# Rapport® TankMix

# Herbicide

# **Water Dispersible Granule**

For use on wheat, barley, triticale, fallow and as a pre-plant or post-harvest burndown herbicide

# **ACTIVE INGREDIENTS:**

Thitensulturon-methyl	
Methyl 3-[[[(4-methoxy-6-methyl-1,3, 5-triazin-2-yl)ami	ino]
carbonyl]amino]sulfonyl]-2-triophenecarboxylate	40.0%
Tribenuron-methyl	
Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-trazin-2yl)	
methylamino]carbonyl]amino]sulfonyl]benzoate	10.0%
OTHER INGREDIENTS:	50.0%
TOTAL:	100.0%

# KEEP OUT OF REACH OF CHILDREN CAUTION

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

EPA REG. NO. 71368-80

Manufactured for Nufarm Inc. 11901 S. Austin Avenue Alsip, IL 60803



# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

# Applicators and other handlers must wear:

- · Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.
- · 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.

**Important:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

# **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.
- 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 IN EYES:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
	HOTLINE

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**

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters. Do not apply where/when conditions favor runoff.

# **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 over-filling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field/grove 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.

# **USE INFORMATION**

This product can be used in a tank mix with other suitable registered herbicides to provide selective postemergence control of certain broadleaf weeds in wheat (including durum), barley, triticale, post harvest burndown, pre-plant burndown and fallow. This product is a water dispersible granule to be mixed in water or other recommended carrier and applied as a uniform broadcast spray. It is noncorrosive, nonflammable, nonvolatile and does not freeze.

# **BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS**

Best results are obtained when this product is applied to young, actively growing weeds. The specified use rate will depend on weed spectrum and size of weed at time of application. The degree of control and duration of effect are dependent on rate used, sensitivity and size of target weed and environmental conditions at the time of and following application. This product stops growth of susceptible weeds rapidly. However, typical symptoms of dying weeds (discoloration) may not be noticeable for 1 to 3 weeks after application (2 to 5 weeks for wild garlic, when present) depending on the environmental conditions and weed susceptibility. Warm, moist conditions following treatment promote the activity of this product, while cold, dry conditions delay the activity. Weeds hardened-off by cold weather or drought stress will be less susceptible.

A vigorous growing crop will aid weed control by shading and providing competition for weeds. However, a dense crop canopy at time of application can intercept spray and result in reduced weed control. Weeds may not be adequately controlled in areas of thin crop stand or seeding skips.

Applications made to weeds that are in the cotyledon stage, larger than the size indicated, or to weeds under stress may result in unsatisfactory 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.

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.

#### **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 restrictedentry 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 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

This product must be used only in accordance with instructions on this label or in separately published Nufarm instructions.

Nufarm will not be responsible for losses or damages resulting from the use of this product in any manner not in accordance with instructions on this label. This product is registered for use on wheat, barley, triticale, post harvest burndown, pre-plant burndown and fallow in most states. Check with your state extension service or Department of Agriculture before use, to be certain this product is registered in your state.

#### APPLICATION TIMING

#### WHEAT (INCLUDING DURUM), BARLEY, AND TRITICALE

Make applications after the crop is in the 2-leaf stage, but before the flag leaf is visible. Do not harvest within 45 days of the last application.

#### **PRE-PLANT BURNDOWN**

For burndown of emerged weeds, broadcast applications of this product may be applied up through planting, but before wheat (including durum), barley, or triticale plants emerge. Apply this product as a burndown treatment to sugarbeets, winter rape, and canola fields at least 60 days prior to planting. Apply this product as a burndown treatment before planting any other crop (such as soybeans and field corn, cotton, rice, or grain sorghum) at least 45 days prior to planting. (See the CROP ROTATION section of this label for additional information.)

#### **POST HARVEST**

This product may be used as a burndown treatment to crop stubble when the majority of weeds have emerged and are actively growing. (See the CROP ROTATION section of this label for additional information.)

#### **FALLOW**

Apply this product in the spring or fall when the majority of weeds have emerged and are actively growing. Generally, such applications are made in the spring or fall when most cereal applications are made. (See the CROP ROTATION section of this label for additional information.)

# **USE RATES**

Unless otherwise instructed by Nufarm, do not use less than 0.6 ounce of this product per acre.

# WHEAT, BARLEY AND TRITICALE

Apply 0.6 to 1.0 ounce of this product per acre in a tank mix with other suitable registered herbicides. Refer to the APPLICATION TIMING, TANK MIXTURES, USE INFORMATION, and WEEDS CONTROLLED sections of this label for additional information.

Sequential treatments of this product may be made provided the total amount of this product applied to the crop does not exceed 1.8 ounces per acre.

# PRE-PLANT BURNDOWN

Apply 0.6 to 1.0 ounce of this product per acre as a burndown treatment prior to planting any crop; or shortly after planting, but prior to emergence of, wheat (including durum), barley, or triticale. (See the APPLICATION TIMING section of this label for restrictions on planting intervals.)

This product should be applied in combination with other suitable registered preplant burndown herbicides. (See the TANK MIXTURES section of this label for additional information.)

Sequential treatments of this product may also be made provided the total amount of this product applied during one fallow/preplant season does not exceed 1.8 ounces per acre.

# POST HARVEST AND FALLOW

Apply 0.6 to 1.0 ounce of this product per acre as a postemergence fallow treatment, in combination with other suitable registered fallow herbicides. (See the TANK MIXTURES section of this label for additional information.)

