·Childs Landscape·
CONTRACTORS, INC

Beverly Triton – Meadow Creation & Invasive Species Management Plan

Wildflower Pollinator Creation : .75 Acres (Estimated)

Stage 1 of this project includes the creation of a Wildflower Pollinator Field. To do this, we will start by fencing off all areas of work, throughout construction – these will not be accessible to park users. Remove invasive plant material, haul debris to off-site dump. Prepare field for seeding and plug re-establishment. Seed and establish Ernst mixes # 153 or #731 Approx. 3,630 Sq./Yds.

Invasive Management at Downs Park: 3.71 Acres (Estimated)

Stage 2 of this project includes mowing/cutting/treating invasive species growing throughout the defined area. Invasives will be cut utilizing brush hogs, forestry mowers, hand, and specialized tools at ergonomic levels and to be left in place. Cut stems will be locally treated with herbicide as feasible.

Both part 1 & 2 of this project will happen concurrently, with operations beginning on 3/4/24 (weather permitting)
(Backup dates for stage 1 & 2 : 3/11/24)

Please note Herbicide treatments will be completed in tandem with cutting operations.

Herbicides to be utilized:
Cheetah Pro
Vastlan
Sightline
Ornamec

(See attached MSDS Sheets and related application processes/information)

491 College Parkway, PO Box 420, Arnold, MD 21012
(410) 974-0528 Fax (410) 757-6509

Nufarm

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Cheetah® Pro**
EPA Reg. No.: 228-743
Product Type: Herbicide
Company Name: Nufarm Americas Inc
11901 S. Austin Avenue
Alsip, IL 60803
1-855-280-6609

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,**
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:

Flammable liquid	Category 4

HEALTH HAZARDS:

Acute Inhalation Toxicity	Category 3
Eye Damage / Irritation	Category 2B
Sensitization- Skin	Category 1
Specific Target Organ Toxicity – Repeat Exposure	Category 2

ENVIRONMENTAL HAZARDS:
Not hazardous

SIGNAL WORD:
DANGER

HAZARD STATEMENTS:
Combustible liquid. Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure. Causes eye irritation. May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS
Keep away from flames and hot surfaces- No smoking. Do not breath mist / vapors / spray. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center / doctor if you are exposed and feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Wash contaminated clothing before reuse.

Get medical attention if you feel unwell.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents in accordance with local, state, and federal regulations or as instructed on product label.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Glufosinate-ammonium	77182-82-2	24.6 – 26.1
Other Ingredients	Proprietary*	Trade Secret

Synonyms: mixture containing 2-amino-4-(hydroxymethylphosphinyl)butanoic acid monoammonium salt

*Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Call a poison control center or doctor for treatment advice if irritation occurs and persists.

Most Important symptoms/effects, acute and delayed: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Iinhalation can cause nausea, vomiting, and diarrhea. Skin exposure may cause slight irritation.

Indication of Immediate medical attention and special treatment if needed: Glufosinate-ammonium is a glutamine synthetase inhibitor and can interfere with neurotransmitter function. Symptoms may be delayed by up to 48 hours following ingestion. There is no specific antidote. If ingested, endotracheal intubation and gastric lavage should be performed as soon as possible followed by charcoal and sodium sulfate administration.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later. Decontaminate tools and equipment following cleanup.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:
Do not get in eyes, on skin or on clothing. Avoid breathing spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage:
Do not use or store near heat or open flame. Keep the container tightly closed and dry in a cool, well-ventilated place. Storage temperature should not exceed 125º F. If storage temperature of this product is below 32º F, the material should not be pumped until its temperature exceeds 32º F. Protect against direct sunlight. Do not contaminate water, food, feed, or seed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:
Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses or faceshield. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection: To avoid contact with skin wear coveralls worm over short-sleeved shirt and short pants, chemical resistant footwear plus socks, chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils. When mixing, loading, or cleaning equipment a chemical resistant apron must be worn. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection: Not normally required. If dusts exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides. Mixers/loaders supporting aerial applications must wear a dust/mist filtering respirator (NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.
General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	**TWA**	**STEL**	**TWA**	**STEL**	**Unit**
Glufosinate-ammonium	NE	NE	NE	NE	
Trade Secret	NE	NE	50	100	ppm
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Transparent yellow liquid
Odor:	Mild sweet
Odor threshold:	No data available
pH:	8.0 (1% w/w dispersion in DIW)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	145°F (63°C)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available

Relative density:	1.085 g/cm^3 at 26°C
Solubility(ies):	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	17.5 cps (26°C); 10.4 cps (39°C) capillary method

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: This material is stable under normal handling and storage conditions.
Possibility of Hazardous Reactions: Will not occur.
Conditions to Avoid: Keep away from heat, sparks and open flame. Minimize dust generate and accumulation.
Incompatible Materials: Strong oxidizing agents: bases and acids.
Hazardous Decomposition Products: May produce gases such as oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact
Symptoms of Exposure:
Eye Contact: Moderately irritating.
Skin Contact: May cause skin irritation. Harmful if absorbed through skin. May cause symptoms similar to ingestion.
Ingestion: Harmful if swallowed. Ingestion may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting or diarrhea.
Inhalation: May cause irritation.
Delayed, immediate and chronic effects of exposure: Skin, eye and/or respiratory irritation.

Toxicological Data:
Data from laboratory studies conducted on this product:
Oral: Rat LD_{50}: 3129 mg/kg
Dermal: Rat LD_{50}: > 2,000 to < 5,000 mg/kg
Inhalation: Rat 4-hr LC_{50}: > 0.55 to < 2.15 mg/L
Eye Irritation: Rabbit: Moderately irritating (MMTS=26.7)
Skin Irritation: Rabbit: Slightly irritating (PDII= 1.3)
Skin Sensitization: Tested positive for sensitization (LLNA).

