKLER IRRIGATION SYSTEMS

1. For use via chemigation only as a tank-mix with bromoxynil for applications to wheat and spring barley in Idaho. Do not apply this product via chemigation for any other use.

2. In center pivot and continuous lateral move systems, this product + bromoxynil-containing herbicides should be applied continuously for the duration of the water application. In solid set systems, application of the tank mix should be made during the last 30 to 45 minutes of the irrigation.
3. Set the sprinkler system to deliver approximately 0.5 inch or less of water per acre for best product performance.
4. Fill the supply tank with half of the water amount desired, add this product and agitate it well. Add the bromoxynil containing herbicides and then add the remaining water amount with agitation. Bromoxynil containing herbicides require a dilution with at least 4 parts water to 1 part bromoxynil containing herbicides.
5. Agitation is required in the pesticide supply tank when applying this tank mixture.
6. Do not use a surfactant with this tank mix application.
7. Inject this product + bromoxynil containing herbicides solution at least 8 feet ahead of a right angle turn of irrigation pipe to insure adequate mixing. Allow sufficient time for the herbicide mixture to be flushed through the lines before turning off irrigation water.
8. Follow both this product and bromoxynil containing herbicides label instructions for spray tank cleanout both before and after application. Flush lines with clean water following application.
9. Do not apply when wind speed favors drift beyond the area intended for treatment. Avoiding spray drift is the responsibility of the applicator.

AFTER SPRAYING THIS PRODUCT AND BEFORE SPRAYING CROPS OTHER THAN WHEAT, BARLEY, OATS AND TRITICALE

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. Physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia* (contains 3% active ingredient) 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) listed 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 an alternate-strength ammonia solution or a Nufarm-approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your Ag dealer, applicator, or Nufarm representative for a listing of approved cleaners.

Notes:

PRECAUTION: Do not use chlorine bleach with ammonia because dangerous gases will form.

Do not clean equipment in an enclosed area.

1. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.

2. When this product is tank mixed with other pesticides, cleanout procedures for each product should be examined and the most rigorous procedure should be followed.

3. In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual product labels.

4. Where routine spraying practices include shared equipment frequently being

switched between applications of this product and applications of other pesticides to 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.

Limitations, Restrictions, and Exceptions

SPRINKLER CHEMIGATION WITH THIS PRODUCT AND BROMOXYNIL CONTAINING HERBICIDES (SUCH AS MAESTRO 2EC, BUCTRIL, BISON, MAESTRO MA, BRONATE, MAESTRO ADVANCED, BRONATE ADVANCED OR RHINO) IN WINTER & SPRING WHEAT & SPRING BARLEY IN IDAHO

DIRECTIONS FOR USE

This product Herbicide is recommended in combination with bromoxynil containing herbicides (such as Maestro 2EC, Buctril, Bison, Maestro MA, Bronate, Maestro Advanced, Bronate Advanced or Rhino) for use in fall seeded wheat, spring seeded barley and spring seeded wheat when applied through sprinkler irrigation systems in the state of Idaho. HOW TO USE Use 1/4 to 1/3 ounce of this product per acre in combination with bromoxynil containing herbicides at a rate of 3 to 6 ounce active ingredient per acre (such as Maestro MA, Bronate or Bison at 3/4 to 1-1/2 pints per acre). Apply to wheat and barley after the 3-leaf stage but before the flag leaf is visible. Make only one chemigation application of this mixture per crop year.

For best results, apply to broadleaf weeds up to the 4-leaf stage, or 2 inches in height or 1 inch in diameter, whichever comes first. Consult this product's label and bromoxynil containing herbicides package labels for list of weeds controlled or suppressed.

Method

[Sprinkler Irrigation](#)

Restricted Entry Interval

12 hours

Timings

[Apply to wheat and barley after the 3-leaf stage but before the flag leaf is visible.](#)