Sequential treatments of this product may be made provided the total amount of this product applied to the crop does not exceed 1.8 ounces per acre.

# **SPRAY ADJUVANTS**

Include a spray adjuvant with applications of this product. An ammonium nitrogen fertilizer may also be used. Do not use low rates of liquid nitrogen fertilizer solution as a substitute for a surfactant. Always use a surfactant, unless otherwise recommended. Antifoaming agents may be used if needed. Consult your Ag dealer or applicator, local Nufarm fact sheets and technical bulletins prior to using an adjuvant system. Select adjuvants that are authorized for use with all products in this product tank mix. Products must contain only EPA-exempt ingredients (40 CFR 1001).

#### **NONIONIC SURFACTANT (NIS)**

- $\bullet$  Apply 0.25 to 0.50% v/v (2 to 4 pints per 100 gal of spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12. (See the TANK MIXTURES section of this label for additional information.)

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

- Apply at least 1% v/v (1 gal per 100 gal spray solution), or 2% under arid 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 qt per acre of a high-quality urea ammonium nitrate (UAN) with a surfactant, such as 28%N or 32%N, or 2 lb per acre of a spray-grade ammonium sulfate (AMS), with a surfactant. Use 4 qt per acre UAN or 4 lb per acre AMS under arid conditions.

# WEEDS CONTROLLED WHEN TANK MIXED WITH BROMOXYNIL CONTAINING PRODUCTS

(Such as Buctril®/Maestro® 2EC, Bison®/Bronate®/Rhino®/ Maestro® MA or Bronate® Advanced/Maestro® Advanced)

Annual knawel
Annual sowthistle
Black mustard
Black nightshade

Bushy wallflower/Treacle

mustard

Carolina geranium Coast fiddleneck

Corn chamomile

Corn gromwell

Corn spurry

Cow cockle

Cress (mouse-ear) Cutleaf nightshade

Curly dock

Eastern black nightshade

False chamomile Field pennycress

Flixweed Fumitory Giant ragweed Green smartweed

Hemp sesbania Henbit

Horned poppy Ivyleaf morningglory

Jimsonweed Kochia \*‡ Ladysthumb Lanceleaf sage London rocket Mallow (little) Marshelder

Miners lettuce Mouse-ear chickweed Pennsylvania smartweed Pepperweed species

Prickly lettuce\*‡

Common mallow

section of this label).

Common chickweed\*
Common cocklebur
Common groundsel
Common lambsquarters
Common ragweed
Common sunflower\*
Common tarweed
Prostrate knotweed
Puncturevine
Redmaids
Redroot pigweed
Russian thistle\*‡

Common buckwheat

Scentless chamomile/ mayweed Shepherd's-purse Silverleaf nightshade Smallflower buttercup Smooth pigweed Spiny pigweed

Stinking mayweed/Dogfennel

Swinecress
Tall morningglory
Tall waterhemp
Tansymustard
Tartary buckwheat
Tarweed fiddleneck
Tumble/Jim Hill mustard

Velvetleaf

Marestail

Volunteer canola
Volunteer lentils
Volunteer peas
Volunteer sunflower\*
Wild buckwheat
Wild chamomile
Wild mustard
Wild radish
Yellow rocket

# **PARTIAL CONTROL\*\***

Cutleaf evening primrose

- \* See SPECIFIC WEED PROBLEMS for more information.

  \*\*Partial control: A visual reduction of weed population as well as a significant loss of vigor for individual weed plants. For better results, use 6 ounces active ingredient per acre of bromoxynil-containing herbicide (such as Bronate, Bison or Maestro MA at 1.5 pints per acre refer to the USE RATES
- ‡Naturally-occurring resistant biotypes of kochia, prickly lettuce, and Russian thistle are known to occur. See the TANK MIXTURES and SPECIFIC WEED PROBLEMS sections of this label for additional details.

# WEEDS CONTROLLED WHEN TANK MIXED WITH 2,4-D-CONTAINING PRODUCTS

(Such as Agri-Star®, Barrage®, Omni-Amine® or Weedar® 64)

Annual knawel Annual sowthistle Black mustard

Bushy wallflower/Treacle

mustard

Carolina geranium Coast fiddleneck Common buckwheat Common cocklebur Common groundsel

Common mallow Common purslane Common sunflower\*

Common lambsquarters

Common ragweed Common tarweed Corn chamomile

Corn spurry Cow cockle Cress (mouse-ear) Cutleaf nightshade

Curly dock
False chamomile
Field pennycress
Flixweed

Giant ragweed Green smartweed

Henbit Ivyleaf morningglory Volunteer peas

Volunteer sunflower\* Wild buckwheat Kochia \*‡
Ladysthumb
London rocket
Mallow (little)
Marshelder
Miners lettuce
Mouse-ear chickweed
Pennsylvania smartweed
Pepperweed species
Prickly lettuce\*‡
Prostrate knotweed
Puncturevine

Puncturevine
Redmaids
Redroot pigweed
Russian thistle\*‡
Scentless chamomile/
mayweed
Shepherd's-purse
Smallflower buttercup

Smooth pigweed

Spiny pigweed
Stinking mayweed/Dogfennel

Swinecress
Tansymustard
Tarweed fiddleneck
Tumble/Jim Hill mustard

Velvetleaf Volunteer canola Volunteer lentils Wild chamomile Wild mustard Wild radish

# **PARTIAL CONTROL\*\***

Corn gromwell
Fumitory
Hemp sesbania

Marestail
Tall morningglory
Tall waterhemp

- \* See SPECIFIC WEED PROBLEMS for more information.
- \*\*Partial control: A visual reduction of weed population as well as a significant loss of vigor for individual weed plants. For better results, use higher specified rates 2,4-D containing herbicides (such as Barrage or AgriStar refer to the USE RATES sections of these labels).
- ‡Naturally-occurring resistant biotypes of kochia, prickly lettuce, and Russian thistle are known to occur. See the TANK MIXTURES and SPECIFIC WEED PROBLEMS sections of this label for additional details.