Subchronic Toxicity: Glufosinate-ammonium was well tolerated in the rat but less well tolerated in the dog in subchronic studies. Glufosinate-ammonium has demonstrated effects on the central nervous system at high dose levels in standard toxicity studies using laboratory animals.
Reproductive Toxicity: Implantation loss occurred at high dose levels in a rat multigeneration study with glufosinate-ammonium. There were no effects on male fertility.
Developmental Toxicity: Tests in the rat and rabbit indicate that exposure to high dose levels of glufosinate-ammonium may result in embryotoxicity.
Mutagenicity and Genotoxicity: Glufosinate-ammonium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity:
This product contains substances that are considered to be probable or suspected human carcinogens as follows:

	Regulatory Agency Listing As Carcinogen			
Component	**ACGIH**	**IARC**	**NTP**	**OSHA**
Glufosinate-ammonium	No	No	No	No
Other Ingredients (TRADE SECRET)	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Glufosinate-Ammonium Technical:

96-hr LC_{50} Rainbow Trout:	>320 mg/L	Acute LD_{50} Bobwhite Quail	> 2000 mg/L
48-hr EC_{50}, Daphnia Magna	668 mg/L	Acute LD_{50} Mallard Duck	> 2000 mg/L
48-hr LD_{50}, Honeybees	354 µg/L		

Environmental Fate:

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not allow to get into surface water, drains and ground water. Drift or runoff from treated areas may adversely affect non-target plants. Apply this product as specified on the label. Do not apply when weather conditions favor runoff or drift.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

Container Handling and Disposal:

Non-refillable Containers 5 Gallons or Less: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Non-refillable containers larger than 5 gallons: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two
minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT:
≥ 119 gallons per completed package
NA1993, COMBUSTIBLE LIQUID, N.O.S., 3, III
IMDG
Not Regulated
IATA
Not Regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if absorbed through skin, swallowed or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing and breathing vapor. 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. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Acute Health, Chronic Health

Section 313 Toxic Chemical(s):
None

Reportable Quantity (RQ) under U.S. CERCLA:
None

RCRA Waste Code:
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information: Other state regulations may apply. Check individual state requirements.

California Proposition 65: None listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:
Rating for this product: Health: 2 **Flammability:** 1 **Reactivity:** 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: October 2, 2018 **Supersedes:** NEW

RESEARCH LABORATORY APPLICATION PROCEDURE

BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Low Volume Vastlan™ Applications: Woody Brush Management

INTERNAL USE ONLY

Vastlan™ is a selective systemic herbicide containing triclopyr, which is used to eliminate unwanted dicot (broadleaf) woody vegetation (brush). It is applied as a foliar spray on undesirable vegetation during the growing season after full leaf expansion. It may be applied to aquatic sites so long as it is not applied to salt-water bays or estuaries or directly to rivers or streams. Low volume treatments utilize higher concentrations of active ingredient and lower total spray volumes per acre than high volume foliar applications. Vastlan is very effective when mixed at 5% by volume with water and with as little as 50% coverage of foliage, if properly applied.

Equipment for Applying Triclopyr (Low Volume):

- Backpack compressed air sprayers capable of maintaining 30 psi (Figure 1)
- Spraying systems Model 30 Gunjet Spray gun equipped with rollover valve (Figure 2)
- Flat fan nozzle tip (4004) for uniform brush up to 6-8 feet
- An X-6 adjustable cone nozzle for brush 8-20 feet in height

Figure 1: backpack compressed air

Mix Rate (Table 1): Mix **Vastlan** at 5% concentration by volume. A surfactant should be added at labeled rates.

Table 1: 5% Mix Rate

Triclopyr (Vastlan)	Water	Surfactant (Pentra-Bark)
6.4 oz	1 gallon	4 ml / 1 tsp
19.2 oz	3 gallons	11 ml / 2.5 tsp
25.6	4 gallons	15 ml / 3 tsp
5 gallons	100 gallons	12 oz

Figure 2: Rollover valve

Timing: The ideal treatment timing is in late summer/early autumn before fall color occurs. Spring treatments may require a second application in late summer especially on hard-to-control species such as *Eleagnus*, multi-flora rose and Norway maple. Application must be made under dry conditions and no rain should occur within six hours of application.

Treatment: For **small brush** (< 4'tall), sweep the spray gun with flat fan nozzle over the top of the brush in a circle. This method covers the crown and about 70 percent of the remaining foliage.

For **medium brush** (4’ to 8’), select a 40 degree flat fan nozzle tip (4004). Start spraying at the top of the crown and proceed down in a smooth back-and-forth motion or swipe down from top to bottom on two sides.

Complete foliage coverage is not necessary or even desirable. You can achieve effective results with 60-70% coverage of leaf surface area if the crown is fully covered. It is important to get the better spray coverage in the upper crown and laterals. Use low pressure and large droplet size to manage drift onto desireable plant material. Overspray is undesirable as it can increase the risk of damage to non-target vegetation.

Applying to one side may be sufficient unless the plant is dense or it has multiple leaders. In these cases, you should move around to the opposite side and repeat the application as before.

For **tall brush** (8’-20’), switch over to the X-6 adjustable nozzle tip and treat in the same back and forth pattern as listed for medium brush with the intent of obtaining the same 60-70% coverage of foliage.

Usually, treated plants will exhibit foliage browning and death within two weeks of treatment.

SAFETY DATA SHEET

Issue Date 22-Jan-2015 **Revision Date** 13-Mar-2015 **Version** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name Gordon's ORNAMEC® Over-The-Top Grass Herbicide

Other means of identification
Product Code PBI FP 778-6
EPA Pesticide Registration Number 2217-728

Recommended use of the chemical and restrictions on use
Recommended Use Herbicide.
Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier	Manufacturer	Company Name
PBI Gordon Corporation 1217 West 12th Street Kansas City, MO 64101	PBI Gordon Corporation 1217 West 12th Street Kansas City, MO 64101	PBI Gordon Corporation 1217 West 12th Street Kansas City, MO 64101

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Gases)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Germ cell mutagenicity	Category 1A
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 3

Label elements

Emergency Overview

Danger

Hazard statements
Toxic if inhaled. Causes skin irritation. Causes serious eye irritation. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May be fatal if swallowed and enters airways.
Flammable liquid and vapor.

Appearance Liquid **Physical state** Liquid **Odor** Solvent

Precautionary Statements - Prevention
• Obtain special instructions before use
• Do not handle until all safety precautions have been read and understood
• Use personal protective equipment as required
• Avoid breathing dust/fume/gas/mist/vapors/spray
• Use only outdoors or in a well-ventilated area
• Wash face, hands and any exposed skin thoroughly after handling
• Wear eye/face protection
• Keep away from heat/sparks/open flames/hot surfaces. — No smoking
• Keep container tightly closed
• Ground/bond container and receiving equipment
• Use only non-sparking tools
• Take precautionary measures against static discharge
• Keep cool

Precautionary Statements - Response
• IF exposed or concerned: Get medical advice/attention
• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
• If eye irritation persists: Get medical advice/attention
• If skin irritation occurs: Get medical advice/attention
• IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
• Wash contaminated clothing before reuse
• Call a POISON CENTER or doctor/physician
• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
• Do NOT induce vomiting
• In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
• Store locked up
• Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
• Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Have the product label with you when calling a poison control center or doctor or going in for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

Percent volatile by volume: 36%

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Trade Secret	Proprietary	40-50*

Trade Secret	Proprietary	20-30*
Trade Secret	Proprietary	10-20*
Fluazifop-p-butyl	79241-46-6	6.75
Trade Secret	Proprietary	0-10*
Trade Secret	Proprietary	0-10*

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact Wash off immediately with plenty of water.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.

