



## U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs Registration Division (7505P) Ariel Rios Building 1200 Pennsylvania Ave., NW Washington, D.C. 20460 EPA Reg. Number: Date of Issuance:

84229-32

08-01-2014

NOTICE OF PESTICIDE:

x RegistrationReregistration(under FIFRA, as amended)

Term of Issuance: conditional

Name of Pesticide Product:

Tide Hexazinone 75 WDG

Name and Address of Registrant (include ZIP Code):

Tide International USA, Inc.

o Pyxis Regulatory Consulting, Inc.

21 Hubble

4110 136th St. NW

**Irvine, CA 92618** 

Gig Harbor, WA 98332

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is registered in accordance with FIFRA section 3(c)(7)(A) provided that you:

- 1. Submit and/or cite all data required for registration review/reregistration of your product when the Agency requires all registrants of similar products to submit data. You must comply with the **Hexazinone DCI ID# GDCI-107201-1036** issued on October 13, 2011. If you have questions or concerns regarding registration review, please contact the Chemical Review Manager, Dana Friedman at 703-347-8827 or email at friedman.dana@epa.gov.
- 2. Make the following label revision(s):
  - a. Revise "EPA Reg. No 84229-XX" to "EPA Reg. No. 84229-32"
  - b. Assure that the EPA establishment number and net contents are also added to the final printed label.
- 3. Within 18 months of the date on this registration notice, the Storage Stability (830.6317) and Corrosion Characteristics (830.6320) studies must be submitted. They must be conducted in the commercial containers of this product. Accelerated studies for these two guidelines (2 weeks at 54 degrees Celsius) may be conducted; however, if the test substance fails the accelerated studies then the 1 year studies are required with observations made at 0, 3, 6, 9, and 12 month intervals.
- 4. Per 40 CFR 156.10(6), submit one copy of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec.6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. The basic formulation (dated 09/16/2013) is acceptable and will be added to your file. If you have any questions regarding this notice, please contact Beth Benbow of my staff at benbow.bethany@epa.gov.

Signature of Approving Official:

Kathryn V. Montague Project Manager 23 Herbicide Branch

Registration Division (7505P)

Date:

08-01-2014

EPA Form 8570-6

## Tide Hexazinone 75 WDG

**Dispersible Granules** 

ACCEPTED

08/01/2014

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 04220

84229-32

ACTIVE INGREDIENT:	By Weight
Hexazinone [3-cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine-	
2,4(1 <i>H</i> ;3 <i>H</i> )-dione]	75.0%
OTHER INGREDIENTS:	
TOTAL:	100.0%

## KEEP OUT OF REACH OF CHILDREN DANGER/PELIGRO

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.)

	FIRST AID
If in eyes:	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If swallowed:	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
If on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
NOTE TO PHYSIC	CIAN: Probable mucosal damage may contraindicate the use of gastric lavage.
	HOT LINE NUMBER
	container or label with you when calling a poison control center or doctor, or going for HEMTREC at 1-800-424-9300 for emergency medical treatment information.

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER, Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through skin. Do not get in eyes, on skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

EPA Reg. No. 84229-XX

EPA Est. No.

Manufactured for:

Tide International, USA, Inc. 21 Hubble Irvine, CA 92618

> Net Weight: Ibs. Batch/lot number:

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

- Protective eyewear (goggles, face shield, or safety glasses)
- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves

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

## **USER SAFETY RECOMMENDATIONS**

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product and as soon as possible, wash thoroughly and put on clean clothing.

### **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 disposing of equipment washwaters.

The active ingredient hexazinone, in this product is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

#### DIRECTIONS FOR USE

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

Tide Hexazinone 75 WDG must be used only in accordance with instructions on this label, or in supplemental Tide International, USA, Inc. 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.

The correct use rates by crop and geographical area, specified on the label, and proper mixing/loading site considerations and application procedures must be followed to minimize potential for hexazinone movement into ground water. Users are encouraged to consult with their state Department of Agriculture, Extension Service, or other pesticide lead agency for information regarding soil permeability, aquifer vulnerability, and best management practices for their area.

## PRODUCT INFORMATION

Tide Hexazinone 75 WDG is a water-dispersible granule that is mixed in water and applied as a spray for weed control in certain crops, Christmas trees, forestry site preparation and release areas, and industrial areas. Tide Hexazinone 75 WDG is also used as a basal soil treatment for brush control in reforestation areas, rangeland, pastures and noncrop areas.

Tide Hexazinone 75 WDG is an effective general herbicide providing both contact and residual control of many annual and biennial weeds and woody plants. It is also effective for control of most perennial weeds.

Tide Hexazinone 75 WDG is noncorrosive to equipment.

Care must be exercised when applying Tide Hexazinone 75 WDG near desirable trees or shrubs as they can absorb Tide Hexazinone 75 WDG through roots extending into treated areas.

Apply this product to agricultural and non-agricultural sites that contain areas of temporary surface water caused by collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

## **ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY**

Tide Hexazinone 75 WDG is absorbed through the roots and foliage. Moisture is required to activate Tide Hexazinone 75 WDG in the soil. Best results are obtained when the soil is moist at the time of application and  $\frac{1}{4}$  -  $\frac{1}{2}$  inches of rainfall occurs within 2 weeks after application.

For best results, apply Tide Hexazinone 75 WDG preemergence or postemergence when weeds are less than 2 inches in height or diameter. Herbicidal activity is most effective under conditions of high temperature (above 80°F), high humidity, and good soil moisture. Reduced herbicidal activity can occur when vegetation is dormant, semi-dormant, or under stress (e.g., temperature or moisture).

Herbicidal activity will usually appear within 2 weeks after application to susceptible plants under warm, humid conditions. When weather is cool or dry, or when susceptible plants are under stress, herbicidal activity will occur 4-6 weeks after application. If rainfall after application is inadequate to activate Tide Hexazinone 75 WDG in the soil, plants may recover from contact effects and continue to grow.

On woody plants, symptoms usually appear within 3-6 weeks after sufficient rainfall has carried the herbicide into the root zone during periods of active growth. Defoliation and subsequent refoliation may occur, but susceptible plants are killed.

The degree and duration of control will depend on the following:

- Use rate
- Weed spectrum and size at time of application
- Environmental conditions at and following treatment

Where a rate range is shown, use the higher levels of the dosage range on hard-to-control species, fine-textured soils, or soils containing greater than 5% organic matter or carbon. Use the lower levels of the dosage range on coarse-textured soils and/or on soils low in organic matter. Refer to specific uses for rate ranges.

### **APPLICATION INFORMATION**

Apply Tide Hexazinone 75 WDG by ground equipment and where permitted, with aerial equipment. Use rates, minimum spray gallonage, and other application information are described for various uses.

Dispose of the equipment washwater by applying it to a use-site listed on this label or in accordance with directions given in the STORAGE AND DISPOSAL section of this label.

Before spraying, calibrate equipment to determine the quantity of water necessary to uniformly and thoroughly cover the vegetation and soil in a measured area to be treated. Make sure the volume of water is sufficient to completely suspend the Tide Hexazinone 75 WDG.

#### **TANK MIXTURES**

Tank mix Tide Hexazinone 75 WDG with other herbicides and/or adjuvants registered for the uses (crops) specified on this label.

Refer to the label of the tank mix partner(s) for any additional use instructions or restrictions. The most restrictive label provisions apply. If other label instructions conflict with this label, do not tank mix the herbicide and/or adjuvant with Tide Hexazinone 75 WDG.

#### INVASIVE SPECIES MANAGEMENT

Use this product for use on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants. Effective EDRR systems address invasions by eradicating the invader where possible, and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is advised, a Rapid Response needs to be taken to quickly contain, deny reproduction, and if possible eliminate the invader. Consult your appropriate state extension service, forest service, or regional multidisciplinary invasive species management coordination team to determine the appropriate Rapid Response provisions and allowed treatments in your area.

### **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 can 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, consider treating 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 instructions available in your area.

#### INTEGRATED PEST MANAGEMENT

This product may be used as a 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.

#### **AGRICULTURAL USES**

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not 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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard 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

#### Protective eyewear

### **ALFALFA**

Tide Hexazinone 75 WDG is labeled for control of certain weeds in established alfalfa-grown for hay or seed production.

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not exceed 2 pounds per acre per application.
- Do not exceed 2 pounds (1.5 pounds active ingredient hexazinone) per acre per year.

## **APPLICATION INFORMATION**

#### **NON-DORMANT AND SEMI-DORMANT VARIETIES.**

In the following states, make a single application of Tide Hexazinone 75 WDG during the winter months when alfalfa plants are in the least active stage of growth.

Arizona	Montana	Oklahoma	Washington
California	Nebraska	Oregon	Wyoming
Colorado	Nevada	South Dakota	
Idaho	New Mexico	Texas	`
Kansas	North Dakota	Utah	

In the following states, make a single application of Tide Hexazinone 75 WDG either in the spring before new growth exceeds 2 inches in height or to alfalfa stubble after cutting, following hay removal and before regrowth exceeds 2 inches in height.

Arkansas	Maine	New Jersey	Vermont
Connecticut	Maryland	New York	Virginia
Delaware	Massachusetts	North Carolina	West Virginia
Illinois	Michigan	Ohio	Wisconsin
Indiana	Minnesota	Pennsylvania	
lowa	Missouri	Rhode Island	
Kentucky	New Hampshire	Tennessee	

**NOTE:** Severe alfalfa injury may result following application, if after cutting the regrowth is more than 2 inches high, or there is significant stubble left after cutting or grazing, or the air temperature is above 90°F.

#### **DORMANT VARIETIES**

Make a single application of Tide Hexazinone 75 WDG after alfalfa becomes dormant and before new growth exceeds 2 inches in height in the spring. Where weeds have emerged, use a surfactant.

#### **USE RATES**

Use higher rates on hard-to-control species, (see **Weeds Controlled** section below) fine textured soils, soils containing greater than 5% organic matter, or under adverse environmental conditions such as temperature extremes or when weeds are stressed due to low rainfall.

For dormant alfalfa, use a surfactant approved for crops at the rate of 0.25% v/v (1 quart per 100 gallons of spray solution).

Select the appropriate rate for soil texture and organic matter content as follows:

	Tide Hexazinone 75 WDG (lb/acre) Percent Organic Matter in Soil		
Soils	<1%	1-5%	>5%
Coarse Texture Loamy sand, sandy loam	2/3 - 1	2/3 - 1	. 1 1/3 - 2
Medium Texture Loam, silt loam, silt, clay loam, sandy clay loam	2/3 – 1	1-2	1 1/3 – 2

Fine Texture	1 – 2	1 – 2	1 1/3 – 2
Silty clay loam, sandy	•		<b>}</b>
clay, silty clay, clay			

## NOTE:

- In the states of MT, ND, SD, and WY, do not exceed a use rate of 1 1/3 pounds per acre on medium and fine textured soils.
- In the state of Montana (MT), do not apply to soils with less than 1.5% organic matter.
- In the state of Wyoming (WY):
  - -Do not apply to soils with less than 0.5% organic matter.
  - -Apply to irrigated alfalfa only.

### **WEEDS CONTROLLED**

Tide Hexazinone 75 WDG, when applied preemergence or early postemergence at the following rates, is labeled for the control or suppression of the following species in alfalfa:

1/3 - 2/3 Lb/Acre	
Tansymustard	Descurainia pinnata

2/3 - 1 1/3 Lb/Acre	
Bluegrass, annual	Poa annua
Brome, downy (cheatgrass)	Bromus tectorum
Buckwheat, wild	Polygonum convolvulus
Catchfly, English	Silene gallica
Chamomile, mayweed (dogfennel)	Anthemis cotula
Chickweed, common	Stellaria media
Fiddleneck, tarweed	Amsinckia lycopsoides
Filaree	Erodium sp.
Flixweed	Descurainia Sophia
Groundsel, common	Senecio vulgaris
Henbit*	Lamium amplexicaule
Lettuce, Miner's	Montia perfoliata
Mustard, blue	Chorispora tenella
Mustard, Jim Hill (tumble)	Sisymbrium altissimum
Mustard, wild	Brassica kaber
Orchardgrass (seedling)	Dactylis glomerata
Pennycress, field	Thlaspi arvense
Pigweed, redroot	Amaranthus retroflexus
Radish, wild	Raphanus raphanistrum
Rocket, London	Sisymbrium irio
Rocket, common yellow	Barbarea vulgaris
Salsify	Tragopogon spp.
Shepherdspurse	Capsella bursa-pastoris
Speedwell, purslane	Veronica peregrina
Spurry, corn	Spergula arvensis

1 1/3 – 2 Lb/Acre		
Alfalfa* (seedling)	Medigaco sativa	
Barley, foxtail (seedling)	Hordeum jubatum	
Bluegrass, perennial* (spring only)	Poa spp	
Cockle, white*	Melandrium album	
Dandelion, common*	Taraxacum officinale	
Dandelion, false* (spotted catsear)	Hypochaeris radicata	
Foxtail*	Setaria spp.	
Kochia	Kochia scoparia	
Lambsquarters, common	Chenopodium album	

Lettuce, prickly*	Lactuca serriola
Mallow, common	Malva neglecta
Ryegrass, Italian (annual)	Lolium multiflorum
Quackgrass*	Elytrigia repens
Speedwell, Ivyleaf	Veronica hederaefolia
Tea, Mexican*	Chenopodium ambrosioides
Thistle, Canada (seedling)	Cirsium arvense
Thistle, Russian	Salsola iberica

<sup>\*</sup>Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

Tide Hexazinone 75 WDG, when applied late in spring or after cutting at the following rates, will control these species listed below:

2/3 - 2 Lb/Acre	,
Crabgrass	Digitaria spp.
Fleabane	Conyza spp.
Foxtail	Setaria spp.
Jimsonweed	Datura stramonium
Lambsquarters, common	Chenopodium album
Pigweed, redroot	Amaranthus retroflexus

## SEED ALFALFA (CA, ID, MT, NV, OR, UT, WA)

Use Tide Hexazinone 75 WDG for general broadleaf weed and grass control in established alfalfa grown for seed.