# WEEDS CONTROLLED WHEN TANK MIXED WITH 2,4-D + DICAMBA-CONTAINING PRODUCTS

(Such as Banvel®/Diablo®, Banvel®/Diablo® + 2,4-D or Clarity®/Clash®)

Annual knawel Annual sowthistle Black mustard

Bushy wallflower/Treacle

mustard

Carolina geranium
Coast fiddleneck
Common buckwheat
Common cocklebur
Common groundsel
Common lambsquarters

Common lambsqua Common mallow Common purslane Giant ragweed Green smartweed Hemp sesbania Henbit

Ivyleaf morningglory

Kochia \*‡ Ladysthumb London rocket Mallow (little) Marshelder Miners lettuce

Mouse-ear chickweed
Pennsylvania smartweed
Pepperweed species
Prickly lettuce\*‡
Prostrate knotweed
Puncturevine
Redmaids
Redroot pigweed
Russian thistle\*‡

chamomile/mayweed

Scentless

Common sunflower\*
Common ragweed
Common tarweed
Corn chamomile
Corn spurry
Cow cockle
Cress (mouse-ear)
Cutleaf nightshade
Curly dock
False chamomile
Field pennycress
Flixweed

Flixweed Fumitory Shepherd's-purse Smallflower buttercup Smooth pigweed Spiny pigweed

Stinking mayweed/Dogfennel

Swinecress
Tall morningglory
Tall waterhemp
Tansymustard
Tarweed fiddleneck
Tumble/Jim Hill mustard

Velvetleaf

Volunteer canola
Volunteer lentils
Volunteer peas
Volunteer sunflower\*
Wild buckwheat
Wild chamomile
Wild mustard
Wild radish

# **PARTIAL CONTROL\*\***

Canada thistle
Corn gromwell
Spiny pigweed

<sup>\*</sup> See SPECIFIC WEED PROBLEMS for more information.

<sup>\*\*</sup>Partial control: A visual reduction of weed population as well as a significant loss of vigor for individual weed plants. For better results, use higher specified rates 2,4-D and or dicamba-containing herbicides (such as Barrage, AgriStar, Banvel/Diablo, Banvel SFG or Clarity/Clash - refer to the USE RATES sections of these labels).

<sup>‡</sup>Naturally-occurring resistant biotypes of kochia, prickly lettuce, and Russian thistle are known to occur. See the TANK MIXTURES and SPECIFIC WEED PROBLEMS sections of this label for additional details.

#### WEEDS CONTROLLED WHEN TANK MIXED WITH FLUROXYPYR-CONTAINING PRODUCTS

(Such as Starane®/Comet, Starane® + Saber®, Starane® + Sword® or Starane® + Salvo®)

Annual knawel Annual sowthistle Bedstraw (cleavers) \*\*\*

Black mustard

Bushy wallflower/Treacle

mustard

Carolina geranium Coast fiddleneck

Coffeeweed \*\*\*

Common buckwheat

Common chickweed \*\*\*

Common cocklebur \*\*\*

Common groundsel Common lambsquarters

Common purslane \*\*

Common ragweed \*\*\*

Common sunflower \*\*\*

Corn chamomile

Corn spurry

Cress (mouse-ear)

Curly dock

False chamomile

Field pennycress

Flixweed

Green smartweed

Hemp dogbane \*\*\*

Kochia \* ±

Ladysthumb

London rocket

Mallow (little)

Marshelder

Morningglory species \*\*\* Mouse-ear chickweed Pennsylvania smartweed

Prickly lettuce \*\*\* ‡ Prostrate knotweed Puncturevine \*\*\*

Miners lettuce

Redmaids Redroot pigweed

Russian thistle \* ‡ Scentless chamomile/ mayweed

Shepherd's-purse Smallflower buttercup

Stinking mayweed/Dogfennel **Swinecress Tansymustard** 

Tarweed fiddleneck Tumble/Jim Hill mustard

Velvetleaf \* Venice mallow \*\*\* Volunteer canola Volunteer flax \*\*\* Volunteer lentils Volunteer peas Volunteer sunflower \* Wild buckwheat