Self-protection of the first aider Remove all sources of ignition.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use. Foam. Carbon dioxide (CO2). Dry chemical.

Specific hazards arising from the chemical
Flammable.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Trade Secret	-	-	TWA: 25 ppm TWA: 125 mg/m^3
Trade Secret	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m^3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m^3 (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m^3	-
Trade Secret	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m^3 (vacated) TWA: 50 ppm (vacated) TWA: 245 mg/m^3 (vacated) S* S*	IDLH: 900 ppm TWA: 50 ppm TWA: 245 mg/m^3

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Local and General Ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Liquid	**Odor**	Solvent
Color	Amber	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	Not available	
Melting point/freezing point	<35 °F	
Boiling point / boiling range	> 110 °C / 230 °F	
Flash point	44 °C / 112 °F	
Evaporation rate	< 1	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	7.0	
Lower flammability limit:	1.1	
Vapor pressure	<2 mm Hg	
Vapor density	>1	
Specific Gravity	0.89121	
Water solubility	Emulsifiable	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Oxidizing properties	No information available	

Other Information

Density 7.43 pounds/gallon

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Will not occur.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Strong oxidizing agents.

Hazardous Decomposition Products
May emit toxic fumes under fire conditions. Carbon dioxide (CO2). Carbon monoxide. Nitrogen oxides (NOx). Halogens.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Trade Secret	-	-	= 3900 mg/m³ (Rat) 4 h
Trade Secret	-	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h = 3400 ppm (Rat) 4 h
Trade Secret	= 3400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m³ (Rat) 4 h
Trade Secret	= 4300 mg/kg (Rat)	-	= 47635 mg/L (Rat) 4 h
Trade Secret	= 1400 mg/kg (Rat)	= 12300 µL/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Trade Secret	A2	Group 1		X
Trade Secret		Group 3		
Trade Secret		Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic toxicity May cause adverse effects on the bone marrow and blood-forming system.
Target Organ Effects blood, Central nervous system, Eyes, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 8% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 22325 mg/kg
ATEmix (dermal) 4920 mg/kg
ATEmix (inhalation-gas) 987 mg/L
ATEmix (inhalation-dust/mist) 2.4 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

8% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Trade Secret		5000: 96 h Oncorhynchus mykiss mg/L LC50		1000: 48 h Daphnia magna mg/L EC50
Trade Secret		9.22: 96 h Oncorhynchus mykiss mg/L LC50		6.14: 48 h Daphnia magna mg/L EC50
Trade Secret		7.19 - 8.28: 96 h Pimephales promelas mg/L LC50 flow-through		6.14: 48 h Daphnia magna mg/L EC50
Trade Secret		13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	EC50 = 0.0084 mg/L 24 h	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Trade Secret	2.6: 72 h Pseudokirchneriella subcapitata mg/L EC50	6.04 - 6.61: 96 h Pimephales promelas mg/L LC50 flow-through 4.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 2.7: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 5.1: 96 h Poecilia reticulata mg/L LC50 semi-static	EC50 = 0.89 mg/L 5 min EC50 = 1.10 mg/L 15 min EC50 = 1.48 mg/L 30 min EC50 = 172 mg/L 24 h	0.6: 48 h Daphnia magna mg/L EC50 7.9 - 14.1: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
Toxic to fish and aquatic invertebrates.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not reuse container, unless specified by the manufacturer.

US EPA Waste Number D001

14. TRANSPORT INFORMATION

DOT

Description The following guidelines apply for domestic ground transport. If shipping by air or ocean, please contact our Transportation Dept.

PESTICIDES, NOI, INCLUDING DEFOLIANTS, FUNGICIDES, HERBICIDES, OR INSECTICIDES NMFC 155050-6

15. REGULATORY INFORMATION

U.S. EPA Label Information
EPA Pesticide Registration Number 2217-728
Federal Insecticide, Fungicide, Rodenticide Act Regulations
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label
Caution. Keep out of the reach of children. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

International Inventories

TSCA	Not Listed
DSL/NDSL	Not Listed
EINECS/ELINCS	Not Listed
ENCS	Not Listed
IECSC	Not Listed
KECL	Not Listed
PICCS	Not Listed
AICS	Not Listed

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Trade Secret	X	X		X		X	X	X	X	X
Trade Secret	X	X		X		X	X	X	X	X
Trade Secret	X	X		X		X	X	X	X	X
Fluazifop-p-butyl								X		
Trade Secret	X	X		X		X	X	X	X	X
Trade Secret	X	X		X		X	X	X	X	X

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Trade Secret -		10-20*	1.0
Trade Secret -		0-10*	1.0
Trade Secret -		0-10*	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Trade Secret	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Trade Secret	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Trade Secret	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Trade Secret		X	
Trade Secret	X	X	X
Trade Secret	X	X	X
Trade Secret	X	X	X

International Regulations

Mexico - Grade Moderate risk, Grade 2

Chemical Name	Carcinogenicity	Exposure Limits
Trade Secret		Mexico: TWA 100 ppm Mexico: TWA 435 mg/m^3 Mexico: STEL 150 ppm Mexico: STEL 655 mg/m^3
Trade Secret		Mexico: TWA 50 ppm Mexico: TWA 245 mg/m^3 Mexico: STEL 75 ppm Mexico: STEL 365 mg/m^3

16. OTHER INFORMATION

NFPA	**Health hazards** 2	**Flammability** 2	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2	**Flammability** 2	**Physical hazards** 0	**Personal protection** X

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of PBI Gordon Corporation's knowledge, information and belief at the date of this publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process, unless specified in the text. PBI GORDON CORPORATION MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. Each user is also responsible for evaluating the conditions of use and designing the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. PBI Gordon Corporation assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

End of Safety Data Sheet

ORNAMEC®
OVER-THE-TOP*
GRASS HERBICIDE

Controls Grass in Ornamentals, Nurseries & Landscaping.