#### **DORMANT VARIETIES**

Make a single application of Tide Hexazinone 75 WDG after alfalfa becomes dormant and before new growth exceeds 2 inches in height in the spring. Where weeds have emerged, use a surfactant.

#### **NON-DORMANT AND SEMI-DORMANT VARIETIES**

In the following states, make a single application of Tide Hexazinone 75 WDG during the winter months when alfalfa plants are in the least active stage of growth.

#### **WEEDS CONTROLLED**

Refer to the Alfalfa – Weeds Controlled section for specific use rates and weeds controlled.

## USE PRECAUTIONS AND RESTRICTIONS SEED ALFALFA

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not use Tide Hexazinone 75 WDG on fields with sandy loam or loamy sand soils having less than 1% organic matter.
- Do not exceed 2/3 pound per acre on fields with sandy loam or loamy sand soils having 1 2% organic matter.
- Do not exceed 2/3 pound per acre on seed alfalfa that has been established for only one growing season.

# SEED ALFALFA WALLA WALLA COUNTY, WASHINGTON

Use Tide Hexazinone 75 WDG for the suppression of prickly lettuce and quackgrass and control of Canada thistle (seedling), kochia, and certain other weeds in established alfalfa grown for seed.

Use Rates 1 1/3 – 2 pounds per acre	
Kochia	Kochia scoparia
Lettuce, prickly*	Lactuca serriola
Quackgrass*	Elytrigia repens

Thistle,	Canada (seedling)	t	Cirsium arvense	
	•			

<sup>\*</sup>Suppression

## USE PRECAUTIONS AND RESTRICTIONS SEED ALFALFA WALLA WALLA COUNTY WASHINGTON

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not exceed 2 pounds Tide Hexazinone 75 WDG herbicide per acre per application.
- Do not exceed 2 pounds (1.5 pounds active ingredient hexazinone) per acre per year.

## **SPRAY EQUIPMENT**

Apply Tide Hexazinone 75 WDG using a fixed boom power sprayer or aerial equipment. For ground applications apply in a minimum of 20 gallons of spray solution per acre and by air in a minimum of 5 gallons.

## CHEMIGATION ALFALFA

Apply this product only through center pivot or linear-move sprinkler irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

Severe alfalfa injury may result following application after cutting if either the regrowth is more than 2" high or significant stubble is left after alfalfa cutting.

If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.

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 when needed.

#### DORMANT APPLICATIONS.

Select the appropriate rate (see **Use Rates** section) for soil texture and organic matter content using 0.25" to 0.75" of sprinkler irrigation as a continuous injection during the application. Best results are obtained when soil is moist at time of application, and when weeds have not germinated or are less than 2" tall or across.

## APPLICATION AFTER CUTTING

Apply Tide Hexazinone 75 WDG at 5.3 ounces per acre to stubble after cutting, following hay removal, and before regrowth exceeds 2" in height. Apply Tide Hexazinone 75 WDG using 0.25" to 0.75" of sprinkler irrigation as a continuous injection during the application. Best results are obtained when soil is moist at time of application and when weeds have not germinated or are less than 2" tall or across.

NOTE: Increased potential for crop injury is possible when making an application when daily temperatures are forecast to be in the mid-to-high 90 degree range within 3 to 5 days after treatment.

#### SPRINKLER CHEMIGATION

The 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 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.

### MIXING INSTRUCTIONS

- 1. Fill the supply tank 1/4 to 1/3 full of water
- 2. While agitating, add the required amount of Tide Hexazinone 75 WDG and continue agitation until the product is fully dispersed, at least 5 minutes.
- 3. Once the Tide Hexazinone 75 WDG is fully dispersed, maintain agitation and continue filling tank with water. Tide Hexazinone 75 WDG must be thoroughly mixed with water before adding any other material.
- 4. As the tank is filling, add tank mix partners (if desired). Follow use precautions and directions on the tank mix partner label.
- 5. After thorough mixing, the agitation system can be stopped to prevent excessive foaming in the tank. Once thoroughly mixed the solution in the supply tank does not require additional agitation unless specified on the companion products label. If foaming occurs in the injection supply tank, add a defoaming agent (defoamer) if desired.
- 6. Apply Tide Hexazinone 75 WDG spray mixture within 48 hours of mixing to avoid product degradation.

### **USE PRECAUTIONS AND RESTRICTIONS – CHEMIGATION**

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application
  to a public water system unless the pesticide label prescribed safety devices for public water
  systems are in place.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.
- Do not permit run-off during chemigation.

### POSTING OF AREAS TO BE TREATED

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, in-patient clinics, nursing homes, or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

### Posting must conform to all the following requirements:

- Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas.
- The printed side of the sign must face away from the treated area towards the sensitive area. The
  signs shall be printed in English. Signs must be posted prior to application and must remain posted
  until foliage has dried and soil surface water has disappeared. Signs msut remain in place
  indefinitely as long as they are composed of materials to prevent deterioration and maintain
  legibility for the duration of the posting period.
- All words shall consist of letters at least 2 ½ inches tall, and all letters and the symbol shall be a
  color which sharply contrasts with their immediate background. At the top of the sign shall be the
  words "KEEP OUT", followed by an octagonal stop sign symbol at least 8 inches in diameter
  containing the word "STOP". Below the symbol shall be the words "PESTICIDE IN IRRIGATION
  WATER".
- Posting required for chemigation does not replace other posting and reentry requirements for farm worker safety.

## **REPLANTING (FOLLOWING ALFALFA)**

- Do not replant treated areas to any crop except corn, root crops, or sugarcane within two years after treatment, to prevent crop injury.
- Plant corn 12 months after the last treatment in areas of moderate to high rainfall (greater than 20 inches), provided the use rate did not exceed 1 lb. per acre.
- Plant root crops such as potatoes, sugarbeets, radish and carrots 12 months after the last treatment, provided the use rate does not exceed 2/3 lb. per acre. Sites with use rates higher than 2/3 lb. per acre must not be replanted to any root crop within 2 years after application of Tide Hexazinone 75 WDG, to prevent unacceptable crop injury.
  - In areas where irrigation is needed to produce the crop, extend the crop rotation intervals listed if the normal irrigation amount is reduced for any reason.
- Plant sugarcane any time following treatment.
- In California, do not replant seed alfalfa to any crop within two years after treatment, to prevent crop injury.

## **CROP ROTATION**

## Field Bioassay

In arid climates (10 inches of rainfall or less per year) or areas where drought conditions have prevailed for one or more years, a field bioassay must be completed prior to planting any desired crop.

Extend the rotation intervals listed above based on the results of the bioassay.

A successful bioassay means growing to maturity a test strip of the crop(s) intended for production. The test crop(s) strip must cross the entire field including knolls, low areas, and areas where any berms were located.

# ALFALFA – IMPREGNATION ON DRY BULK FERTILIZER (EXCEPT CALIFORNIA AND ARIZONA)

Impregnate or coat dry bulk fertilizer with Tide Hexazinone 75 WDG for application to established alfalfa. All instructions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling.

If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation, as dusty fertilizer will result in poor distribution during application. The dry fertilizer must be properly impregnated and uniformly applied to the alfalfa to avoid crop injury and/or poor weed control.

To impregnate the fertilizer, use a system consisting of a conveyor or closed drum used to blend dry bulk fertilizer. Any commonly used fertilizer can be impregnated with Tide Hexazinone 75 WDG, except potassium nitrate or sodium nitrate. Do not use Tide Hexazinone 75 WDG on limestone.

Use a minimum of 250 lb. dry bulk fertilizer per acre and up to a maximum of 450 lb. per acre. To impregnate or coat the dry bulk fertilizer with Tide Hexazinone 75 WDG, mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. Direct the nozzles to deliver a fine spray of this suspension toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of Tide Hexazinone 75 WDG to dry bulk fertilizer will vary, and if the absorptivity is not adequate, use an absorptive powder to produce a dry, free-flowing mixture. "Microcel E" is the absorbent powder of choice. When another herbicide is used with Tide Hexazinone 75 WDG, mix and impregnate the fertilizer immediately.

Apply impregnated fertilizer as soon as possible after impregnation for optimum performance.

Select the rate of Tide Hexazinone 75 WDG to apply per acre from the appropriate section of this label. Then refer to the rate chart below to determine the amount of Tide Hexazinone 75 WDG that is to be impregnated on a ton of dry bulk fertilizer, based on the amount of fertilizer to be distributed in one acre.

Rate Chart for Impregnating Fertilizer with Tide Hexazinone 75 WDG

Fertilizer		Tide Hexazinone 75	WDG Rate Per Acre	)
Rate/Acre	2/3 Lbs.	1 Lb.	1 1/3 Lbs.	2 Lbs.
250 lbs.	5.3 lbs./ton	8.0 lbs./ton	10.6 lbs./ton	16:0 lbs./ton
300 lbs.	4.4 lbs./ton	6.6 lbs./ton	8.8 lbs./ton	13.3 lbs./ton
350 lbs.	3.7 lbs./ton	5.7 lbs./ton	7.5 lbs./ton	11.4 lbs./ton
400 lbs.	3.3 lbs./ton	5.0 lbs./ton	6.7 lbs./ton	10.0 lbs./ton
450 lbs.	2.9 lbs./ton	4.4 lbs./ton	5.9 lbs./ton	8.9 lbs./ton

For rates other than those listed, use the following formula to calculate the amounts of Tide Hexazinone 75 WDG to impregnated per ton of dry fertilizer.

lbs. Tide Hexazinone 75 WDG/Acre X 1 Ton Fertilizer = lbs. Tide Hexazinone 75 WDG per Ton of Fertilizer

## **APPLICATION**

Uniform application of Tide Hexazinone 75 WDG -impregnated dry fertilizer is essential for satisfactory weed control. Accurate calibration of the application equipment is essential for uniform distribution to the surface. The customary method of application is to apply ½ the labeled rate and overlap 50%. This results in the best distribution pattern.

#### USE PRECAUTIONS AND RESTRICTIONS- ALFALFA

- Best results are obtained when ½ 1 inches of rainfall or sprinkler irrigation occurs within two weeks after application, when soil is moist at time of application, and when weeds have not germinated or are less than 2 inches in height or diameter. Heavy rainfall or excessive irrigation after application may result in crop injury or poor performance of the herbicide.
- On soils high in organic matter (greater than 5%), the effectiveness of Tide Hexazinone 75 WDG can be significantly reduced and weed control may be unsatisfactory.
- Avoid overlapping of spray swaths and shut off spray booms while starting, turning, slowing or stopping
  or crop injury may result.
- Crop injury, including mortality, may result in fields with restricted root growth due to non-uniform soil profiles such as gravel bases and clay lenses.
- Crop injury may result if hot weather, mid-to-high 90 degree range or higher, occurs within a few days after application.
- Do not apply to snow-covered or frozen ground.
- Crop injury to alfalfa can be influenced by several factors including alfalfa variety, soil conditions, uniformity of application and environmental conditions, etc., if no prior use history for the site or variety, treat only a small area when first using Tide Hexazinone 75 WDG.
- If abnormally dry conditions exist following application, restrict the first irrigation to no more than ½ acre inch of water.
- Temporary yellowing of alfalfa may occur following VELPAR® DF applications.
- Treat only stands of alfalfa established for one year or for one growing season (except in California), provided:
  - The alfalfa stand has a well-developed tap root structure that is at least 10 inches in length (0.25 inch diameter below the crown) throughout the field and the crop is healthy, vigorous, and not under stress from weather conditions, low fertility, insects or disease damage.
  - In areas with shorter growing seasons, such as, higher elevations, adequate alfalfa tap root growth may not occur and especially when alfalfa is grown together with a cover or nurse crop. If an adequate tap root is not present, delay application of Tide Hexazinone 75 WDG until the alfalfa has gone through a minimum of two growing seasons.
- In California, treat fall planted alfalfa in the following winter months with Tide Hexazinone 75 WDG at 1/3 to 2/3 pounds per acre (use higher rate for fine textured soils) provided:
  - alfalfa root growth exceeds 6 inches in length
  - vegetative top growth of alfalfa has lateral development of secondary growth

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 alfalfa is healthy and vigorous, not growing under stress from insect, disease, winter injury or other types of stress.