Wild chamomile Wild mustard

White clover \*\*\*

# **PARTIAL CONTROL\***

Black nightshade Common mallow Cutleaf nightshade Eastern black nightshade

Field Bindweed

Field horsetail Henbit Marestail

Silverleaf nightshade Volunteer potato §

- \* See SPECIFIC WEED PROBLEMS for more information.
- \*\* Partial control: A visual reduction of weed population as well as a significant loss of vigor for individual weed plants. Use 1-1/2 to 2 ounces active ingredient per acre of fluroxypyr-containing herbicide (such as Starane/Comet at 1/2 to 2/3 pint per acre - refer to the USE RATES section of this label).
- \*\*\*Use 1-1/2 to 2 ounces active ingredient per acre fluroxypyr containing herbicides (such as Starane/Comet at 1/2 to 2/3 pint per acre).
- ‡ Naturally-occurring resistant biotypes of kochia, prickly lettuce and Russian thistle are known to occur. See the TANK MIXTURES and SPECIFIC WEED PROBLEMS sections of this label for additional details.
- § Use 2 to 4 ounces active ingredient per acre fluroxypyr-containing herbicides (such as Starane/Comet at 1-1/3 pints per acre). See specific fluroxypyrcontaining herbicide label for application rates and precautions.

# SPECIFIC WEED PROBLEMS

Common chickweed: For best results, apply a minimum of 6 ounces active ingredient per acre of a bromoxynil-containing herbicide (such as Bronate/ Bison/Maestro MA at 1-1/2 pints per acre) when all or the majority of weeds have germinated and are past the cotyledon stage. Weeds should be less than 3 inches tall or across at the time of this product's application.

For best results, apply a minimum of 1-1/2 ounces active ingredient per acre of a fluroxypyr-containing herbicide (such as Starane/Comet at 1/2 pint per acre) when all or the majority of weeds have germinated and are past the cotyledon stage. Weeds should be less than 3 inches tall or across at the time of this product's application.

Kochia: Naturally occurring biotypes resistant to this product are known to occur.

For best results, apply a minimum of 6 ounces active ingredient per acre of a bromoxynil-containing herbicide (such as Bronate/Bison/Maestro MA at 1-1/2 pints per acre) when kochia are less than 2" tall and are actively growing. For improved control of Kochia (2 to 4" tall) this product and bromoxynil-containing herbicides may be tank mixed with 1/3 to 2/3 pint per acre of Starane/Comet.

For best results, apply a minimum of 1 ounce active ingredient per acre of a fluroxypyr-containing herbicide (such as Starane/Comet at 1/3 pint per acre) when kochia are less than 2" tall and are actively growing.

Prickly lettuce: Naturally occurring biotypes resistant to this product are known to occur. For best results, this product tank mixed a minimum of 1-1/2 ounces active ingredient per acre of fluroxypyr-containing herbicide (such as Starane/Comet at 1/2 pint per acre) should be applied in the spring when prickly lettuce are 2" to 4" across and are actively growing.

Russian Thistle: Naturally occurring biotypes resistant to this product are known to occur. This product should be applied in the spring when Russian thistles are less than 2" tall and are actively growing.

For suppression, this product tank mixed with a minimum of 1-1/2 ounces active ingredient per acre of a fluroxypyr-containing herbicide (such as Starane/Comet at 1/2 pint per acre) should be applied in the spring when Russian thistles are less than 2" tall and are actively growing.

For best results, apply a minimum of 6 ounces active ingredient per acre of a bromoxynil containing herbicide (such as Bronate/Bison/Maestro MA at 1-1/2 pints per acre) when all or the majority of weeds have germinated. Weeds should be less than 2" tall or across at the time of this product's application.

For best results, this product tank mixed with a minimum of 1-1/2 ounces active ingredient per acre of a fluroxypyr and 2,4-D or MCP containing herbicide (such as Starane+Saber at 1-1/2 pints per acre, Starane+Sword at 1-1/8 pints per acre or Starane+Salvo at 1 pint per acre) should be applied in the spring when Russian thistle are less than 2" tall and are actively growing.

SU / Clearfield Tolerant Volunteer Sunflowers: For suppression, apply a minimum of 1-1/2 ounces active ingredient per acre of a fluroxypyr-containing herbicide (such as Starane/Comet at 1/2 pint per acre).

For best results, apply a minimum of 6 ounces active ingredient per acre of a bromoxynil-containing herbicide (such as Bronate/Bison/Maestro MA at 1-1/2 pints per acre). Delay application until first sunflower seedlings emerging are 4 inches in height.

For best results, this product tank mixed with a minimum of 1-1/2 ounces active ingredient per acre of a fluroxypyr and 2,4-D or MCP containing herbicide (such as Starane+Saber at 1-1/2 pints per acre, Starane+Sword at 1-1/8 pints per acre or Starane+Salvo at 1 pint per acre) should be applied in the spring when SU/Clearfield tolerant volunteer sunflowers are less than 2" tall and are actively growing.

# ADDITIONAL TANK MIXTURES WITH BROMOXINYL, FLUROXYPYR OR 2,4-D-CONTAINING PRODUCTS

Read and follow all manufacturers' label instructions for any companion herbicides, fungicides, and/or insecticides. If those instructions conflict with this label, do not tank mix that product with this product. Read and follow all label instructions on timing, precautions, and warnings for any companion products before using these tank mixtures. Follow the most restrictive labeling.

In cereals, this product may be tank mixed with other suitable registered herbicides to control weeds listed as partially controlled, weeds resistant to this product or weeds not listed under the WEEDS CONTROLLED sections of this label.

# 2,4-D (AMINE OR ESTER) OR MCP (AMINE OR ESTER)

This product may be tank mixed with the amine and ester formulations of 2,4-D and MCP herbicides for use on wheat, barley, or fallow.