**See label directions for species not to be sprayed over-the-top.*

ACTIVE INGREDIENT:
Fluazifop-P-butyl: Butyl(*R*)-2-[4-[[5-(trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoate 6.75%
OTHER INGREDIENTS: 93.25%
TOTAL 100.00%

THIS PRODUCT CONTAINS:
0.5 lb (+) isomer (fluazifop-P-butyl) per gallon.
Contains petroleum distillates, xylene or xylene range aromatic solvent.

KEEP OUT OF REACH OF CHILDREN
CAUTION

STOP! READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.

PRECAUTIONARY STATEMENTS

Hazards To Humans And Domestic Animals
CAUTION: Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)
Some materials that are chemical-resistant to this product are made of barrier laminate or viton (> or = 14 mils).

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants,
- shoes and socks, and
- chemical-resistant gloves

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

User Safety Recommendations
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid	
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.

(cont. on next column)

First Aid *(cont.)*	
If swallowed:	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give any liquid to the person. Do not give anything to an unconscious person.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice. **Note to Physician:** Contains Petroleum distillate - vomiting may cause aspiration pneumonia.	

Environmental Hazards
This product is toxic to fish. Do not apply directly to water, 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 washwater. Do not apply when weather conditions favor drift from target area. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

Physical and Chemical Hazards
Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

This labeling must be in the possession of the user at the time of application. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: coveralls, chemical resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton, and shoes plus socks.

1. Product Description

Ornamec® Over-The-Top Grass Herbicide is a selective post-emergence herbicide for control of annual and perennial grass weeds. This product does not control broadleaf weeds or sedges (nutgrass).

Control Symptoms - Ornamec Over-The-Top Grass Herbicide is a systemic herbicide which moves from the treated foliage into the shoots, roots, rhizomes, stolons, and growing points (meristematic regions) of treated grass weeds. Excellent control of a wide range of annual and perennial grass weeds will be obtained with this product when applied as directed on this label.

Growth of treated grass weeds stops soon after application. Symptoms include loss of vigor, yellowing and/or reddening, and eventual death to the treated grass plant. Symptoms are generally observed within one to three weeks, depending on grass weed species and environmental conditions.

This product can be used to control grass weeds in many newly transplanted and established ornamentals, trees, shrubs and ground-covers in noncrop areas. See the following Tables 5 through 8 for specific uses.

Application of this product may be made over-the-top to ornamentals listed in Table 5. Over-the-top applications are defined as spray patterns delivered to the upper portions of the established ornamentals and target weeds. Use sufficient spray volumes to ensure a uniform distribution and complete spray coverage of the target weeds. Plants listed in Tables 6 through 8 should have a directed spray applied to prevent contact of spray with foliage. Directed spray applications are defined as spray patterns aimed or directed toward the lower portion of the established ornamentals, and this method of application will minimize the phytotoxicity of the desired species. If the growth habit of the plant or other factors do not allow a directed spray, an over-the-top application can be made to plants in Table 6 through 8; however, there is the possibility of damage in the range listed for each table when applied at label rates. Do not apply to ornamentals that may be harvested for food within one year after application. Do not apply this product through any type of irrigation system.

NOTICE TO BUYER AND USER: It is impossible to test every species and variety or cultivar of ornamental or nursery plants under all conditions. Plant tolerance of pesticides vary as conditions vary. Plant tolerance of this product at label rates has been found to be acceptable within the ranges specified for the indicated genera and species. Neither the manufacturer nor the seller has determined whether or not this product can safely be used on plants not specified on this label. The professional user should determine if this product can be used safely prior to use.

2. Annual and Perennial Grass Control in Ornamentals, Nurseries, and Landscaping

Not for use in vegetable gardens or on fruit-bearing trees and shrubs intended for consumption.

Spray to obtain thorough coverage of grass foliage, but not to the point of runoff. Do not apply this product if rainfall is expected within 1 hour. Repeat treatments may be necessary to provide full season control. Apply this product to actively growing grasses before they exceed the growth stages specified in Tables 3 and 4. Apply this product when the first grass species in a mixed grass weed population reaches the specified growth stage for treatment.

Do not apply the herbicide to grasses which are stressed due to moisture, temperature, low soil fertility, mechanical or chemical injury. Do not apply to grasses which have exceeded the specified growth stages (See Tables 3 and 4).

BROADCAST TREATMENTS: Use 1.5 to 2.2 fl.oz./1000 sq.ft. Always add a nonionic surfactant containing at least 75% surface wetting agent (such as AquaZorb® CA) at 0.25% vol./vol. (8 fl.oz. per 25 gallons) of finished spray volume.

SPOT TREATMENTS: Mix this product and only a nonionic surfactant (such as AquaZorb CA) with 1 gallon of water per 1,000 square feet according to the amounts shown below. Spray to obtain thorough coverage, but do not spray to the point of runoff. Retreat if necessary.

Table 1: Spot Treatments in Ornamentals, Nurseries, and Landscaping

To Make This Spray Volume	Add These Amounts	
	Ornamec Over-The-Top Grass Herbicide	Nonionic Surfactant
1 gallon	2.5 fl.oz. (5 Tbs)	0.3 fl.oz.
10 gallon	26 fl.oz.	3 fl.oz.

Equal measures: 1 fluid ounce (fl.oz.) = 2 tablespoons (Tbs) = 6 teaspoons (tsp) and 8 fl.oz. = 1 cup

3. Bermudagrass Control In Zoysiagrass and Tall Fescue Turf*

Ornamec Over-The-Top Grass Herbicide may be used to suppress and eventually control some undesirable grasses in turf areas. To control common bermudagrass and hybrid bermudagrass, follow the directions below:

Note: The application of this product may show slight discoloration to the desirable turfgrass. Symptoms are temporary and discoloration will subside. Do not apply to tall fescue turf unless injury can be tolerated. Weather and cultural treatments can also affect applications.

*Not applicable in California

3.1 Bermudagrass Control in Zoysiagrass*

Late Spring: For broadcast applications, use 0.3 to 0.4 fl.oz/1000 sq.ft. with a nonionic surfactant (such as AquaZorb CA). This application should be made once bermudagrass is fully green and retreated if necessary. Retreat in 14 to 21 days if regrowth occurs. For spot treatments, use 0.3 fluid ounce (2 teaspoons) of this product and 0.3 fluid ounce (2 teaspoons) of nonionic surfactant (such as AquaZorb CA) in one gallon of water to treat 1,000 square feet.