Injury may result to alfalfa plants that fail to meet these growth criterion listed above.

- Do not use Tide Hexazinone 75 WDG on seedling alfalfa, alfalfa-grass mixtures, or other mixed stands as injury may result to the seedling alfalfa or companion crop.
- Do not use a surfactant with Tide Hexazinone 75 WDG when treating non-dormant alfalfa.
- Do not use Tide Hexazinone 75 WDG on gravelly or rocky soils, exposed subsoils, hardpan, sand poorly drained soil, or alkali soils.

### **BLUEBERRY**

#### HIGH BUSH BLUEBERRIES

Tide Hexazinone 75 WDG is labeled for control of certain herbaceous and woody weeds in established high bush blueberry fields.

#### APPLICATION INFORMATION

Apply Tide Hexazinone 75 WDG to high bush blueberries that have been established for 3 or more years. Apply Tide Hexazinone 75 WDG in the spring before the lower leaves of the blueberry plant have fully expanded. Avoid contact of the leaves with the spray solution.

Using calibrated ground spray equipment, make the application in sufficient water then provide thorough and uniform coverage to the treated area (usually 20 gallons per acre). Shut off spray booms when starting, turning, slowing or stopping, or injury to the crop may result.

# USE PRECAUTIONS AND RESTRICTIONS HIGH BUSH BLUEBERRIES

- Do not apply through any type of irrigation system.
- Do not apply within 90 days of harvest.
- Do not apply to flooded field with standing water.
- Application to blueberry foliage will result in crop injury.
- Since the effect of Tide Hexazinone 75 WDG on blueberries varies with soil type, plant vigor, uniformity of applications and amount of rainfall, it is suggested that growers limit their first use to small areas.

## USE RATES (Lbs./Acre) HIGH BUSH BLUEBERRIES

Soil Texture	less than or equal to 3% organic matter	greater than 3% organic matter
Coarse loamy sand, sandy loam (50-85% sand)	1.3	1.6
Medium loam, silt loam, silt, clay loam, sandy clay loam	<u>-</u>	2.6
Fine silty clay loam, clay loam, sandy clay, silty clay, clay	1.3 – 2*	2.6

<sup>\*</sup>Use the higher rate as the soil organic matter approaches 3%.

#### LOW BUSH BLUEBERRIES

Use Tide Hexazinone 75 WDG for the control of certain weeds in low bush blueberries.

## **APPLICATION INFORMATION**

Apply Tide Hexazinone 75 WDG only to pruned blueberry fields in the spring before leaf emergence. Using calibrated ground spray equipment make the application in sufficient water to provide thorough and uniform coverage to the treated area (usually 20 gallons per acre). Shut off spray booms when starting, turning, slowing or stopping, or injury to the crop may result.

# USE PRECAUTIONS AND RESTRICTIONS LOWBUSH BLUEBERRIES

- Do not apply through any type of irrigation system.
- Do not apply to flooded field with standing water.
- Do not apply within 450 days of harvest.
- Do not exceed 2.4 pounds per acre if field has been treated with hexazinone within the past 8 years.
- Application to blueberry foliage will result in crop injury.
- Since the effect of Tide Hexazinone 75 WDG on blueberries varies with soil type, plant vigor, uniformity of applications and amount of rainfall, it is suggested that growers limit their first use to small areas. If excessive leaf drop is observed after treatment, reduce rate in future applications.
- Maintain a 50-foot buffer from any well head or water reservoir.

LOW BUSH BLUEBERRIES (LBS./ACRE)

Soil Texture	less than or equal to 3% organic matter	greater than 3% organic matter
Coarse loamy sand, sandy loam (50-85% sand)	1.2	1.6
Medium loam, silt loam, silt, clay loam, sandy clay loam	<del></del>	2
Fine silty clay loam, clay loam, sandy clay, silty clay, clay	1.2 2.4*	2.4 – 3.6**

<sup>\*</sup>Use the higher rate as the soil organic matter approaches 3%.

#### IMPREGNATION ON DRY BULK FERTILIZER

Impregnate or coat dry bulk fertilizer with Tide Hexazinone 75 WDG for application to established high bush or low bush blueberries. All instructions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling.

If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation, as dusty fertilizer will result in poor distribution during application. The dry fertilizer must be properly impregnated and uniformly applied to the alfalfa to avoid crop injury and/or poor weed control.

To impregnate the fertilizer, use a system consisting of a conveyor or closed drum used to blend dry bulk fertilizer. Any commonly used fertilizer can be impregnated with Tide Hexazinone 75 WDG, except potassium nitrate or sodium nitrate. Do not use Tide Hexazinone 75 WDG on limestone.

Use a minimum of 250 lbs. dry bulk fertilizer per acre and up to a maximum of 450 lbs. per acre. To impregnate or coat the dry bulk fertilize with Tide Hexazinone 75 WDG, mix 2 2/3 pounds of this product with sufficient water to make one gallon of suspension and thoroughly agitate. Direct the nozzles to deliver a fine spray of this suspension toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of Tide Hexazinone 75 WDG to dry bulk fertilizer will vary, and if the absorptivity is not adequate, use an absorptive powder to produce a dry, free-flowing mixture. "Microcel E" is the absorbent powder of choice. When another herbicide is used with Tide Hexazinone 75 WDG, mix and impregnate the fertilizer immediately.

Apply impregnated fertilizer as soon as possible after impregnation for optimum performance.

<sup>\*\*</sup>Use the higher rate for harder to control species.

Select the rate of Tide Hexazinone 75 WDG to apply per acre from the appropriate section of this label. Then refer to the rate chart below to determine the amount of Tide Hexazinone 75 WDG that is to be impregnated on a ton of dry bulk fertilizer, based on the amount of fertilizer to be distributed in one acre.

Rate Chart for Impregnating Fertilizer with Tide Hexazinone 75 WDG

Fertilizer		Tide Hexazinone 75	WDG Rate Per Acre	,
Rate/Acre	2/3 Lb.	1 Lb.	1 1/3 Lbs.	2 Lbs.
250 lbs.	5.3 lbs./ton	8.0 lbs./ton	10.6 lbs./ton	16.0 lbs./ton
300 lbs.	4.4 lbs./ton	6.6 lbs./ton	8.8 lbs./ton	13.3 lbs./ton
350 lbs.	3.7 lbs./ton	5.7 lbs./ton	7.5 lbs./ton	11.4 lbs./ton
400 lbs.	3.3 lbs./ton	5.0 lbs./ton	6.7 lbs./ton	10.0 lbs./ton
450 lbs.	2.9 lbs./ton	4.4 lbs./ton	5.9 lbs./ton	8.9 lbs./ton

For rates other than those listed, use the following formula to calculate the amounts of Tide Hexazinone 75 WDG to be impregnated per ton of dry fertilizer.

lbs. Tide Hexazinone 75 WDG/Acre X 1 Ton Fertilizer = lbs. Tide Hexazinone 75 WDG per Ton of Fertilizer

## **APPLICATION**

Uniform application of Tide Hexazinone 75 WDG-impregnated dry fertilizer is essential for satisfactory weed control. Accurate calibration of the application equipment is essential for uniform distribution to the surface. The customary method of application is to apply ½ the labeled rate and overlap 50%. This results in the best distribution pattern.

#### WEEDS CONTROLLED

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following species in high and low bush blueberry crops:

A atom a visa idea
Aster ericoides
Echinochloa crus-galli
Rubus spp.
Poa pratensis
Bromus tectorum
Andropogon virginicus
Daucus carota
Silene gallica
Anthemis cotula
Prunus serotia
Stellaria media
Potentilla spp.
Melandrium album
Taraxacum officinale
Hypochaeris radicata
Chrysanthemum leucanthemum
Rumex crispus
Eupatorium capillifolium
Festuca spp
Amsinckia lycopsoides
Erodium spp.
Epilobium angustifolium
Conyza bonariensis
Descurainia Sophia
Setaria lutescens
Solidago spp.

Groundsel, common	Senecio vulgaris
Hawkweed	Hieracium spp.
Horseweed/marestail	Conyza canadensis
Jimsonweed	Datura stramonium
Lambsquarters, common	Chenopodium album
Lettuce, Miner's	Montia perfoliata
Lettuce, prickly*	Lactuca serriola
Mustard, blue	Chorispora tenella
Mustard, Jim Hill (tumble)	Sisymbrium altissimum
Orchardgrass*	Dactylis glomerata
Orchardgrass (seedling)	Dactylis glomerata
Panicgrass (witchgrass)	Panicum capillare
Panicum, fall	Panicum dichotomiflorum
Pearly everlasting	Anaphalis margaritacea
Pennycress, field	Thlaspi arvense
Pigweed, redroot	Amaranthus retroflexus
Quackgrass	Agropyron repens
Radish, wild	Raphanus raphanistrum
Ragweed, common	Ambrosia elatior
Raspberry* (briar)	Rubus spp.
Rocket, London	Sisymbrium irio
Rocket, common yellow	Barbarea vulgaris
Ryegrass, Italian (annual)	Lolium multiflorum
Ryegrass, perennial*	Lolium perenne
Salsify	Tragopogon spp.
Shepherdspurse	Capsella bursa-pastoris
Smartweed, Pennsylvania	Polygonum pensylvanicum
Sorrel, red	Rumex acetosella
Sorrel, sheep	Rumex angiocarpus
Spurry, corn	Spergula arvensis
Strawberry, wild	Fragaria virginiana
Tansymustard (pinnate)	Descurainia pinnata
Tea, Mexican*	Chenopodium ambrosioides
ververgrass	Holcus lanatus
Yarrow	Achillea spp.
2.4 to 3.6 Lbs./acre	
Dogbane**	Apocynum spp.
Meadow-sweet	Filipendula ulmaria
Blackberry, trailing	Rubus ursinus
Laurel, sheep	Kalmia angustifolia
Rose, wild**	Rosa spp.

<sup>\*</sup>Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## **CHRISTMAS TREES**

Tide Hexazinone 75 WDG is labeled for control of certain weeds where the following species are grown:

Fir, Douglas (western US only)	Pseudotsuga menziesii	
Fir, Fraser	Abies fraseri	
Fir, grand	Abies grandis	
Fir, noble	Abies procera	
Pine, Austrian	Pinus nigra	·- <del>· · · · · ·</del>

<sup>\*\*</sup>Harder to control species.

Pine, loblolly	Pinus taeda	
Pine, ponderosa	Pinus ponderosa	
Pine, Scotch	Pinus sylvestris	
Spruce, Sitka	Picea sitchensis	

Unless otherwise directed in separately published Tide instructions, do not use Tide Hexazinone 75 WDG on Christmas trees in the following states:

Alabama	Louisiana	New Jersey	Texas
Arkansas	Maine	New York	Vermont
Connecticut	Maryland	North Carolina	Virginia
Delaware	Massachusetts	Pennsylvania	West Virginia
Georgia	Mississippi	Rhode Island	
Florida	New Hampshire	South Carolina	,

### **APPLICATION INFORMATION**

### **EASTERN US**

Apply Tide Hexazinone 75 WDG as a broadcast spray in the spring prior to bud break. If application is made after bud break, use directional spray equipment to prevent contact with foliage.

### **WESTERN US**

Areas of greater than 20 inches annual rainfall – Apply Tide Hexazinone 75 WDG as a broadcast spray in the spring prior to conifer bud break. If application is made after bud break, use directional spray equipment to prevent contact with foliage.

Areas of less than 20 inches annual rainfall – Apply Tide Hexazinone 75 WDG in the fall before the soil freezes or in the spring after snow cover melts, but before conifer bud break occurs.

#### **USE RATES**

The rates listed below are for broadcast application. For band application, use proportionately less, for example, use  $\frac{1}{2}$  of the broadcast rates when treating a 3-foot band where row spacing is 6 feet. Use the higher end of the rate range on the heavier soil type.

Do not use more than one application of Tide Hexazinone 75 WDG per year.

	Tide Hexazinone 75 WDG (Lbs./Acre)			
Soils .	First Year Plantings	Established Trees		
Coarse Texture				
Loamy sand, sandy loam (50-		:		
85% sand)	1 – 1/3	1 1/3 – 1 2/3		
Medium Texture				
Loam, silt loam, silt, clay loam, sandy clay loam	1 1/3 – 1 2/3	1 2/3 – 2 1/3		
Fine Texture				
Silty clay loam, clay loam, sandy clay, silty clay, clay	1 2/3 – 2	2 1/3 – 2 2/3		

**First year plantings** – Transplant stock that is 2 years old or more (1 year old for loblolly pine). Apply Tide Hexazinone 75 WDG only if rainfall has settled the soil around the base and root systems of the transplants.