For best results in the Red River Valley and adjacent areas of North Dakota and Minnesota, add the ester formulations of 2,4-D or MCP herbicides to the tank at 3/8 lb active ingredient (such as 3/4 pint of a 4 lb per gal product, 1/2 pint of a 6 lb per gal product). No additional surfactant is needed with this mixture.

For best results in other areas, add the ester formulations of 2,4-D or MCP herbicides to the tank at 1/4 to 3/8 lb active ingredient (such as 1/2 to 3/4 pint of a 4 lb per gal product, 1/3 to 1/2 pint of a 6 lb per gal product). Nonionic surfactant may be added to the mixture at 1/2 to 1 quart per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding nonionic surfactant may increase the potential for crop injury, especially at the higher phenoxy rates. Higher specified rates of 2,4-D or MCP may be used, but do not exceed the highest rate allowed by those respective labels.

# WITH DICAMBA (SUCH AS BANVEL/DIABLO, BANVEL SGF, CLARITY/CLASH)

This product may be tank mixed with 1/16 to 1/8 lb active ingredient dicamba (such as 2 to 4 fluid ounces of Banvel/Diablo, 4 to 8 fluid ounces of Banvel SGF, or 2 to 4 fluid ounces of Clarity/Clash). Use higher rates when weed infestation is heavy. Nonionic surfactant may be added to the mixture at 1/2 to 1 quart per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding nonionic surfactant may increase the potential for crop injury. Refer to the specific dicamba label for application timing and restrictions. Tank mixes of this product plus dicamba may result in reduced control of some broadleaf weeds.

# WITH 2,4-D OR MCP (AMINE OR ESTER) AND BANVEL/DIABLO, OR CLARITY/CLASH

This product may be applied in a 3-way tank mix with formulations of dicamba and 2,4-D or MCP. Make application of this product plus 1/16 to 1/8 lb active ingredient dicamba (such as 2 to 4 fluid ounces of Banvel/Diablo, 4 to 8 fluid ounces of Banvel SGF, or 2 to 4 fluid ounces of Clarity/Clash) plus 1/4 to 3/8 lb active ingredient 2,4-D or MCP ester or amine per acre. Use higher specified rates when weed infestation is heavy. Nonionic surfactant may be added to the mixture at 1/2 to 1 quart per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding nonionic surfactant may increase the potential for crop injury. Apply this three-way combination to winter wheat after the crop is tillering and prior to jointing (first node).

In spring wheat (including Durum), apply after the crop is tillering and before it exceeds the 5-leaf stage.

In spring barley, apply after the crop is tillering and before it exceeds the 4-leaf stage.

# WITH BROMOXYNIL CONTAINING PRODUCTS

# (SUCH AS BUCTRIL/MAESTRO 2EC, BISON/BRONATE/MAESTRO MA, BRONATE ADVANCED/MAESTRO ADVANCED, RHINO, CLEANSWEEP® M, CLEANSWEEP® D OR MAESTRO D)

This product may be tank mixed with bromoxynil-containing herbicides registered for use on wheat, barley or triticale. For best results, add bromoxynil-containing herbicides to the tank at 6 to 12 ounces active ingredient per acre (such as Bronate/Bison/Maestro 2EC at 3/4 to 1-1/2 pt per acre). Tank mixes of this product plus bromoxynil may result in reduced control of Canada thistle.

# WITH STARANE/COMET, STARANE + SALVO, STARANE + SWORD

This product may be tank mixed with 1/3 to 2/3 pint per acre of Starane/Comet, 2/3 to 1-1/3 pints per acre of Starane+Salvo, 3/4 to 1-1/2 pints per acre of Starane+Sword. 2,4-D and MCP herbicides (preferably ester formulations) may be tank mixed with this product plus Starane/Comet. Consult local recommendations and the TANK MIXTURES section of this label for additional information.

#### WITH MAVERICK®

This product can be tank mixed with Maverick herbicide for improved control of grassy weeds in wheat.

This product and a bromoxynil-containing herbicide (such as Bronate/Bison/Maestro MA at 3/4 to 1 pint per acre) may be tank mixed with 2/3 ounce per acre of Maverick herbicide for control of grassy weeds in wheat. This tank mix may also include Starane/Comet for greater spectrum of broadleaf control - see the Maverick label for specific use directions and restrictions. Apply 0.5% v/v (4 pints per 100 gal of spray solution) of non-ionic surfactant (NIS) with this tank mix. Some reduction in annual grass control may occur when optimum environmental conditions do not occur for several days prior to and after application – such as low moisture conditions, high and low temperatures, low humidity.

This product and a fluroxypyr-containing herbicide (such as Starane/Comet, Starane+Saber, Starane+Sword or Starane+Salvo) may be tank mixed with 2/3 ounce per acre of Maverick herbicide for control of grassy weeds in wheat. Tank mixtures with herbicides formulated as amines may decrease the effectiveness of Maverick herbicide. Apply 0.5% v/v (4 pints per 100 gal of spray solution) of nonionic surfactant (NIS) with this tank mix. Some reduction in annual grass control may occur when optimum environmental conditions do not occur for several days prior to and after application – such as low moisture conditions, high and low temperatures, low humidity.

#### WITH AIM®

This product can be tank mixed with Aim herbicide for improved control of weeds in wheat and barley.