Mid Summer: During hot summer weather, apply 0.4 to 0.5 fl.oz/1000 sq.ft. with a nonionic surfactant (such as AquaZorb CA). For spot treatments, use 0.4 fluid ounces (2.5 teaspoons) of this product and 0.3 fluid ounce (2 teaspoons) of nonionic surfactant (such as AquaZorb CA) in one gallon of water to treat 1,000 square feet. **Note:** The 20 fluid ounce rate may cause temporary turf discoloration.

Late Summer: When bermudagrass is preparing for dormancy, apply 0.2 fl.oz to 0.3 fl.oz./1000 sq.ft. with a nonionic surfactant (such as AquaZorb CA). For spot treatments, use 0.25 fluid ounces (1.5 teaspoons) of this product with 0.3 fluid ounce (2 teaspoons) of nonionic surfactant (such as AquaZorb CA) in one gallon of water to treat 1,000 square feet.

*Not applicable in California

3.2 Bermudagrass Control in Tall Fescue*

For spot treatments of tall fescue with hand-operated sprayers: Make applications in the spring and fall. Start applications after bermudagrass is fully green. Repeat in 14 to 21 day intervals if regrowth occurs. Complete control may take 1 to 2 growing seasons. Use hand-operated sprayers (backpack sprayers, compression or pump-up sprayers, or tank type sprayers). Add 0.5 fl.oz. of product with 0.3 fl.oz. of nonionic surfactant (such as AquaZorb CA) per 1 gallon of water to treat 1,000 sq.ft. of turf.

For broadcast treatment of tall fescue: For broadcast applications, use 0.4-0.5 fl.oz./1000 sq.ft. with a nonionic surfactant (such as AquaZorb CA). This application should be made once bermudagrass is fully green and retreated if necessary. Retreat in 14 to 21 days if regrowth occurs. Complete control may take 1 to 2 growing seasons.

Take care with applications to tall fescue during the summer months (July and August). Avoid applications to tall fescue under stress due to drought, temperature extremes, or chemical injury.

Allow time (up to 24 hours) for this product to be absorbed and translocated before mowing the treated area. Wait 14 days before re-seeding treated areas of tall fescue.

Note: The application of this product may show slight discoloration to the desirable turfgrass. Symptoms are temporary and discoloration will subside. Do not apply to tall fescue turf unless injury can be tolerated. Weather and cultural treatments can also affect applications.

*Not applicable in California

4. Dallisgrass Control in Tall Fescue*

Make a single application of this product at 0.6 fl.oz/1000 sq.ft. to control dallisgrass in tall fescue turf in the spring. Add a non-ionic surfactant (such as AquaZorb CA) at 0.25% v/v (0.3 fl.oz. or 2 teaspoons per gallon of spray mix) to improve efficacy.

For spot treatment applications, mix 0.6 fl.oz. of this product plus 1/3 fl.oz. of a non-ionic surfactant (such as AquaZorb CA) per one gallon of water to treat 1,000 square feet.

Note: The application of this product to tall fescue turf may show slight discoloration. Symptoms are temporary and discoloration will subside. Do not apply to tall fescue turf unless injury can be tolerated. Weather and cultural treatments can also affect applications. Use a minimum spray volume of 30 gallons of water per acre.

Application timing is critical and is determined by Growing Degree Days (GDD). GDD units are determined by the following calculation:

$$\frac{\text{Max daily temp (in °F)} + \text{Minimum daily temp (in °F)} - 50°\text{F}}{2} = \text{GDD}$$

If the calculation is zero or a negative number, it is ignored. Add each day's GDD units beginning on January 1st. When your total reaches 270 to 360 GDD, apply the Ornamec Over-The-Top Grass Herbicide. Effective dallisgrass control will only be obtained in this GDD range.

Table 2: Example of GDD Tracking						
Date	**Max Temp**	**Min Temp**	**Average**	**Subtract 50**	**Daily GDD**	**Total GDD**
Day 1	75	45	60	10	10	10
Day 2	65	45	55	5	5	15
Day 3	55	45	50	0	0	15
Day 4	65	45	55	5	5	20
Day 5	50	45	47.5	-2.5	-2.5	20

*Not applicable in California

5. Grass Species Controlled

Table 3: Annual Grasses	
Grass Species	**Growth Stage**
Barnyardgrass (Echinochloa crus-galli)	2 to 8 inches tall, before tillering and/or heading.
Broadleaf signalgrass (Brachiaria platyphylla)	2 to 8 inches tall, before tillering and/or heading.
Crabgrass, large (Digitaria sanguinalis)	2 to 8 inches tall, before tillering and/or heading.
Crabgrass, smooth (Digitaria ischaemum)	2 to 8 inches tall, before tillering and/or heading.
Crabgrass, southern (Digitaria ciliaris)	2 to 8 inches tall, before tillering and/or heading.
Crabgrass, tropical (Digitaria bicornis)	2 to 8 inches tall, before tillering and/or heading.
Downy brome (Bromus tectorum)	2 to 8 inches tall, before tillering and/or heading.
Fall panicum (Panicum dichotomiflorum)	2 to 8 inches tall, before tillering and/or heading.
Field sandbur (Cenchrus pauciflorus)	2 to 8 inches tall, before tillering and/or heading.
Foxtail, giant (Setaria faberi)	2 to 8 inches tall, before tillering and/or heading.
Foxtail, green (Setaria viridis)	2 to 8 inches tall, before tillering and/or heading.
Foxtail, yellow (Setaria lutescens)	2 to 8 inches tall, before tillering and/or heading.
Goosegrass (Eleusine indica)	2 to 8 inches tall, before tillering and/or heading.
Italian Ryegrass (Lolium multiflorum)	2 to 8 inches tall, before tillering and/or heading.
Itchgrass (Rottboellia exaltata)	2 to 8 inches tall, before tillering and/or heading.
Johnsongrass, seedling (Sorghum halepense)	2 to 8 inches tall, before tillering and/or heading.
Junglerice (Echinochloa contracta)	2 to 8 inches tall, before tillering and/or heading.
Kikuyugrass* (Pennisetum clandestinum)	4 to 8 inches tall, before tillering and/or heading.
Prairie cupgrass (Eriochloa contracta)	4 to 8 inches tall, before tillering and/or heading.
Rabbitfootgrass (Polypogon monspeliensis)	2 to 8 inches tall, before tillering and/or heading.
Red rice (Oryza sativa)	2 to 8 inches tall, before tillering and/or heading.
Shattercane/Wildcane/Volunteer milo (Sorghum bicolor)	2 to 8 inches tall, before tillering and/or heading.
Sorghum almum (Sorghum almum)	2 to 8 inches tall, before tillering and/or heading.
Southern sandbur (Cenchrus echinatus)	2 to 8 inches tall, before tillering and/or heading.
Southwestern cupgrass (Eriochloa gracilis)	2 to 8 inches tall, before tillering and/or heading.
Texas panicum (Panicum texanum)	2 to 8 inches tall, before tillering and/or heading.
Volunteer barley (Hordeum vulgare)	2 to 8 inches tall, before tillering and/or heading.
Volunteer corn (Zea mays)	2 to 8 inches tall, before tillering and/or heading.
Volunteer oats (Avena fatua)	2 to 8 inches tall, before tillering and/or heading.
Volunteer rye (Secale cereale)	2 to 8 inches tall, before tillering and/or heading.
Volunteer wheat (Triticum aestivum)	2 to 8 inches tall, before tillering and/or heading.
Wild oats (Avena fatua)	2 to 8 inches tall, before tillering and/or heading.
Wild proso millet (Panicum milliaceum)	2 to 8 inches tall, before tillering and/or heading.
Witchgrass (Panicum capillare)	2 to 8 inches tall, before tillering and/or heading.
Woolly cupgrass (Eriochloa villosa)	2 to 8 inches tall, before tillering and/or heading.