Established trees – Trees that have been planted in the plantation for 1 year or more.

#### WEEDS CONTROLLED

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following weed species in Christmas tree crops:

Aster heath*	A = 4 = u = u! = = ! = 1 =
Aster, heath*	Aster ericoides
1 Asici, ricuiti	Asici cricolacs
	·

Barnyardgrass	Echinochloa crus-galli
Bentgrass, common	Agrostis alba
Bluegrass, annual	Poa annua
Bromegrass	Bromus spp
Burnweed, American*	Erechtites hieracifolius
Carrot, wild	Daucus carota
Crabgrass*	Digitaris spp.
Curly dock*	Rumex crispus
Daisy, oxeye	Chrysanthemum leucanthemum
Dandelion, common*	Taraxacum officinale
Dandelion, false* (spotted catsear)	Hypochaeris radicata
Fescue*	Festuca spp.
Fleabane	Conyza spp.
Foxtail	Setaria spp.
Goldenrod*	Solidago spp.
Groundsel, common	Senecio vulgaris
Horseweed/marestail	Conyza canadensis
Orchardgrass*	Dactylis glomerata
Ragweed, common	Ambrosia elatior
Ryegrass, Italian (annual)	Lolium multiflorum
Ryegrass, perennial*	Lolium perenne
Smartweed, Pennsylvania	Polygonum pensylvanicum
Velvetgrass, common	Holcus lanatus

<sup>\*</sup>Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

#### SPRAY EQUIPMENT

Apply Tide Hexazinone 75 WDG by ground equipment or by air.

Select a spray volume that will ensure a through and uniform application. Apply a minimum of 5 gallons per acre by air and a minimum of 10 gallons per acre by ground equipment.

# USE PRECAUTIONS AND RESTRICTIONS CHRISTMAS TREES

- Do not use Tide Hexazinone 75 WDG in nurseries, seed beds, or ornamental plantings.
- Do not add a surfactant in applications over the top of conifers.
- Weed control results from spring applications depend on sufficient moisture to activate Tide Hexazinone 75 WDG.
- Livestock may be grazed immediately following a broadcast application of Tide Hexazinone 75
  WDG at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed
  after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of Tide Hexazinone 75 WDG at broadcast rates exceeding 1.5 pounds per acre.
- Poor weed and brush control may result from the following:
  - Heavy duff or slash present at the time of application.
  - Use on poorly drained sites.
  - Applications made when soil is saturated with water and rain is imminent within 24 hours.
  - Applications to soils high in organic matter (greater than 5%).
- Injury may occur when Tide Hexazinone 75 WDG is used on the following:
  - Trees that show poor vigor, insect damage, disease, winter injury, or other stress conditions.
  - Any soil containing less than 1% organic matter
  - Loamy sand or sandy loam with less than 2% organic matter (except Jeffrey Pine and Ponderosa Pine).
  - Foliage after bud break.

Gravelly or rocky soils, exposed subsoils, clay knobs, sand, or sandy soil with 85% or more sand.

#### **PINEAPPLE**

Tide Hexazinone 75 WDG is labeled for control of certain weeds in pineapple.

## APPLICATION INFORMATION

Mix the proper amount of Tide Hexazinone 75 WDG in water. Add a surfactant at the rate of 0.25% V/V.

Use the lower rates on coarse-textured soils or in areas where rainfall exceeds 65 inches per year. Use the higher rates on fine-textured soils or in areas where rainfall is less than 65 inches per year.

**Intercrop period** – Apply Tide Hexazinone 75 WDG as a broadcast spray in 100-400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre. For aerial application, use at least 10 gallons water per acre.

**Post mulch, preplant** – Apply Tide Hexazinone 75 WDG as a broadcast spray in 100-400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre.

Post plant, before planted cuttings start active growth – Apply Tide Hexazinone 75 WDG as a broadcast spray in 100-400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre. When weed growth has escaped control by other herbicide applications, apply a post-planting application after the planted cuttings start to grow.

**Prior to forcing first ratoon** – Apply Tide Hexazinone 75 WDG as a broadcast spray in 100-400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre.

Directed postemergence (pineapple and weeds) interspace application – Apply Tide Hexazinone 75 WDG as a directed spray 3-10 months after planting in 50-200 gallons of water per acre (broadcast basis) at the rate of 1/3 - 2 1/3 pounds per acre (broadcast basis) using a stroller boom or knapsack.

Directed spot treatments for perennial grasses before floral induction – Spray perennial grasses postemergence to wet (50-200 gallons per acre depending on size) with 1 1/3 - 2 1/3 pounds per 100 gallons of water as a spot treatment.

**Treatments to field edges and roadsides –** Apply Tide Hexazinone 75 WDG at 2 1/3 – 4 8/10 pounds per acre in 100-400 gallons of water.

## WEEDS CONTROLLED

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following species in pineapple crops:

Ageratum, tropic	Ageratum conycoides	
Balsamapple	Momordica charantia	
Castorbean	Ricinus communis	
Crabgrass	Digitaria spp.	
Crotalaria	Crotolaria spp.	
Dallisgrass	Paspalum dilatatum	
Guineagrass	Panicum maximum	
Junglerice	Echinochloa colonum	
Kao haole*	Leucaena glauca	
Moana loa vine*	Canavalia cathartica	
Morningglory	Ipomoea spp.	
Oxalis	Oxalis spp.	
Popolo	Solanum sandwicense	
Ríchardsonium	Richardsonia spp.	

1	Vasevorass	Paspalum urvillei	

## **USE PRECAUTIONS AND RESTRICTIONS-PINEAPPLE**

- Do not exceed 4.8 lbs. Tide Hexazinone 75 WDG per acre per crop.
- Do not apply Tide Hexazinone 75 WDG within 181 days of harvest.

#### SUGARCANE

Tide Hexazinone 75 WDG is labeled for selective weed control in sugarcane except in the State of Florida.

## **APPLICATION INFORMATION**

Apply a single treatment of Tide Hexazinone 75 WDG per year using a fixed-boom sprayer and a minimum of 25 gallons per acre unless otherwise directed.

#### **HAWAII**

Apply Tide Hexazinone 75 WDG pre- or postemergence at the following rates for the indicated soil texture:

Soils	Tide Hexazinone 75 WDG (Lb./Acre) (Plus surfactant 0.25% by volume)
Coarse Texture	
Sand, loamy sand, sandy loam	2/3 – 1 2/10
Medium Texture	
Loam, silt loam, silty clay loam	2/3 – 2 1/3
Fine Texture	
Clay, gray hydromorphic clay	2 1/3 – 4 8/10

Use the higher levels of the labeled rate ranges on soils high in organic matter. Do not apply more than twice the highest labeled rate for the indicated soil texture per crop (18-24 months).

Add an adjuvant for all uses.

For preemergence use only, apply Tide Hexazinone 75 WDG with aerial equipment using at least 10 gallons of spray per acre.

Apply Tide Hexazinone 75 WDG as a spot spray application for emerged weeds in sugarcane. Mix 1 to 4 pounds of Tide Hexazinone 75 WDG per 100 gallons of water. Apply a sufficient volume of spray solution to thoroughly wet weed foliage but do not exceed a use rate of 4.8 pounds per acre. Use the lower concentrations on coarse-textured soils that are low in organic matter, and use the higher concentrations on fine-textured soils that are high in organic matter.

#### LOUISIANA

Apply 2/3 - 1 2/10 pounds of Tide Hexazinone 75 WDG per acre broadcast in the fall before sugarcane emerges or in the spring before active cane tillering begins. Fall treatments of 2/3 - 1 2/10 pound per acre. Do not apply more than 2 pounds per year. Use the lower rates on coarse textured soils and the higher rates on fine textured soils.

## **PUERTO RICO**

For preemergence treatments, apply 1/3 - 2/3 pound of Tide Hexazinone 75 WDG per acre to weeds after they have emerged. Use the lower rates on coarse-textured soils and the higher rates on fine-textured soils (high in clay or organic matter). Apply up to 2/3 pounds of Tide Hexazinone 75 WDG per rateon per acre.

For spot treatment of emerged weeds, apply Tide Hexazinone 75 WDG with a knapsack sprayer in concentrations of 1/3 - 2/3 pound per 100 gallons of water. Apply a sufficient spray volume to wet the weed

<sup>\*</sup>Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

foliage. Do not exceed 100 gallons of spray per treated acre. Use the lower concentration on fine-textured soils.

Note: Since it is difficult to calibrate "spot" knapsack applications, extra care must be taken not to exceed the rate equivalent of the maximum of 2/3 pound Tide Hexazinone 75 WDG per acre.

Do not apply more than 1 1/3 pounds of Tide Hexazinone 75 WDG per acre per crop season.

#### **TEXAS**

Apply 2/3 – 2 1/3 pounds of Tide Hexazinone 75 WDG per acre. On plant cane, apply the herbicide before the cane emerges or as a directed layby treatment. On stubble cane, apply Tide Hexazinone 75 WDG preemergence to early postemergence (up to the 3-leaf stage) or as a directed layby treatment. A pre- or early postemergence treatment may be followed by a layby treatment, provided at least 60 days have elapsed and 3 inches of rainfall or sprinkler irrigation have occurred since the first treatment.

Do not apply more than 2 1/3 pounds of Tide Hexazinone 75 WDG per acre per season...

Use the following rates according to the different soil textures:

	Tide Hexazinone	75 WDG (Lb./Acre)
Soils	Preemergence -	+ Layby
Coarse Texture*		
Sandy loam	1/3	1/3
Medium Texture		
Loam, silt loam	9/10	9/10
Fine Texture		
Clay loam	1 1/3	1 1/3

<sup>\*</sup> With at least 2% organic matter.

On dormant cane, add a surfactant to the spray mixture to increase control of emerged weeds.

## **WEEDS CONTROLLED**

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following species in sugarcane crops:

Ageratum, tropic*	Ageratum conycoides
Alexandergrass	Brachiaria plantaginea
Balsamapple	Momordica charantia
Barnyardgrass	Echinochloa crus-galli
Bermudagrass*	Cynodon dactylon
Burnweed, American (fireweed)	Erechtites hieracifolius
Chickweed, common	Stellaria media
Crabgrass, large	Digitaria sanguinalis
Crabgrass, smooth	Digitaria ischaemum
Crotalaria, fuzzy	Crotalaria incana
Crotalaria, showy	Crotalaria spectabilis
Cuphea, tarweed	Cuphea carthagenensis
Dallisgrass	Paspalum dilatatum
Fingergrass, radiate	Chloris radiate
Fingergrass, swollen	Chloris barbata
Foxtail, bristly	Setaria verticillata
Foxtail, yellow	Setaria lutescens
Geranium, Carolina	Geranium carolinianum
Goosegrass	Elusine indica
Guineagrass	Panicum maximum
Henbit	Lamium amplexicaule

Itchgrass*	Rottboellia cochinchinensis
Job's-tears	Coix lacryma
Johnsongrass (seedling)	Sorghum halepense
Junglerice.	Echinochloa colonum
Lambsquarters, common	Chenopodium album
Millet, Texas	Panicum texanum
Morningglory, hairy	Ipomoea pentaphylla
Morningglory, threelobe	Ipomoea triloba
Mustard, wild	Sinapis arvensis
Oxalis	Oxalis spp
Paintbrush, Flora's	Emilia sonchifolia
Panicum, browntop	Panicum fasciculatum
Paspalum, ricegrass	Paspalum orbiculare
Paspalum, sour	Paspalum conjugatum
Pigweed, redroot	Amaranthus retroflexus
Pigweed, slender (green)	Amaranthus viridus
Pigweed, smooth	Amaranthus chlorostachys
Popolo	Solanum sandwicense
Purslane, common	Portulaca oleracea
Sandbur	Cenchrus spp
Sensitive plant (hila hila)	Mimosa spp
Signalgrass, broadleaf	Brachiaria platyphylla
Sowthistle, common	Sonchus oleraceus
Spanishneedles	Bidens bipinnata
Sprangletop	Leptochloa spp
Spurge, prostrate	Euphorbia humistrata
Spurge, graceful	Chamaesyce hypericifolia
Sunflower	Helianthus spp
Vaseygrass	Paspalum urvillei
Waltheria (hia loa)	Waltheria spp.