# WITH STINGER®, CURTAIL®/CUTBACK®, CURTAIL® M/CUTBACK® M OR WIDEMATCH®/TRUSLATE®/TRUSLATE® PRO

This product can be tank mixed with Stinger, Curtail/Cutback or Curtail M/Cutback M herbicide for improved control of weeds in wheat and barley.

This product and fluroxypyr containing herbicides (such as Starane/Comet, Starane+Saber, Starane+Sword or Starane

+Salvo) may be tank mixed with Stinger or Curtail/Cutback herbicide for improved control of weeds in wheat and barley.

This product may be tank mixed with 2/3 pint per acre of Widematch/Truslate/Truslate Pro.

# WITH ASSERT® HERBICIDE

This product can be tank mixed with Assert. When tank mixing this product with Assert, always include another broadleaf weed herbicide with a different mode of action (for example 2,4-D ester, MCP ester, or bromoxynil - such as Buctril/Maestro 2EC, Bison/Bronate/Maestro MA or Bronate Advanced/Maestro Advanced). Applications of this product plus Assert may cause temporary crop discoloration, stunting, or injury when heavy rainfall occurs shortly after application.

This product and fluroxypyr-containing herbicides (such as Starane/Comet, Starane+Sword or Starane+Salvo) may be tank mixed with Assert. Applications of this product plus Assert may cause temporary crop discoloration, stunting, or injury when heavy rainfall occurs shortly after application. Refer to the Assert label for specific instructions and restrictions when using amine formulations or additional tank mix products.

#### WITH DISCOVER®

This product can be tank mixed with Discover herbicide for improved control of grass weeds in spring wheat.

This product and a bromoxynil-containing herbicide (such as Bronate/Bison/Maestro MA at 3/4 to 1 pint per acre) may be tank mixed with 4.0 ounces per acre of Discover herbicide, or 16 fluid ounces per acre Discover NG, for control of wild oat in wheat. This tank mix may also include Starane/Comet for greater spectrum of broadleaf control - see the Discover label for specific use directions, tank mixes, precautions, restrictions and geographical limitations of use.

This product and a fluroxypyr-containing herbicide (such as Starane/Comet or Starane+Sword) may be tank mixed with 4.0 ounces per acre of Discover herbicide, or 16 fluid ounces per acre of Discover NG, for control of wild oat in wheat. See the Discover label for specific use directions, tank mixes, precautions, restrictions and geographical limitations of use. Some reduction in annual grass control may occur when optimum environmental conditions do not occur for several days prior to and after application – such as low moisture conditions, high and low temperatures or low humidity.

# WITH EVEREST®

This product can be tank mixed with Everest herbicide for improved control of grassy weeds in spring wheat. When this product and Everest are tank mixed, the mix must include 1/4 pint 2,4-D.

This product and a bromoxynil-containing herbicide (such as Bronate/Bison/Maestro MA at 3/4 to 1 pint per acre) may be tank mixed with 0.3 ounce per acre of Everest for control of green foxtail, or 0.61 ounce per acre of Everest for control of green foxtail, yellow foxtail and wild oat. This tank mix may also include Starane/Comet for greater spectrum of broadleaf control - see the Everest label for specific use directions and restrictions.

This product and a fluroxypyr-containing herbicide (such as Starane/Comet, Starane+Saber, Starane+Sword or Starane+Salvo) may be tank mixed with 0.3 ounce per acre of Everest for control of green foxtail or 0.61 ounce per acre of Everest for control of green foxtail, yellow foxtail and wild oat. See the Everest label for specific use directions, tank mixes, precautions and restrictions of use. Some reduction in annual grass control may occur when optimum environmental conditions do not occur for several days prior to and after application – such as low moisture conditions, high and low temperatures or low humidity.

# WITH HOELON®

A tank mix of Hoelon 3EC herbicide + this product herbicide can be applied for annual ryegrass (in the Pacific Northwest only), wild oat and broadleaf weed control in winter and spring wheat, and spring barley. Apply Hoelon 3EC at the rate of 2-2/3 pints per acre with 0.6 ounce per acre of this product herbicide in spring and winter wheat.

A three-way tank mix of Hoelon 3EC herbicide + Buctril/Maestro 2EC herbicide + this product can be applied for annual ryegrass (in the Pacific Northwest only), wild oat and broadleaf weed control in winter and spring wheat, and spring barley. Apply Hoelon 3EC at the rate of 2-2/3 pints per acre with 0.6 ounce per acre this product in winter wheat, spring wheat and spring barley. Buctril/Maestro 2EC herbicide should be used at 1 pint per acre. This tank mixture should only be used under good soil moisture conditions when wild oats are in the 1 to 4-leaf stage. Reduced control of foxtail is likely when tank mixing Hoelon with this product. When foxtail is the major grassy weed in the field, DO NOT tank mix Hoelon 3EC herbicide + this product - use sequential treatments.

# WITH PUMA®

This product herbicide can be tank mixed with Puma 1EC for control of some annual grass weeds. This tank mix may also include MCP ester, bromoxynil or bromoxynil/MCP, Starane/Comet, or Starane+Sword for greater spectrum of broadleaf control - see Puma 1EC label for specific use directions and restrictions on tank mixes.