*Not applicable in California

Table 4: Perennial Grasses	
Grass Species	**Growth Stage**
Bermudagrass (Cynodon dactylon)	4 to 8 inch runners
Dallisgrass (Paspalum dilatatum)	270 to 360 GDD*
Guineagrass (Panicum maximum)	6 to 12 inches tall before seedhead initiation
Quackgrass (Agropyron repens)	6 to 10 inches
Rhizome johnsongrass (Sorghum halepense)	8 to 18 inches tall and before boot stage
Wirestem muhly (Muhlenbergia frondosa)	4 to 12 inches tall before seedhead initiation
*See Dallisgrass section.	

6. Ornamentals Which May Be Treated

Table 5. Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Abelia, Glossy	*Abelia grandiflora*
Acacia, Jim wheat	*Acacia schafnerii*
Acacia, Ongerops	*Acacia redolens*
Acacia, Shoe-string	*Acacia stenophylla*
Acacia, Willow	*Acacia saligna*
Acacia, Willow-leafed	*Acacia salacina*
Ageratum, sp.	*Ageratum sp.*
Almond, Flowering	*Prunus trialoba*
Aloe vera	*Aloe vera*
Aloe zanzibarica	*Aloe zanzibarica*
Aloe, Barbados	*Aloe barbadensis*
Alyssum sp.	*Alyssum sp.*
Ash, American Mountain*	*Sorbus americana**
Ash, Arizona	*Fraxinus velutina*
Ash, Green*	*Fraxinus pensylvanica**
Ash, White*	*Fraxinus Americana**
Asparagus, Myres; Asparagus, Sprenger, Sprengeri	*Asparagus densiflorus*
Aucuba	*Aucuba japonica*
Aucuba japonica variegata	*Aucuba japonica variegata*
Aurea	*Philadelphus coronarius*
Australian bush cherry	*Syzgium paniculatum*
Australian tea tree	*Leptospermum laevigatum*
Banana, Ethiopia	*Musa maurelli*
Banksia	*Rosa banksiae*
Barberry, Mentor	*Berberis mentorensis*
Barberry, Redleaf Japanese; Pygmy, Crimson*	*Berberis thunbergii**
Bearberry, Red	*Arctostaphylos uva-ursi*
Begonia, Scarletta*	*Begonia Semperflorens cultoreum**
Bellflower	*Campanula carpatica*
Berkman's	*Thuja orientalis*
Birch, Eastern white*	*Betula pendula**
Bird of Paradise	*Caesalpinia gilliesii*
Bird of Paradise	*Strelitzia reginae*
Bird of Paradise, Giant	*Strelitzia nicolai*
Bittle bush	*Encelia farinose*

(cont. on next page)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Blaauw's pink, Boule de neige, Delaware Valley white, Delaware Valley white, Fashio, Gerard's Rose, Gibraltar, Gloria, Greeting, Gumpo pink, Gumpo white, H.H. Hume, Hahm red, Herbert, Hino red, Kaempo, Kluis sensation, Masasoit, Mother's day, Pericat, Pink pearl, President Lincoln, Prize, Purple gem, Red ruffle, Red wing, Road runner, Rosebud, Royalty, Rutherfordiana Constances, Salmon spray, Snow, Stewartstonian, Sweetheart, Tabor, Tradition, White cascade	*Rhododendron sp.*
Blue point, Blue vase juniper, Gold coast juniper, Gold tip, Hetzi, Hollywood, Juniper, Keteleeri, Nicks compact juniper, Parsoni, Sargent juniper, Torulosa	*Juniperus chinensis*
Blue Star Creeper	*Isotoma sp.*
Bottle-brush	*Callistemon lanceolatus*
Bougainvillea sp.	*Bougainvillea sp.*
Boxwood, Common; Welleri	*Buxus sempervirens*
Boxwood, Japanese	*Buxus microphylla var. japonica*
Boxwood, Korean	*Buxus microphylla var. koreana*
Brown bean	*Sedum guatemalense*
Brush cherry	*Eugenia myrtifolia*
Buckthorn, Tallhedge	*Rhamnus frangula*
Burningbush, Compact	*Kochia scoparia f. trychophylla*
Cactus, Barrel	*Ferocactus sp.*
Cactus, Cholla	*Opuntia Cholla*
Cactus, Hedgehog	*Echinocactus sp.*
Cactus, Saguaro	*Carnegiea gijantea*
California pepper tree	*Schinus molle*
Camellia	*Camellia japonica*
Camellia, Sasanqua	*Camellia sasanqua*
Candelabra plant	*Euphorbia lacteal*
Cape weed	*Arctotheca calendula*
Caricature plant	*Graptophyllum pictum*
Carissa tuttlei	*Carissa tuttlei*
Carolina cherry	*Prunus caroliniana compacta*
Cascalote	*Caesalpinia cacalaco*
Cassia, African	*Cassia didymobotrya*
Cassia, Feathery	*Cassia artemisiodes*
Centaurea, Dusty miller	*Centaurea cineraria*
Century plant	*Agave americana*
Cerastium, Snow in Summer	*Cerastium tomentosum*
Ceratonia, Carob tree	*Ceratonia siliqua*
Cercis, Red bud	*Cercis canadiensis*
Chionoides, Elizabeth Gable, Less dark purple, Purple elegans, Purple spendor, Rose Greeley, Roseum elegans, Roseum superbum, White catawba	*Rhododendron catawbiense*
Chives	*Allium schoenoprasum*
Cleyera	*Cleyera spp.*
Clover, Pink	*Polygonum capitatum*
Coffee	*Coffea Arabica*
Coleus, Jade wizard*	*Coleus x hybridus**
Coolibah, Gum-barked	*Eucalyptus microtheca*
Coreopsis, Threadleaf	*Coreopsis verticillata*
Cotoneaster	*Cotoneaster microphyllus*
Cotoneaster	*Cotoneaster repens*
Cotoneaster apiculata	*Cotoneaster apiculata*
Cotoneaster, Coral beauty; Royal beauty	*Cotoneaster dammeri*