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## **USE PRECAUTIONS AND RESTRICTIONS - SUGARCANE**

- Do not plant any crop other than sugarcane following an application of Tide Hexazinone 75 WDG.
- Do not feed sugarcane forage to livestock.
- Do not apply Tide Hexazinone 75 WDG:
  - Within 180 days of harvest in Hawaii.
  - Within 234 days of harvest in Louisiana.
  - Within 288 days of harvest in Puerto Rico.
  - Within 234 days of harvest in Texas.
- To avoid injury to sugarcane, observe the following precautions:
  - Do not use Tide Hexazinone 75 WDG on cane that shows poor vigor because of insect damage, disease or winter injury, or shows symptoms of other stress conditions such as drought stress.
  - Do not add a surfactant in applications unless otherwise specified.
  - Do not use Tide Hexazinone 75 WDG on gravelly or rocky soils, thinly covered subsoils, or coarse-textured soils (sands to sandy loams) with less than 1% organic matter.
  - Temporary chlorosis of the crop may result from application over emerged cane. Applications
    during active cane growth must be directed to cover the weeds and soil while minimizing crop
    contact.
  - Do not use Tide Hexazinone 75 WDG on varieties known to be susceptible to herbicides.
  - Extremely heavy rainfall after application may result in poor weed control and/or crop injury, especially if the application is made to dry soil.

## **FORESTRY**

## SITE PREPARATION

Tide Hexazinone 75 WDG is labeled for weed and brush control in areas where the following species are grown:

### **EASTERN US AND LAKE STATES**

Fir, balsam	Abies balsamea	
Pine, Austrian	Pinus negra	
Pine, loblolly	Pinus taeda	
Pine, longleaf	Pinus palustris	
Pine, ponderosa	Pinus ponderosa	-
Pine, red	Pinus resinosa	
Pine, Scotch	Pinus sylvestris	
Pine, shortleaf	Pinus echinata	
Pine, slash	Pinus elliottii	
Pine, Virginia	Pinus virginiana	
Spruce, black	Picea mariana	
Spruce, red	. Picea rubens	
Spruce, white	Picea glauca	

### **WESTERN US**

Fir, Douglas	Pseudotsuga menziesii	
Fir, grand	Abies grandis	
Fir, Noble	Abies procera	
Fir, white	Abies concolor	
Pine, Jeffrey	. Pinus jeffreyi	
Pine, Lodgepole	Pinus contorta	
Pine, ponderosa	Pinus ponderosa	
Spruce, blue	Picea pungens	
Spruce, Engleman	Picea englemannii	
Spruce, Sitka	. Picea sitchensis	

## **APPLICATION INFORMATION**

### **EASTERN US**

Apply Tide Hexazinone 75 WDG from early spring to early summer after hardwoods have broken bud and before the foliage has hardened off.

Soils	Tide Hexazinone 75 WDG (Lbs./Acre) Eastern US
Coarse Texture	
Sand, loamy sand, sandy loam	2 2/3 – 4
Medium Texture	
Loam, silt loam, sandy clay loam	4 – 5 1/3
Fine Texture	
Silty clay loam, clay loam, sandy clay, silt, silty clay, clay	5 1/3 – 6 2/3

The rates listed are for broadcast application. Use the lower rates on coarse textured soils and soils low in organic matter. Use the higher rates on fine textured soils and soils high in organic matter. Use the higher rates where weeds identified with an \* in the Weed Controlled list predominate.

#### **WESTERN US**

For **SITE PREPARATION**, apply Tide Hexazinone 75 WDG at 1.3 to 4 pounds per acre. Use the lower rates on coarse textured soils and soils low in organic matter. Use the higher rates on fine textured soils and soils high in organic matter. Use the higher rates where weeds indentified in this label as "suppression" predominate.

In areas where other conifer species may be mixed in with the conifers listed above, apply Tide Hexazinone 75 WDG if the user has prior experience with Tide Hexazinone 75 WDG on the other conifer species. With no prior experience, it is advised that either a small area of plantings be tested for conifer safety prior to treating larger areas, or make no application of Tide Hexazinone 75 WDG in these areas within the site preparation area. Conifer species that are sensitive to Tide Hexazinone 75 WDG (hexazinone) such as, sugar pine and western larch, require 18 months before interplanting on treated sites.

Applications made to shelter wood sites may also result in mortality to over-story conifers. Factors that influence conifer sensitivity in these sites could include application rate, conifer species, soil characteristics, uniformity of spray distribution across the treatment swath and environmental stress.

Rain Belt (areas of high spring rainfall): For best results, apply in late winter or spring when weeds and brush are actively growing.

**Snow Belt** (areas of low spring rainfall): For best results, apply in the fall before soil freezes, or in the spring after snow cover melts in anticipation of rainfall. Weed and brush control results from spring applications will be dependent on sufficient rainfall following application to activate Tide Hexazinone 75 WDG.

#### PLANTS CONTROLLED

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following species in site preparations for forestry crops:

#### HERBACEOUS PLANTS

TIENDACEOUS FEATING			
Asters			
Aster, heath*	Aster ericoides		
Barnyardgrass	Echinochloa crus-galli		
Bentgrass	Agrostis spp.		
Bluegrass, annual	Poa annua		
Bromegrass	Bromus spp.		
Carrot, wild	Daucus carota		
Crabgrass*	Digitaria spp.		
Daisy, oxeye	Chrysanthemum leucanthemum		
Dandelion, common*	Taraxacum officinale		
Dandelion, false* (spotted catsear)	Hypochaeris radicata		
Dock, curly*	Rumex crispus		
Elksedge	Carex geyeri		
Fescue*	Festuca spp.		
Fireweed* (willowweed)	Epilobium angustifolium		
Fleabane	Conyza spp.		
Foxtail	Setaria spp.		
Goldenrod*	Solidago spp.		
Groundsel, common	Senecio vulgaris		
Horseweed/marestail	Conyza canadensis		
Mullein, common**	Verbascum thapsus		
Orchardgrass*	Dactylis glomerata		
Pinegrass	Calamagrostis rubescens		
Quackgrass*	Agropyron repens		

Ragweed, common	Ambrosia elatior	
Ryegrass, Italian (annual)	Lolium multiflorum	
Ryegrass, perennial*	Lolium perenne	
Smartweed, Pennsylvania	Polygonum pensylvanicum	
Squawcarpet	Ceanothus prostrates	
Thistle, Canada*	Cirsium arvense	
Velvetgrass, common	Holcus lanatus	

<sup>\*\*</sup>For Western US site preparation, apply at 4 pounds per acre.

#### **WOODY PLANTS**

WOOD! I LANG	
Ash	Fraxinus spp.
Aspen, big tooth	Populus grandidentata
Aspen, trembling	Populus tremuloides
Birch	Betula spp.
Blackgum	Nyssa sylvatica
Cherry, black	Prunus serotina
Deerbrush	Ceanothus integerrimus
Dogwood, flowering*	Cornus florida
Elm	Ulmus spp.
Hawthorn	Crataegus spp.
Hazel	Corylus spp.
Hickory	Carya spp.
Honeysuckle*	Lonicera spp.
Manzanita, Greenleaf	Arctostaphylos patula
Maple, red*	Acer rubrum
Oaks	Quercus spp.
Poplar, balsam	Populus balsamifera
Snowbrush (varnishleaf)	Ceanothus velutinus)
Sourwood*	Oxydendrum arboretum
Sweetgum	Liquidambar spp.
Willows	Salix spp.

\*Suppression is a visible reduction in plant competition (reduced population and/or vigor) as compared to an untreated area. Degree of suppression will vary with rate applied, size of plants at application and environmental conditions following treatment. Species indicated above, especially resprouts of these species, may require a follow up treatment for acceptable control. Burning, as a follow up treatment, will enhance control of resprouts.

Within several weeks after Tide Hexazinone 75 WDG activation by rainfall, affected vegetation may be burned, if desired. This burn may further enhance control of vegetation. Burn the vegetation only after any residual stand is completely defoliated, at least twice, allowing for sufficient root uptake of Tide Hexazinone 75 WDG. In the West, results may take one to two years in areas of low rainfall.

## **SPRAY EQUIPMENT**

When applied as a liquid spray using water as the carrier, apply Tide Hexazinone 75 WDG by ground equipment or by air (helicopter only).

For ground application, use enough water for thorough coverage, usually a minimum of 25 gallons per acre. For aerial applications, use at least 5 gallons of water per acre.

## **GRID APPLICATION**

Mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. To maintain the Tide Hexazinone 75 WDG in suspension, use intermittent agitation.

Apply the Tide Hexazinone 75 WDG suspension directly to the soil surface in a grid pattern using an exact delivery handgun applicator. This equipment delivers a thin stream of predetermined volume. Tide Hexazinone 75 WDG must be applied during the period from hardwood bud break to early summer.

Application rate and grid pattern will depend on soil texture and woody plant composition. Use the lower rates on coarse textured soils and when the major components of the hardwoods are susceptible species. Use the high rates on fine-textured soils and where weeds identified in this label as "partial control or suppression" predominate.

Application Patterns and Rates for Tide Hexazinone 75 WDG Suspension			
	ML/Spot	Grid (Ft)	Lbs./Acre
Coarse	0.6	3x3	2
	2.0	4x4	4 '
	3.1	4x6	4
Medium/Fine	· 1.6	3x3	5.3
	2.8	4x4	5.3
	3.5	4x4	6.6
	5.2	4x6	6.6

## **BASAL (SOIL) SINGLE STEM TREATMENTS**

Mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the Tide Hexazinone 75 WDG suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height. Direct the treatment to the soil within 3 feet of the root collar of woody plants to be controlled.

For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml per 3 feet of canopy width. For tall, slender (columnar) brush types, apply 4 to 8 ml per 3 feet of height. Base the rate on whichever canopy dimension is greater (width or height). Apply the lower volumes for coarse textured soils or soils with low organic matter and the higher volumes for fine textured soils or soils with high organic matter.

When treating brush that requires more than a single delivery of the Tide Hexazinone 75 WDG suspension, apply subsequent deliveries equally spaced around the target plant. If treating brush on sloping sites, apply most of the suspension on the uphill side of the stem. If treating resprouts from brush disturbed by cutting or other mechanical methods, the rate of application must be proportional to the original tree size, not just the size of sprout regrowth.

# USE PRECAUTIONS AND RESTRICTIONS SITE PREPARATION

- Where burning is desired, burn the vegetation only after any residual brush has completely
  defoliated, at least twice, allowing for sufficient root uptake of Tide Hexazinone 75 WDG.
- Following harvest, allow sufficient time for stumps and injured trees to adequately resprout before applying Tide Hexazinone 75 WDG.

## FORESTRY - RELEASE

Tide Hexazinone 75 WDG is labeled for conifer release where the following species are grown:

#### **EASTERN US AND LAKE STATES**

Fir, balsam	Abies balsamea	
Pine, loblolly	Pinus taeda	
Pine, longleaf	Pinus palustris	
Pine, red	Pinus resinosa	
Pine, shortleaf	Pinus echinata	
Pine, slash	Pinus elliottii	

Pine, Virginia	Pinus virginiana
Spruce, black	Picea mariana
Spruce, Norway	Picea abies
Spruce, red	Picea rubens
Spruce, white	Picea glauca

#### **WESTERN US**

Fir, Douglas	Pseudotsuga menziesii
Fir, grand	Abies grandis
Fir, Noble	Abies procera
Fir, white	Abies concolor
Hemlock, Western	· Tsuga heterophylla
Pine, Jeffrey	Pinus jeffreyi
Pine, lodgepole	Pinus contorta
Pine, ponderosa	Pinus ponderosa
Spruce, blue	Picea pungens
Spruce, Engleman	Picea englemannii
Spruce, Sitka	Picea sitchensis

#### APPLICATION INFORMATION

#### **EASTERN US**

Apply Tide Hexazinone 75 WDG from early spring to early summer after hardwoods have broken bud and before full leaf expansion.

Applications made over the top of pines may result in excessive pine injury under conditions of high humidity and temperature (80 degrees F).

#### **WESTERN US**

Rainbelt (areas of high spring rainfall): For best results, apply in late winter or spring when brush is actively growing, but prior to conifer budbreak. Dormant trees are less susceptible to injury. Applications where the spray comes into direct contact with conifers after dormancy break in the spring or before the final resting bud has hardened in the fall may severely injure or kill the trees.

**Snowbelt** (areas of low spring rainfall): For best results, apply in the fall before soil freezes and after final resting bud has hardened on the conifers. Or, make spring applications after snow cover melts in anticipation, of rainfall prior to conifer bud break. Brush control results from spring treatments will be dependent on sufficient rainfall following application to activate Tide Hexazinone 75 WDG.

#### **USE RATES**

The rates listed below are for broadcast application. Do not use more than one application of Tide Hexazinone 75 WDG per year. Use the higher rate range for harder to control\* (suppression) species in the **PLANTS CONTROLLED** listings of the Site Prep and Release sections.