This product and 3 to 4 ounces active ingredient per acre of a bromoxynil containing herbicide (such as Bronate/Bison/Maestro MA at 3/4 to 1 pint per acre) may be tank mixed with 0.66 pint per acre of Puma for annual grass control in wheat or barley. This tank mix may also include Starane/Comet for greater spectrum of broadleaf control - see Puma label for specific use directions and restrictions. DO NOT use this tank mix on two-row malting barley.

This product and a fluroxypyr-containing herbicide (such as Starane/Comet or Starane+Sword) may be tank mixed with 0.66 pint per acre of Puma for annual grass control in wheat or barley. See the Puma label for specific use directions, tank mixes, precautions and restrictions of use. This tank mix may also include MCP ester, bromoxynil or bromoxynil/MCP, Starane/Comet, or Starane+Sword for greater spectrum of broadleaf control - see Puma 1EC label for specific use directions and restrictions on tank mixes. Some reduction in annual grass control may occur when optimum environmental conditions do not occur for several days prior to and after application - such as low moisture conditions, high and low temperatures, or low humidity.

#### WITH OTHER GRASS CONTROL PRODUCTS

This product can be tank mixed with grass control products. Antagonism generally does not occur. However, 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.

Do not tank mix this product with Achieve herbicide.

# WITH FUNGICIDES

This product may be tank mixed or used sequentially with fungicides registered for use on cereal grains. Review all fungicide labels for restrictions.

#### WITH INSECTICIDES

This product may be tank mixed or used sequentially with insecticides registered for use on cereal grains. Review all insecticide labels for restrictions. 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 Lorsban) 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 application. Test these mixtures in a small area before treating large areas.

Do not apply this product within 60 days of crop emergence where an organophosphate insecticide has been applied as an in-furrow treatment because crop injury may result.

Do not use this product plus Malathion® because 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 completely dissolved in water and then added to liquid nitrogen solutions.

This product must first be added to water and allowed to completely dissolve (slurried) before adding to liquid nitrogen solutions (e.g., 28-0-0, 32-0-0). Ensure that the agitator is running while this 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 pint to 1 quart per 100 gal of spray solution (0.06 to 0.125% 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, fieldsman, or Nufarm representative for a specific recommendation before adding an adjuvant to these tank mixtures.

If 2,4-D or MCP is included with this product and fertilizer mixture, ester formulations tend to be more compatible (see manufacturer's label). Additional surfactant may not be needed when using this product in tank mix with 2,4-D ester or MCP ester and liquid nitrogen fertilizer solutions. Consult your agricultural dealer, consultant, field advisor, or Nufarm representative for a specific recommendation before adding an adjuvant to these tank mixtures. Liquid nitrogen fertilizer solutions that contain sulfur can increase crop injury.

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.

# 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, such as glyphosate (such as Roundup®), Landmaster® II, Fallow Master®, RT Master®, glyphosate plus 2,4-D (ester formulations work best), glyphosate plus dicamba (such as Banvel/Diablo or Clarity/Clash), 2,4-D (ester formulations work best), or dicamba (such as Banvel/Diablo or Clarity/Clash) alone.

This product and fluroxypyr-containing herbicides (such as Starane/Comet, Starane+Saber, Starane+Sword or Starane+Salvo) may be used as a fallow treatment, and may be tank mixed with other herbicides that are registered for use in fallow, including glyphosate (such as Roundup), Landmaster II, Fallow Master, RT Master, glyphosate plus 2,4-D (ester formulations work best), glyphosate plus dicamba (such as Banvel/Diablo or Clarity/Clash), 2,4-D (ester formulations work best), or dicamba (such as Banvel/Diablo or Clarity/Clash) alone.

# TANK MIXTURES IN PRE-PLANT BURNDOWN APPLICATIONS

This product may be used as a pre-plant burndown treatment alone or tank mixed with other herbicides that are registered for use as a pre-plant burndown product, such as Aim, glyphosate (such as Roundup), Landmaster II, Fallow Master, RT Master, glyphosate plus dicamba (such as Banvel/Diablo or Clarity/Clash) or dicamba (such as Banvel/Diablo or Clarity/Clash) alone.

# TANK MIXTURES IN POST HARVEST APPLICATIONS

This product may be used as a post-harvest treatment to crop stubble, and may be tank mixed with other herbicides that are registered for use in fallow. This product and fluroxypyr-containing herbicides (such as Starane/Comet, Starane+Saber, Starane+Sword or Starane+Salvo) may be used as a post-harvest treatment to crop stubble, and may be tank mixed with other herbicides such as Aim, glyphosate (such as Roundup), Landmaster II, Fallow Master, RT Master, glyphosate plus dicamba (such as Banvel/Diablo or Clarity/Clash), or dicamba (such as Banvel/Diablo or Clarity/Clash) alone, that are registered for use in post-harvest cereal applications.

#### **GROUND APPLICATION**

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

- For best performance, 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 recommended 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 gal per acre (GPA).
- For flood nozzles on 30" spacings, use at least 10 GPA, flood nozzles no larger than TK10 (or the equivalent), and a pressure of at least 30 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.
- · 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.

# **AERIAL APPLICATION**

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

- Use 2 to 5 GPA
- Use at least 3 GPA in Idaho, Oregon, or Utah

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

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.

#### PRODUCT MEASUREMENT

This product can be measured using this product volumetric measuring cylinder provided by Nufarm. The degree of accuracy of this cylinder varies by +/- 7.5%. For more precise measurement, use scales calibrated in ounces.