(cont. on next column)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Cotoneaster, Spreading	*Cotoneaster divaricatus*
Cotoneaster, Willowleaf	*Cotoneaster salicifolius franch*
Crabapple, Showy	*Malus floribunda*
Cranesbill	*Geranium pratense*
Creeping Charlie	*Pilea nummularifolia*
Crossandra	*Crossandra nilotica*
Croton	*Codiaeum variegatum*
Crown Vetch	*Vicia sp.*
Cypress, Allum lawson	*Chamaecyparis lawsoniana*
Cypress, Cripps hinoki false	*Chamaecyparis obtusa*
Cypress, Italian	*Cupressus sempervirens*
Daisy, Shasta	*Chrysanthemum x superbum*
Daisy, White africans	*Osteospermum fruticosum alba*
Daylily	*Hemerocallis hybrids*
Deutzia, Slender	*Deutzia gracilis*
Dianthus, Sweet William	*Dianthus barbatus*
Dogwood, Cornelia cherry	*Cornus mas*
Dogwood, Flaviramea; Red twig	*Cornus sericea*
Dogwood, Flowering	*Cornus florida*
Dumbcane, Giant	*Dieffenbachia amoena*
Emerald green, Globosa, Pyramidalis, Techny, Techny American arborvitae, white cedar, Woodwardii	*Thuja occidentalis*
Emerald mound	*Lonicera xylosteum*
Eranthemum, Purple false	*Pseuderanthemum atropurpureum*
Erythrina, Fastadiata; Swamp immortella	*Erythrina fusca*
Escallonia fradessii	*Escallonia fradessii*
Escallonia rubra	*Escallonia rubra*
Euonymus forunei	*Euonymus fortunei*
Euonymus, Siebold	*Euonymus alata*
Euonymus, Silver King	*Euonymus japonica*
Euonymus, Spreading	*Euonymus kiautschovicus*
Euryops	*Euryops pectinatus*
Evergreen, Fransher; Silver queen; Treubii ribbon	*Aglanoema commutatum*
Evergreen, Painted	*Aglanoema crispum*
Fatshedera	*Fatshedera lizei*
Fern, Desert tree	*Lysiloma thornberii*
Fern, Leatherleaf	*Runohra adiantiformis*
Fern, Shield	*Polystichum capense*
Fern, Sword	*Nephrolepsis exaltata*
Fig, Creeping	*Ficus repens*
Fig, Exotica weeping	*Ficus benjamina*
Fig, Trailing hottentot*	*Carpobrotus chilensis**
Fir, Balsam*	*Abies balsamea**
Fir, Concolor	*Abies concolor*
Fir, Douglas	*Pseudotsuga menziesii*
Fir, Noble	*Abies procera*
Firethorn	*Pyracantha graberi*
Firethorn, Mojave	*Pyracantha koidzumii x coccinea*
Firethorn, Scarlet; Lalandei	*Pyracantha coccinea*
Firethorn, Variegated	*Pyracantha angustifolia*
Firewheel tree	*Stenocarpus sinuatus*
Forsythia intermedia	*Forsythia intermedia*
Forsythia sp.	*Forsythia sp.*
Forsythia, Weeping	*Forsythia suspensa*
Gable Hybrid	*Rhododendron "Gable Hybrid"*
Gardenia, Dwarf	*Gardenia jasminoides*
Gardenia, Tahitian	*Gardenia taitensis*
Gay feather	*Liatris spicata*
Gazania gold rush	*Gazania splendens*

(cont. on next page)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Gazania uniflora leucoleana	*Gazania uniflora leucolaena*
Geranium	*Pelargonium domesticum*
Geranium, Ivy	*Pelargonium peltatum*
Geranium, Smash hit red*	*Pelargonium x hortorum**
Gimlet, Narrow-leaf	*Eucalyptus spathulata*
Gladiolus, Debbie; Jennie; Mahogany; Stargazer	*Gladiolus x hortulanus*
Gold drop, Primrose beauty	*Potentilla fructose*
Golden-rain tree; Varnish tree*	*Koelreuteria paniculata**
Grapefruit	*Citrus paradise*
Green stone crop	*Sedum brevifolium*
Gum, Desert	*Eucalyptus rudis*
Gum, Red	*Eucalyptus rostrata*
Gum, Red box	*Eucalyptus polyanthemos*
Hackberry*	*Celtis occidentalis**
Hahnii/Mother-in-law's tongue	*Sansevieria trifasciata*
Hawthorn, Yedda/Indian	*Raphiolepis umbellate*
Heather, Scotch	*Calluna vulgaris*
Hemlock, Eastern	*Tsuga canadensis*
Hen and chickens	*Sempervivum tectorum*
Hesperaloe parviflora	*Hesperaloe parviflora*
Hibiscus, Althea	*Hibiscus syriacus*
Hibiscus, Chinese	*Hibiscus rosa-sinensis*
Holly, American	*Ilex opaca*
Holly, Dwarf buford	*Ilex cornuta*
Holly, Fosteri	*Ilex x attenuata*
Holly, Japanese	*Ilex crenata*
Holly, Meserve	*Ilex x meserveae*
Hollyhock	*Alcea rosea*
Honey locust/Shade master	*Gleditsia triancanthos var. inermis*
Honeysuckle, Bush	*Diervilla lonicera*
Honeysuckle, Cape	*Tecomaria capensis*
Honeysuckle, Marrow	*Lonicera x morrowii*
Hosta, Variegated	*Hosta lancifolia*
Hydrangea, Oakleaf	*Hydrangea quercifolia*
Hydrangea, Panicle	*Hydrangea paniculata*
Iberis, Candytuff	*Iberis sempervirens*
Ice plant, Purple trailing	*Mesembryanthemum drosanhemum productus*
Ice plant, Red spike	*Mesembryanthemum lampranthus spectabilis*
Ice plant, Rose	*Mesembryanthemum drosanhemum hispidum*
Indigo, Firecracker, Mexican	*Justicia spicigera*
Inkberry, Compact	*Ilex glabra*
Iris	*Iris sp.*
Ironwood	*Olneya tesota*
Ivy, Algerian	*Hedera canariensis*
Ivy, Ellen Danica, grape	*Cissus rhombifloia*
Ivy, English	*Hedera helix*
Ivy, Hahn's	*Hedera helix hahnii*
Ixora	*Ixora coccinea*
Jacaranda	*Jacaranda acutifolia*
Jasmine, Asiatic	*Trachelospermum asiaticum*
Jasmine, Star	*Trachelospermum jasminoides*
Jessamine, Carolina	*Gelsemium sempervirens*
Jojoba	*Simmiondsia chinensii*
Juniper	*Juniperus procumbens*
Juniper, Admiral*	*Juniperus horizontalis**
Juniper, Cologreen	*Juniperus scopulorum*
Juniper, Red cedar	*Juniperus virginiana*
Korean azalea/Poukhanense	*Rhododendron yedoense*