#### **EASTERN US**

Crop Species	Soil Description	Tide Hexazinone 75 WDG (Lbs./Acre) Established Trees
Loblolly pine Longleaf pine	Loamy sand, sandy loam	1 1/3 – 2
Shortleaf pine Virginia pine	Loam, silt loam, silt, sandy clay loam	1 1/3 – 2 2/3

Slash pine	Silty clay loam, clay loam, sandy clay, silty clay, clay	3 - 4
Red pine	Loamy sand, sandy loam	1 1/3 – 2 2/3
	Loam, silt loam, silt, sandy clay loam Silty clay loam, clay loam, sandy clay, silty	2 2/3 – 4
	clay, clay	4 – 5 1/3

#### **Established Trees**

- •. 4 years of age from transplanting on coarse-textured soils
- 3 years of age from transplanting on medium-textured soils
- 2 years of age from transplanting for Red Pine

## **WESTERN US**

Application rates by soil type for Tide Hexazinone 75 WDG in the following western conifers: Blue spruce, Douglas fir, Engleman spruce, Grand fir, Jeffrey pine, Lodgepole pine, Noble fir, Ponderosa pine, Sitka spruce, Western hemlock and White fir.

Soil Description	Tide Hexazinone 75 WDG (Lbs./Acre)
Loamy sand, sandy loam.	1 1/3 – 3
Loam, silt loam, sandy clay loam	2 2/3 - 4
Silt, silty clay loam, clay loam, sandy clay, silty clay, clay	3 - 4

For first year plantings utilizing bare root stock, treat only transplant stock that is 2 years old (2-0, 1-1) or more, except (1-0) for Ponderosa and Jeffrey pines. Apply Tide Hexazinone 75 WDG only if rainfall has settled the soil around the base and root systems of the transplants.

## **BRUSH CONTROLLED**

VELPAR® DF is labeled for the control or suppression of the following species in conifer release sites:

Ash	Fraxinus spp.
Aspen, big tooth	Populus grandidentata
Aspen, trembling	Populus tremuloides
Birch	Betula spp.
Elder, box	Acer negundo
Brambles	Rubus spp.
Cherry, black	Prunus serotina
Cherry, pin	Prunus pensylvanica
Deerbrush	Ceanothus integerrimus
Dogwood, flowering*	Cornus florida
Elm	Ulmus spp.
Hawthorn	Crataegus spp.
Hazel	Corylus spp.
Honeysuckle*	Lonicera spp.
Manzanita, Greenleaf	Arctostaphylos patula
Maple, red*	Acer rubrum
Oaks	Quercus spp.
Poplar, balsam	Populus balsamifera
Snowbrush (varnishleaf)	Ceanothus velutinus
Sourwood*	Oxydendrum arboretum
Sweetgum	Liquidambar spp

Willows		Salix spp	

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

In addition to brush controlled, herbaceous species listed in **Weeds Controlled** section of **Release-Herbaceous Weed Control** may be controlled with these applications.

## SPRAY EQUIPMENT

When applied as a liquid spray using water as the carrier, apply Tide Hexazinone 75 WDG by ground equipment or by air (helicopter only).

For ground applications, use sufficient spray volume for thorough and uniform coverage of the site to be treated, usually a minimum of 25 gallons per acre. For aerial applications, use a minimum of 5 gallons per acre.

### **GRID APPLICATION**

Mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. To maintain the Tide Hexazinone 75 WDG in suspension, use intermittent agitation.

Apply the Tide Hexazinone 75 WDG suspension directly to the soil surface in a grid pattern using an exact delivery handgun applicator. This equipment delivers a thin stream of predetermined volume. Tide Hexazinone 75 WDG must be applied during the period from hardwood bud break to early summer.

Application rate and grid pattern will depend on soil texture and woody plant composition. Use the lower rates on coarse textured soils and when the major component of the hardwoods are susceptible species. Use the high rates on fine-textured soils and where weeds identified in this label as "partial control or suppression" predominate.

Application	Patterns and Rates for T	ide Hexazinone 75 WDG	Suspension
	ML/Spot	Grid (Ft)	Lb/Acre
Coarse	0.5	3x4	1.3*
	1.2	3x6	2
	2.1	4x6	2.6
Medium/Fine	1.2	3x3	4
•	2.3	3x6	4
	1.6	3x3	5.3
	3.1	3x6	5.3

<sup>\*</sup> Use on deep sands with pines four years or more of age.

## BASAL (SOIL) SINGLE STEM TREATMENT

Mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the Tide Hexazinone 75 WDG suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height. Direct the treatment to the soil within 3 feet of the root collar of woody plants to be controlled.

For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml per 3 feet of canopy width. For tall, slender (columnar) brush types, apply 4 to 8 ml per 3 feet of height. Base the rate on whichever canopy dimension is greater (width or height). Apply the lower volumes for coarse textured soils or soils with low organic matter and the higher volumes for fine textured soils or high organic matter soils.

When treating brush that requires more than a single delivery of the Tide Hexazinone 75 WDG suspension, apply subsequent deliveries equally spaced around the target plant. If treating brush on sloping sites, apply most of the suspension on the uphill side of the stem. If treating resprouts from brush disturbed by cutting

or other mechanical methods, the rate of application must be proportional to the original tree size, not just the size of sprout regrowth.

# USE PRECAUTIONS AND RESTRICTIONS RELEASE – GRID & SINGLE STEM

- Application of Tide Hexazinone 75 WDG basal soil spot treatments closer than 36 inches to conifer seedlings in their first season or directly up slope from these seedlings may result in injury or mortality.
- Use Tide Hexazinone 75 WDG on seedlings in their first or fourth year and older. Injury may result from use on two and three year old seedlings where root growth is extensive but hardiness is lacking.

## RELEASE HERBACEOUS WEED CONTROL

Tide Hexazinone 75 WDG is labeled for controlling herbaceous weeds where these pine species are grown:

#### **EASTERN US**

Lobiolly pine	Slash pine
Longleaf pine	Red pine

#### **WESTERN US**

Blue spruce	Noble fir
Douglas fir	Ponderosa pine
Engleman spruce	Sitka spruce
Grand fir	Western hemlock
Jeffrey pine	White fir
Lodgepole pine	

#### **APPLICATION INFORMATION**

#### **EASTERN US**

Apply Tide Hexazinone 75 WDG as a broadcast or banded spray in the spring prior to conifer bud break to lesson conifer injury potential.

#### **WESTERN US**

Rainbelt (areas of high spring rainfall): For best results, apply as a broadcast or banded spray in the late winter or spring when weeds are actively growing, but prior to conifer budbreak. If application is made after conifer bud break, use directional spray equipment to prevent contact with conifer foliage, as injury may result.

**Snowbelt** (areas of low spring rainfall): For best results, apply as a broadcast or banded spray in the fall before soil freezes and after the final resting bud has hardened on the conifers. Or, make spring applications after snow cover melts in anticipation of rainfall prior to conifer bud break. Weed control results from spring treatments will be dependent on sufficient rainfall following application to activate Tide Hexazinone 75 WDG.

### **USE RATES**

The rates listed below are for broadcast application. For band application, use proportionately less. For example, use  $\frac{1}{2}$  of the broadcast rates when treating a 3-foot band where row spacing is 6 feet. Use the higher rate range for harder to control\* (suppression) weeds in the table below.

### **EASTERN US**

	Tide Hexazinone 75 WDG (Lbs./Acre)	
Soil Description	First Year Plantings	Established Trees
Loamy sand, sandy loam (50 – 85% sand)	1 1/3	1 1/3 – 1 2/3
Loam, silt loam, silt, sandy clay loam	1 1/3 – 1 ½	1 2/3 – 2 1/3
Silty clay loam, clay loam, sandy clay, silty clay, clay	1 ½ - 1 8/10	2 1/3 – 2 2/3

Red pine only- Refer to labeled rates in the **FORESTRY RELEASE – Use Rates Eastern US** section of the label.

### **WESTERN US**

Refer to labeled rates in the FORESTRY RELEASE - Use Rates Western US section of the label.

## WEEDS CONTROLLED

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following species in release sites:

Asters	Aster spp.
Aster, heath*	Aster ericoides
Barnyardgrass	Echinochloa crus-galli
Bentgrass	Agrostis spp.
Bluegrass, annual	Poa annua
Brackenfern	Pteridium aquilinum
Bromegrass	Bromus spp.
Carrot, wild	Daucus carota
Crabgrass*	Digitaria spp.
Daisy, oxeye	Chrysanthemum leucanthemum
Dandelion, common*	Taraxacum officinale
Dandelion, false* (spotted catsear)	Hypochaeris radicata
Dock, curly*	Rumex crispus
Fescue*	Festuca spp.
Fireweed* (willowweed)	Epilobium angustifolium
Fleabane	Conyza spp.
Foxtail	Setaria spp.
Goldenrod*	Solidago spp.
Groundsel, common	Senecio vulgaris
Horseweed/marestail	Conyza canadensis
Orchardgrass*	Dactylis glomerata
Panicums	Panicum spp.
Pinegrass	Calamagrostis rubescens
Ragweed, common	Ambrosia elatior
Ryegrass, Italian (annual)	Lolium multiflorum
Ryegrass, perennial*	Lolium perenne
Smartweed, Pennsylvania	Polygonum pensylvanicum
Squawcarpet	Ceanothus prostrates
Velvetgrass, common	Holcus lanatus

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

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# FORESTRY IMPREGNATION ON DRY BULK FERTILIZER

Tide Hexazinone 75 WDG is labeled for impregnating or coating dry bulk fertilizer to be applied on forested sites for the establishment or release of conifer plantations (except longleaf pine) as specified on this label.

## **PLANTS CONTROLLED**

Fertilizer impregnated with Tide Hexazinone 75 WDG is labeled for the control and suppression of the weeds and brush identified for the specific applications on this label. Consult the appropriate segment of this label to determine the appropriate rate of Tide Hexazinone 75 WDG to be applied per acre. Apply this amount of Tide Hexazinone 75 WDG to the volume of fertilizer to be applied per acre.

## IMPREGNATION EQUIPMENT

To impregnate or coat the fertilizer use a system consisting of conveyor or closed drum used to blend dry bulk fertilizer.

### **IMPREGNATION INSTRUCTIONS**

To impregnate dry bulk fertilizer with Tide Hexazinone 75 WDG, mix the amount as prescribed above in a sufficient quantity of water to uniformly coat the desired amount of fertilizer. Suspensions of Tide Hexazinone 75 WDG will require thorough agitation.

Direct the spray nozzles of the impregnation equipment to deliver a fine spray of the mixture toward the fertilizer for thorough coverage while avoiding contact with mixing equipment. The use of a spray pattern indicator will help to visually determine the uniformity of impregnation.

Uniform impregnation of dry bulk fertilizer can vary. If absorption of the spray is not adequate, use an absorptive powder or additive, such as "Microcel E" or "HiSil 233", to produce a dry, free flowing mixture.

Apply the fertilizer as soon as possible after impregnation for optimum performance. Impregnated fertilizer may become lumpy and difficult to apply following storage.

Diammonium phosphate, potassium chloride, 16-16-16 and 24-4-4-have been successfully impregnated.

## **APPLICATION EQUIPMENT**

Apply impregnated fertilizer by ground equipment or by air (helicopter or fixed wing). Accurate calibration and patterning of the equipment is essential for uniform distribution of the impregnated fertilizer on the soil surface.

# USE PRECAUTIONS AND RESTRICTIONS FORESTRY – IMPREGNATED FERTILIZER

- If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation. Application of dusty fertilizer which has been impregnated may result in off-target drift and injury to desirable vegetation. Such drift and associated injury may be aggravated by high wind conditions.
- The dry fertilizer must be properly impregnated and uniformly applied to avoid pine injury/mortality and poor weed and brush control.
- Uniform and precise application of the impregnated fertilizer is essential for satisfactory weed and brush control and to minimize pine injury. Overlaps or skips between adjoining swaths or nonuniform distribution of impregnated fertilizer within the swath will deliver poor results and may result in pine injury or mortality.
- Do not impregnate potassium nitrate, sodium nitrate or triple super phosphate fertilizers with Tide Hexazinone 75 WDG as herbicidal action will be lost.

## USE PRECAUTIONS AND RESTRICTIONS FORESTRY

- Do not use Tide Hexazinone 75 WDG in nurseries, seedbeds, or ornamental plantings.
- On tracts of land where various soil types are present and Tide Hexazinone 75 WDG rate selection is difficult, conifer damage or less-than-expected vegetation suppression may occur due to the different rates required for various soil types.
- Poor weed and brush control may result from the following:
  - Heavy duff or slash present at time of application
  - Use on poorly drained sites
  - Applications made when the soil is saturated with water and rain is imminent within 24 hours
  - Applications to soils high in organic matter (greater than 5%)
- Following harvest, allow stumps and injured trees sufficient time to adequately resprout before applying Tide Hexazinone 75 WDG.
- Where burning is desired, burn vegetation after any brush has completely defoliated, at least twice, allowing for sufficient root uptake of Tide Hexazinone 75 WDG.
- Do not use Tide Hexazinone 75 WDG on frozen soils; use in spring after snow melt.
- Do not add a surfactant in applications over the top of conifers.
- Weed control results from spring applications depend on sufficient moisture to activate Tide Hexazinone 75 WDG.
- When applying Tide Hexazinone 75 WDG after transplanting, wait until rainfall has settled the soil around the base and root systems of the transplants before making the treatment.
- Crop injury may occur when Tide Hexazinone 75 WDG is used:
  - On trees that show poor vigor, insect damage, disease, winter injury, or other stress conditions
  - On any soil containing less than 1% organic matter
  - On loamy sand or sandy loam with less than 2% organic matter, except Jeffrey pine and Ponderosa pine
  - On conifer foliage after conifer bud break
  - On gravelly or rocky soils, exposed subsoils, clay knobs, sand, or sandy soil with 85% or more sand.
  - Livestock may be grazed immediately following a broadcast application of Tide Hexazinone 75
    WDG at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed
    after 38 days.
  - Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of Tide Hexazinone 75 WDG at broadcast rates exceeding 1.5 pounds per acre.