#### **CROP ROTATION**

Wheat, barley, and triticale may be replanted anytime after the application of this product.

Sugarbeets, winter rape, and canola can be planted 60 days after the application of this product.

Any other crop may be planted 45 days after the application of this product.

#### **GRAZING**

Do not graze, or feed forage or hay from treated areas to livestock. Harvested straw collected after grain harvest may be used for bedding and/or feed.

# MIXING INSTRUCTIONS

Do not use with spray additives that alter the pH of the spray solution below pH 6.0 as rapid product degradation can occur. This product must be completely dissolved in clean water before adding to spray tanks that do not have continuous agitation during loading and mixing. (This is common for airplanes with turbine engines.)

- 1. Fill the tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of this product.
- 3. Continue agitation until this product is fully dissolved, at least 5 minutes.
- 4. Once this product is fully dissolved, maintain agitation and continue filling tank with water.
- 5. As the tank is filling, add the other tank mix partners and then add the required volume of spray adjuvant. Always add spray adjuvant last. Antifoaming agents may be used.
- 6. Dispersed tank mix partners can settle if the tank mixture is not continually agitated. 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, fully dissolve this product in clean water prior to adding to the tank.

# 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 crop canopy is dense. Avoid swath overlapping, and shut off spray booms while starting, turning, slowing, or stopping, to avoid injury to the crop. Do not make applications using equipment and/or spray volumes or during 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 this label.

# SPRAYER CLEANUP

The spray equipment must be cleaned before this product is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the steps outlined in the AFTER SPRAYING section of this label.

# AT THE END OF THE DAY

It is recommended that during periods when multiple loads of this product are applied, 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, which can accumulate in the application equipment.

# AFTER SPRAYING AND BEFORE SPRAYING CROPS OTHER THAN WHEAT, BARLEY OR 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. Loosen and physically remove any visible deposits.
- 2. Fill the tank with clean water and 1 gallon 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 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
- 3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
- 4. Repeat Step 2.
- 5. Rinse the tank, boom, and hoses with clean water.
- 6. 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 an alternate-strength ammonia solution can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your Ag dealer for a listing of approved cleaners.

# Notes:

- 1. CAUTION: Do not use chlorine bleach with ammonia as dangerous gases will form. Do not clean equipment in an enclosed area.
- 2. Steam-cleaning aerial spray tanks is recommended 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 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 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.

#### SPRAY DRIFT MANAGEMENT

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

#### IMPORTANCE OF DROPLET SIZE

# AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR

The most effective way to reduce drift potential is to apply large droplets (>150 to 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See WIND, TEMPERATURE AND HUMIDITY, and SURFACE TEMPERATURE INVERSIONS sections of this label.

# **CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES**

- Volume Use high-flow-rate nozzles to apply the highest practical spray volume. Nozzles with higher-rated flows produce larger droplets.
- Pressure Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration.
   WHEN HIGHER FLOW RATES ARE NEEDED. USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets.
   Consider using low drift nozzles.

# **CONTROLLING DROPLET SIZE - AIRCRAFT**

- Number of Nozzles Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation Orienting nozzles so that the spray is emitted backwards, parallel to the air stream will produce larger droplets than other orientations.
- Nozzle Type Solid-stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length The boom length should not exceed 3/4 of the wing or rotor length longer booms increase drift potential.
- Application Height Application more than 10 ft above the canopy increases the potential for spray drift.

# **BOOM LENGTH AND HEIGHT**

- Boom Height (ground) Setting the boom at the lowest referenced height (if specified), which provides uniform coverage, reduces the exposure of droplets to evaporation and wind.
- Boom Height (aircraft) Application more than 10 ft. above the canopy increases the potential for spray drift.
- Boom Length (aircraft) The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters, use a boom length and position that prevents droplets from entering the rotor vortices.

#### WIND

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

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

# **TEMPERATURE AND HUMIDITY**

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

# SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

# **SHIELDED SPRAYERS**

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

# **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

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

#### RESTRICTIONS AND PRECAUTIONS

Injury to or loss of adjacent sensitive crops, 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.
- 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, or triticale.
- Wheat, barley and triticale 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 herbicide to a small area.
- Under certain conditions such as heavy rainfall, prolonged cold weather (daily high temperature less than 50°F), or wide fluctuations in day/night temperatures prior to or soon after this product's 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 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 or triticale that is stressed by severe weather conditions, drought (including low levels of subsoil moisture), low fertility, water-saturated soil, disease, or insect damage, as crop injury may result. Risk of injury is greatest when the cereal 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.
- Do not apply to wheat, barley or triticale crops underseeded with another crop.
- Dry, dusty field conditions may result in reduced control in wheel track areas. Also, observe the following:
- Do not graze treated fields or feed treated forage or hay. Harvested straw may be used for bedding and/or feed.
- Do not harvest wheat, barley, or triticale sooner that 45 days after the last application of this product.
- Do not apply this product by air in the state of New York.
- Do not exceed the maximum application rate of 1.8 ounces per acre per crop season.

# STORAGE AND DISPOSAL

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

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

PRODUCT DISPOSAL: Waste resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** For Plastic Containers: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. 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: Nonrefillable container. Do not reuse or refill this container. 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 or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For Paper and Plastic Bags: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or 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.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency contact CHEMTREC 1-800-424-9300.

# WARRANTY DISCLAIMER

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