#### YELLOW POPLAR PLANTINGS

Tide Hexazinone 75 WDG is labeled for the control of herbaceous weeds in the establishment of yellow poplar plantations. Make applications over the top of planted seedlings after the soil has settled around the root systems but before the seedlings have broken dormancy (bud break). Make a subsequent application before dormancy break in the Spring of the second year. **USE RATES:** Use the rate range specified in the "RELEASE – HERBACEOUS WEED CONTROL" section for pine plantations – Eastern US.

For ground application, use sufficient spray volume for uniform and thorough coverage of the site to be sprayed, usually a minimum of 25 gallons per acre. For aerial applications, use a minimum of 5 gallons of water per acre. For broader spectrum control, tank-mix Tide Hexazinone 75 WDG with DuPont<sup>TM</sup> ESCORT® XP herbicide (or other metsulfuron formulations approved for this use). Add ESCORT® XP at a rate of ½ ounce per acre with the prescribed rate of Tide Hexazinone 75 WDG.

# USE PRECAUTIONS AND RESTRICTIONS YELLOW POPLAR PLANTINGS

 Applications of Tide Hexazinone 75 WDG and tank mixes of Tide Hexazinone 75 WDG and DuPont<sup>TM</sup> ESCORT® XP (or other metsulfuron formulations approved for this use) made to yellow poplar seedlings that are suffering from loss of vigor caused by insects, disease, drought, winter damage, animal damage, excessive soil moisture, planting shock or other stresses may injure or kill the seedlings.

- Applications of Tide Hexazinone 75 WDG and tank mixes of Tide Hexazinone 75 WDG and ESCORT® XP (or other metsulfuron formulations approved for this use) must only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- The use of surfactant with Tide Hexazinone 75 WDG is not advised for applications made of the tops of seedlings.
- Careful consideration must be given by an experienced and knowledgeable forester to ensure the specific growth requirements of yellow poplar will be provided by the selected planting site.
   Treatment of yellow poplar planted on a site inadequate to meet its requirements may injure or kill the seedlings.

## PASTURE/RANGELAND

Tide Hexazinone 75 WDG is labeled for control of brush and weeds in pasture.

#### BERMUDAGRASS/BAHIAGRASS

Tide Hexazinone 75 WDG is labeled for control of smutgrass and other weeds in established stands of bermudagrass and bahiagrass in pastures/rangelands.

### APPLICATION INFORMATION

Make a single application of Tide Hexazinone 75 WDG per year when weeds are actively growing.

## **WEEDS CONTROLLED – USE RATES**

Tide Hexazinone 75 WDG effectively controls the following weeds at the rates shown in pastures. Use a lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

9/10 - 1 ½ Lbs./Acre		
Barley, little	Hordeum pusillum	
Barnyardgrass	Echinochloa crus-galli	
Dogfennel	Eupatorium capillifolium	
Fescue	Festuca spp.	
Lespedeza	Lespedeza cuneata	
Oxalis	Oxalis spp.	
Passionflower, maypop	Passiflora incarnate	
Pepperweed, Virginia	Lepidium virginicum	
Pigweed	Amaranthus spp.	
Smutgrass*	Sporobolus indicus	

<sup>\*</sup>Suppression may result with some of the giant (larger) smutgrass species.

Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

### **SPRAY EQUIPMENT**

Apply Tide Hexazinone 75 WDG uniformly over the desired area using ground equipment only.

For ground application, use enough water for thorough coverage usually a minimum of 25 gallons per acre. The use of a surfactant may increase the potential for bermudagrass or bahiagrass injury.

## USE PRECAUTIONS AND RESTRICTIONS BERMUDAGRASS/BAHIAGRASS

For bermudagrass grown in the states of ID, OR, UT, or WA, determine the suitability of using Tide
Hexazinone 75 WDG by treating a small area at a labeled application rate prior to treating larger
areas. The smaller treated area must be observed for any signs of herbicidal injury during 60 days
of normal growing conditions to determine if the treatment is safe to bermudagrass.

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- Use Tide Hexazinone 75 WDG only in stands of bermudagrass and bahiagrass established for at least one year. Do not treat newly sprigged or sodded areas.
- Some temporary discoloration of the bermudagrass or bahiagrass may occur after application.
- Treatment of mixed pastures containing forage species other than bermudagrass or bahiagrass may result in injury or mortality to the other forage species.
- Injury may result when desirable grasses are under stress from drought, insects, disease, cold temperature, or poor fertility.
- Injury to or loss of desirable trees or other plants may result if Tide Hexazinone 75 WDG is applied
  or if equipment is drained or flushed on or near desirable trees or other plants, on areas where their
  roots may extend, or in locations where the chemical may be washed or moved into contact with
  their roots.
- Severe crop injury may occur if applications are made on gravelly or rocky soils, thinly covered subsoils, or soils with less than 1% organic matter.
- Livestock may be grazed immediately following a broadcast application of Tide Hexazinone 75 WDG at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried and fed after 38 days.
- Do not apply to residential areas/lawns or golf courses.

## PASTURE/RANGELAND BRUSH CONTROL

Apply Tide Hexazinone 75 WDG either by broadcast or as a basal-soil treatment for the control of undesirable brush in pasture or rangeland.

## **APPLICATION INFORMATION**

Apply Tide Hexazinone 75 WDG from late winter through summer, pre-budbreak until new growth hardens off.

In areas where the soil remains frozen during the winter and spring rains are usually inadequate for soil activation, make a fall or winter treatment before the soil freezes.

For broadcast rates needed to control the species below, see the Forestry - Release, Use Rates section.

## **BRUSH CONTROLLED**

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following brush species in pasture and rangeland:

Alder	Alnus spp.
Ash	Fraxinus spp.
Aspen	Populus spp.
Birch	Betula spp.
Blackgum	Nyssa sylvatica
Bay, sweet	Magnolia virginiana
Catclaw acacia	Acacia greggii
Cedar, Eastern red	Juniperus virginiana
Cherry, black	Prunus serotina
Chinaberry*	Melia azedarach
Deerbrush	Ceanothus integerrimun
Dogwood, flowering*	Cornus florida
Elm, American	Ulmus Americana
Elm, Chinese	Ulmus parvifolia
Hackberry, common	Celtis occidentalis
Hawthorn	Crataegus spp.
Hazel	Corylus spp.
Hickory	. Carya spp.
Huisache	Acacia farnesiana

	Lucia a mara a mara
Juniper	Juniperus spp.
Locust	Robinia spp.
Lotebush	Ziziphus obtusifolia
Manzanita, Greenleaf	Arctostaphylos patula
Maple, red	Acer rubrum
Mesquite	Prosopis glandulosa
Mulberry	Morus spp.
Oaks	Quercus spp.
Osage-orange	Maclura pomifera
Persimmon	Diospyros spp.
Plum, wild	Prunus munsoniana
Poplar, balsam	Populus balsamifera
Poplar, yellow	Liriodendron tulipifera
Privet	Ligustrum spp.
Rose, multiflora	Rosa multiflora
Sassafras*	Sassafras albidum
Soapweed, small (yucca)	Yucca glauca
Snowbrush (varnishleaf)	Ceanothus velutinus
Sourwood	Oxydendrum arboretum
Sumac	Rhus spp.
Sweetgum	Liquidambar spp.
Tallow, Chinese	Sapium sebiferum
Waxmyrtle	Myrica cerifera
Whitebrush	Aloysia gratissima
Willow	
Whitebrush	

<sup>\*</sup>Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

### SPRAY EQUIPMENT AND APPLICATION TECHNIQUES

Basal (Soil) – Mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the Tide Hexazinone 75 WDG suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height. Direct the treatment to soil within 3 inches of the root collar of woody plants to be controlled. When treating large stems and when more than one delivery of the Tide Hexazinone 75 WDG suspension is needed per stem, make applications on opposite sides of the stem. Do not apply more than 1/3 gallon of the Tide Hexazinone 75 WDG suspension per acre per year. To maintain the Tide Hexazinone 75 WDG in suspension, use intermittent agitation.

# USE PRECAUTIONS AND RESTRICTIONS PASTURE/RANGELAND

- Injury to or loss of desirable trees or other plants may result if Tide Hexazinone 75 WDG is applied
  or if equipment is drained or flushed on or near desirable trees or other plants, on areas where their
  roots may extend, or in locations where the chemical may be washed or moved into contact with
  their roots.
- Poor weed and brush control may result from the following:
  - Use on poorly drained sites
  - Applications made when the soil is saturated with water and rain is imminent within 24 hours
  - Applications to soils high in organic matter (greater than 5%)
- Following mechanical cutting or clearing, allow stumps and injured trees sufficient time to adequately resprout before applying Tide Hexazinone 75 WDG.
- Do not use Tide Hexazinone 75 WDG on frozen soils
- Leave treated soil undisturbed to reduce the potential for Tide Hexazinone 75 WDG movement by soil erosion due to wind or water.

- Weed and brush control results depend on sufficient moisture to activate Tide Hexazinone 75 WDG:
- When Tide Hexazinone 75 WDG is applied as a basal soil treatment, there is no restriction on grazing by domestic animals nor on cutting surrounding vegetation for forage or hay.
- Livestock may be grazed immediately following a broadcast application of Tide Hexazinone 75
  WDG at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed
  after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of Tide Hexazinone 75 WDG at broadcast rates exceeding 1.5 pounds per acre.

## NON-AGRICULTURAL USES

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Use on non-crop sites including industrial turfgrasses are not within the scope of the Worker Protection Standard.

When applied as a spray do not enter or allow worker entry into treated areas until sprays have dried.

#### APPLICATION INFORMATION

Tide Hexazinone 75 WDG is labeled for general weed and brush control as follows: uncultivated nonagricultural areas (such as, airports, highway, railroad and utility right-or way, sewage disposal areas); uncultivated agricultural areas (non-crop producing, which includes: farmyards, fuel storage areas, fence rows, barrier strips); industrial site (outdoor, such as, lumberyards, pipeline and tank farms).

### **NON-CROP SITES**

Tide Hexazinone 75 WDG is labeled for control of many annual, biennial, and perennial weeds in non-crop sites.

## APPLICATION INFORMATION

Apply Tide Hexazinone 75 WDG as a preemergence or postemergence spray when weeds are actively germinating or growing.

#### WEEDS CONTROLLED - USE RATE

Tide Hexazinone 75 WDG effectively controls the following weeds when applied at the use rates shown in industrial sites. When applied at lower rates, Tide Hexazinone 75 WDG provides short-term control of the weeds listed; when applied at higher rates, weed control is increased and extended.

Use lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

2 2/3 -6 2/3 Lbs./Acre	
Barnyardgrass	Echinochloa crus-galli
Bindweed, field*	Convolvulus arvensis
Bouncingbet*	Saponaria officinalis
Bromegrass	Bromus spp.
Buffalograss*	Buchloe dactyloides
Burdock	Arctium spp.
Cocklebur	Xanthium spp.
Crabgrass	Digitaria spp.
Crown vetch	Coronilla varia
Curly dock*	Rumex crispus

Dandelion, common*	Taraxacum officinale
Dandelion, false* (spotted catsear)	Hypochaeris radicata
Dogbane*	Apocynum cannabinum
Fiddleneck, tarweed	Amsinckia lycopsoides
Filaree	Erodium spp.
Fleabane, flax-leaved	Conyza bonariensis
Goatsbeard vine (sweet briar)	Aruncus sylvester
Goldenrod	Solidago spp.
Horseweed/marestail	Conyza canadensis
Lespedeza	Lespedeza cuneata
Milkweed, common*	Asclepias syriacea
Mustard, wild	Sinapis arvensis
Nutsedge*	Cyperus spp.
Oats, wild*	Avena fatua
Orchardgrass*	Dactylis glomerata
Orchardgrass (seedling)	Dactylis glomerata
Oxalis	Oxalis spp
Paragrass	Panicum purpurascens
Parsnip, wild	Pastinaca sativa
Pigweed	Amaranthus spp.
Purslane, common	Portulaca oleracea
Quackgrass	Agropyron repens
Ryegrass, Italian (annual)	Lolium multiflorum
Smartweed	Polygonum spp.
Spurge	Euphorbia spp.
Star thistle	Centaurea spp.
Trumpetcreeper*	Campsis radicans
)	
8 - 10 2/3 Lbs./acre Aster, heath	Aster ericoides
Aster, heath	Aster ericoides Paspalum notatum
Aster, heath Bahiagrass*	Paspalum notatum
Aster, heath Bahiagrass* Bermudagrass*	Paspalum notatum Cynodon dactylon
Aster, heath Bahiagrass* Bermudagrass* Blackberry	Paspalum notatum Cynodon dactylon Rubus spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle*	Paspalum notatum Cynodon dactylon Rubus spp Poa spp Andropogon virginicus Heterotheca subaxillaris Cirsium arvense
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue*	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle Horseweed/marestail	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp. Conyza canadensis
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle Horseweed/marestail Lantana	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp. Conyza canadensis Lantana camara
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle Horseweed/marestail Lantana Lettuce, prickly	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp. Conyza canadensis Lantana camara Lactuca serriola
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle Horseweed/marestail Lantana Lettuce, prickly Natalgrass (red top)	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp. Conyza canadensis Lantana camara Lactuca serriola Rhynchelytrum repens
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle Horseweed/marestail Lantana Lettuce, prickly Natalgrass (red top) Plantain	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp. Conyza canadensis Lantana camara Lactuca serriola Rhynchelytrum repens Plantago spp.
Aster, heath Bahiagrass* Bermudagrass* Blackberry Bluegrass Broomsedge Camphorweed Canada thistle* Carrot, wild Chickweed Clovers Dewberry Dogfennel Fescue* Fingergrass Foxtail Guineagrass Honeysuckle Horseweed/marestail Lantana Lettuce, prickly Natalgrass (red top)	Paspalum notatum Cynodon dactylon Rubus spp. Poa spp. Andropogon virginicus Heterotheca subaxillaris Cirsium arvense Daucus carota Stellaria media Trifolium spp. Rubus trivialis Eupatorium capillifolium Festuca spp. Digitaria ciliaris Setaria spp. Panicum maximum Lonicera spp. Conyza canadensis Lantana camara Lactuca serriola Rhynchelytrum repens

Spanishneedles	Bidens bipinnata
Vaseygrass	Paspalum urvillei

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## SPECIFIC WEED PROBLEMS

Control of Canada Thistle in Crown Vetch – Tide Hexazinone 75 WDG is labeled for control of Canada thistle in established stands of crown vetch on noncrop sites. Make a single application of  $1-1\ 2/3$  lbs. of Tide Hexazinone 75 WDG from late spring through mid-summer, when thistle is actively growing prior to flowering. Do not use a surfactant. Some discoloration of the crown vetch foliage may occur after application.

#### SPRAY EQUIPMENT

Apply Tide Hexazinone 75 WDG uniformly over the desired area using ground equipment or helicopter. Do not apply more than 8 lbs. per acre by air.

Use enough water for thorough coverage. For ground application this is usually a minimum of 25 gallons per acre. Use higher application volumes to obtain uniform application with handgun equipment. For aerial applications (helicopter only) this is usually a minimum of 5 gallons per acre. Use higher volumes of water when water temperatures are cold or the higher rates of Tide Hexazinone 75 WDG are used.

## NON-CROP BRUSH CONTROL

Tide Hexazinone 75 WDG is labeled for the control of undesirable brush in non-crop sites.

#### APPLICATION INFORMATION

Apply Tide Hexazinone 75 WDG from late winter through summer, pre- bud break until new growth hardens off

In areas where soils remains frozen during the winter and spring rains are usually inadequate for soil activation, make a fall or winter treatment before the soil freezes.

## **BROADCAST**

Apply 5 1/3 to 10 2/3 lbs. of Tide Hexazinone 75 WDG per acre as a coarse spray by ground equipment or 5 1/3 to 8 lbs. per acre by air (helicopter only). Use enough water for thorough coverage. For ground, equipment usually a minimum of 25 gallons per acre. For aerial equipment, usually a minimum of 10 gallons per acre. Use higher volumes of water when water temperatures are cold or the higher rates of Tide Hexazinone 75 WDG are used.

# BASAL (SOIL) SINGLE STEM TREATMENT

Mix 2 2/3 pounds of Tide Hexazinone 75 WDG with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the Tide Hexazinone 75 WDG suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height.

Direct the treatment to the soil within 3 feet of the root collar of woody plants to be controlled.

For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply the Tide Hexazinone 75 WDG suspension at the rate of 2 to 4 ml per 3 feet of canopy width. For tall, slender (columnar) brush types, apply 4 to 8 ml per 3 feet of height. Base the rate on whichever canopy dimension is greater (width or height).

<sup>\*\*</sup> Suppression may result with some of the giant (larger) smutgrass species.

When treating brush that requires more than a single delivery of the Tide Hexazinone 75 WDG suspension, apply subsequent deliveries equally spaced around the target plant. If treating brush on sloping sites, apply most of the suspension on the uphill side of the stem. If treating resprouts from brush disturbed by cutting or other mechanical methods, the rate of application must be proportional to the original tree size, not just the size of sprout regrowth.

**LACING/STREAKING** – Mix Tide Hexazinone 75 WDG with water to form a concentrated suspension. Apply 5 1/3 to 10 2/3 lbs. of Tide Hexazinone 75 WDG per acre. Adjust the application equipment to deliver a narrow or straight stream spray pattern such that the swath width on soil surface is 6 to 12 inches wide. Direct the spray at the base of the brush. Swaths or treated bands must be 2 to 4 feet apart. Apply the lower volumes for coarse textured soils or soils with low organic matter and the higher volumes for fine textured soils or soils with high organic matter.

### **USE RATES**

Tide Hexazinone 75 WDG is labeled for the control or suppression of the following species in non-crop sites. Use lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

5 1/3 – 10 2/3 Lbs./Acre	Alaua ana
Alder	Alnus spp.
Ash	Fraxinus spp.
Aspen	Populus spp.
Birch	Betula spp.
Blackgum	Nyssa sylvatica
Bay, sweet	Magnolia virginiana
Catclaw acacia	Acacia greggii
Cedar, Eastern red	Juniperus virginiana
Cherry, black	Prunus serotina
Chinaberry*	Melia azedarach
Deerbrush	Ceanothus integerrimus
Dogwood, flowering*	Cornus florida
Elm, American	Ulmus Americana
Elm, Chinese	Ulmus parvifolia
Hackberry, common	Celtis occidentalis
Hawthorn	Crataegus spp.
Hazel	Corylus spp.
Hickory	Carya spp.
Huisache	Acacia farnesiana
Juniper	Juniperus spp.
Locust	Robinia spp.
Lotebush	Ziziphus obtusifolia
Manzanita, Greenleaf	Arctostaphylos patula
Maple, red	Acer rubrum
Mesquite	Prosopis glandulosa
Mulberry	Morus spp.
Oaks	Quercus spp.
Osage-orange	Maclura pomifera
Persimmon	Diospyros spp.
Plum, wild	Prunus munsoniana
Poplar, balsam	Populus balsamifera
Poplar, yellow	Liriodendron tulipifera
Privet	Ligustrum spp.
Rose, multiflora	Rosa multiflora
Sassafras*	Sassafras albidum
Soapweed, small (yucca)	Yucca glauca

Snowbrush (varnishleaf)	Ceanothus velutinus
Sourwood	Oxydendrum arboretum
Sumac	Rhus spp.
Sweetgum	Liquidambar spp.
Tallow, Chinese	Sapium sebiferum
Waxmyrtle	Myrica cerifera
Whitebrush	Aloysia gratissima
Willow	Salix spp.

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

### INDUSTRIAL TURFGRASS

Tide Hexazinone 75 WDG is labeled for selective weed control is established stands of bermudagrass and/or bahiagrass in noncrop areas.

### **APPLICATION TIMING**

Make a single application of Tide Hexazinone 75 WDG per year when weeds are actively growing.

## WEEDS CONTROLLED - USE RATE

Tide Hexazinone 75 WDG effectively controls the following weeds at the rates shown in industrial turf (unimproved only). Use a lower rate on coarse textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

9/10 - 1 1/2 Lbs./Acre	·	
Barley, little	Hordeum pusillum	
Barnyardgrass	Echinochloa crus-galli	
Dogfennel	Eupatorium capillifolium	
Fescue	Festuca spp.	
Lespedeza	Lespedeza cuneata	
Oxalis	Oxalis spp.	
Passionflower, maypop	Passiflora incarnate	
Pepperweed, Virginia	Lepidium virginicum	
Pigweed	Amaranthus spp.	
Smutgrass*	Sporobolus indicus	

<sup>\*</sup>Suppression may result with some of the giant (larger) smutgrass species.

Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## SPRAY EQUIPMENT

Apply Tide Hexazinone 75 WDG uniformly over the desired area using ground equipment only.

For ground application, use enough water for thorough coverage usually a minimum of 25 gallons per acre. The use of a surfactant is not advised.

# USE PRECAUTIONS AND RESTRICTIONS ALL NON-CROP SITES

- For bermudagrass grown in the states of ID, OR, UT, or WA, determine the suitability of using Tide Hexazinone 75 WDG by treating a small area at a labeled application rate prior to treating larger areas. The smaller treated area must be observed for any signs of herbicidal injury during 60 days of normal growing conditions to determine if the treatment is safe to bermudagrass.
- Injury to or loss of desirable trees or other plants may result if Tide Hexazinone 75 WDG is applied
  or if equipment is drained or flushed on or near desirable trees or other plants, on areas where their
  roots may extend, or in locations where the chemical may be washed or moved into contact with
  their roots.

- Application spray drift may injure desirable plants.
- Poor weed and brush control may result from the following:
  - Use on poorly drained sites
  - Applications made when the soil is saturated with water and rain is imminent within 24 hours.
  - Applications to soils high in organic matter (greater than 5%)
- Following mechanical cutting or clearing, allow stumps and injured trees sufficient time to adequately resprout before applying Tide Hexazinone 75 WDG.
- Do not use Tide Hexazinone 75 WDG on frozen soils.
- Leave treated soil undisturbed to reduce the potential for Tide Hexazinone 75 WDG movement by soil erosion due to wind or water.
- Do not use Tide Hexazinone 75 WDG on lawns, driveways, tennis courts, or other residential or recreational areas
- Weed and brush control results from spring applications depend on sufficient moisture to activate Tide Hexazinone 75 WDG.
- Livestock may be grazed immediately following a broadcast application of Tide Hexazinone 75 WDG at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried and fed after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of Tide Hexazinone 75 WDG at broadcast rates greater than 1.5 pounds and up to 8 pounds per acre.
- For Tide Hexazinone 75 WDG rates above 8 pounds per acre, do not cut treated vegetation for forage or hay nor graze domestic animals for 1 year following application.
- There are no grazing or haying restrictions for the directed basal-soil applications of Tide Hexazinone 75 WDG.
- Use Tide Hexazinone 75 WDG only in stands of bermudagrass and bahiagrass turfgrasses established for at least one year. Do not treat newly sprigged or sodded areas.
- Some discoloration of the bermudagrass or bahiagrass may occur after application.
- Injury may result when desirable grasses are under stress from drought, insects, disease, cold temperature, or poor fertility.
- Severe turfgrass injury may occur if applications are made on gravelly or rocky soils, thinly covered subsoils, or soils with less than 1% organic matter.

# ADDITIONAL INSTRUCTIONS, PRECAUTIONS, AND RESTRICTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES

#### SPRAY TANK CLEAN OUT

Thoroughly clean all traces of Tide Hexazinone 75 WDG from application equipment immediately after use. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately). Dispose of the equipment washwater by applying it to a use-site listed on this label.

#### SPRAY DRIFT MANAGEMENT

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

## IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure can 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.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) proved a Standard that describes

droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

### CONTROLLING DROPLET SIZE -GROUND APPLICATION

- **Nozzle Type** Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

## CONTROLLING DROPLET SIZE - AIRCRAFT

- Nozzle Type Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles** Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- Nozzle Orientation Orienting nozzles in a manner that minimizes the effects of air shear will
  produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles
  straight back parallel to the airstream will produce a coarser droplet spectrum than other
  orientations.
- **Pressure** Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

## **BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT**

- Boom Length (aircraft) Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- Application Height (ground) Applications made at the lowest height consistent with pest control
  objectives, and that allow the applicator to keep the boom level with the application site and minimize
  bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift
  potential.

#### WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

#### TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

#### SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small, suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains

close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. 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 minimizing drift potential, and not interfering with uniform deposition of the product.

#### AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some sprayers reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

## **SENSITIVE AREAS**

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential area, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

#### DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

## STORAGE AND DISPOSAL

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

Pesticide Storage: Store in original container only in a cool, dry place.

**Pesticide Disposal:** Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. If not emptied in this manner, the bag may be considered an acute hazardous waste and must be disposed of in accordance with local, state and federal regulations. When completely empty, offer for recycling if available.

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

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