(cont. on next column)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Lantana, Bush	*Lantana camara*
Lantana, Purple (trailing)	*Lantana sellowiana*
Lantana, Twistwood; Wayfaring tree*	*Viburnum lantana**
Laurel, Indian	*Ficus macrocarpa nitiida*
Laurel, Indian	*Ficus nitida*
Lavender cotton	*Santolina chamaecy parissus*
Legume, O'Conners	*Trifolium fragiferum*
Lentago, Nannyberry*	*Viburnum lentago**
Ligustrum, Amur River	*Ligustrum amurense*
Ligustrum, Privel/California	*Ligustrum ovalifolium*
Ligustrum, Texas privet	*Ligustrum texanum*
Ligustrum, Vicari	*Ligustrum x Vicari*
Ligustrum, Wax	*Ligustrum lucidum*
Lilac, James McFarlane	*Syringa villosa*
Lilac, Korean	*Syringa patula*
Lily of the Nile, Peter Pan	*Agapanthus africanus*
Lily, Kaffir	*Clivia miniata*
Lily-of-the-Valley Bush	*Pieris japonica*
Linden, Little-leaf*	*Tilia cordata**
Liriope	*Liriope spicata*
Liriope, Green/Variegated	*Liriope muscari*
Magnolia, Southern	*Magnolia grandiflora*
Magnolia, Star	*Magnolia stellata*
Mahonia	*Mahonia aquifolium*
Mahonia, King's Ransom*	*Mahonia wagoneri**
Manila ripple	*Schefflera arboricola*
Maple, Flame amur*	*Acer ginnala**
Maple, Japanese	*Acer palmatum*
Maple, Norway	*Acer platanoides*
Maple, Silver*	*Acer saccharinum**
Maple, Sugar	*Acer saccharum*
Marigold	*Calendula sp.*
Marigold	*Tagetes sp.*
Mesquite, Chilean	*Prosopis chilensis*
Mirror plant	*Coprosma baueri*
Mirror plant, Variegated	*Coprosma repens*
Moon glow	*Sansevieria sp.*
Morningglory, Bush	*Convolvulus oneorum*
Myoporum, Prostrate	*Myoporum parvifolium*
Myrtle, Crepe	*Lagerstroemia indica*
Myrtle, Wax	*Myrica cerifera*
New Zealand Christmas tree	*Metrosideros excelsus*
Oak, Line	*Quercus virginiana*
Oak, Pin*	*Quercus palustris**
Oak, Silk	*Grevillea robusta*
Ocotillo	*Fouquieria splendens*
Odocanthus sp.	*Odocanthus sp.*
Oleander, Pink/ Variegated/ Petite	*Nerium oleander*
Olive tree	*Olea europaea*
Olive, Russian	*Elaeagnus angustifolia*
Orange, Sour	*Citrus aurantium*
Osmanthus, tea olive	*Osmanthus fragrans*
Pachysandra, Japanese	*Pachysandra terminalis*
Pagoda flower	*Clerodendrum speciosum*
Pagoda tree*	*Sophora japonica**
Palibin	*Syringa meyeri*
Palm, Canary Island date	*Phoenix canariensis*
Palm, Chinese fan	*Livistona chinenis*
Palm, Golden fruited (small)	*Chrysalidocarpus lutescens*
Palm, Mediterranean fan	*Chamaerops humilis*

(cont. on next page)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Palm, Mexican fan	*Washingtonia robusta*
Palm, Pygmy date	*Phoenix roebelenii*
Palm, Queen	*Acrecastrum romanzoffianum*
Palm, Queen	*Cocos plumose*
Palm, Sago	*Cycus revolute*
Palm, Windmill	*Chamaerops excelsa*
Palo Verde, green	*Parkinsonia aculeate*
Panax, Parsley	*Polyscias fruticosa*
Passion vine	*Passiflora pfordtii*
Pear, Bradford	*Pyrus calleryana*
Pepin, Skandia, Buffalo, Juniper	*Juniperus sabina*
Pepper, Brazilian	*Schinus terebinthifolius*
Periwinkle	*Vinca major*
Periwinkle, Myrtle/ dwarf	*Vinca minor*
Petunia	*Petunia sp.*
Philodendron selloum	*Philodendron selloum*
Philodendron, "Micans" velvetleaf	*Philodendron oxycardium*
Photinia	*Photinia x fraseri*
Phyllostachys, Golden bamboo	*Phyllostachys aurea*
Physocarpus, Abbotswood/ Gold drop/ Jackmanni	*Physocarpus fruticosa*
Physocarpus, Dwarf ninebark/ Nanus	*Physocarpus opulifolius*
Pine, African Fern	*Podocarpus gracilior*
Pine, Australian/ Black	*Pinus nigra*
Pine, Canary Island	*Pinus canariensis*
Pine, Dwarf Swiss mountain	*Pinus mugo*
Pine, Eastern white	*Pinus strobes*
Pine, Loblolly*	*Pinus taeda**
Pine, Longleaf*	*Pinus palustris**
Pine, Mexican border	*Pinus strobiformus*
Pine, Norfolk Island	*Araucaria heterophylla*
Pine, Pitch*	*Pinus rigids**
Pine, Pond*	*Pinus serotina**
Pine, Ponderosa/ Western	*Pinus ponderosa*
Pine, Red	*Pinus resinosa*
Pine, Sand*	*Pinus clause**
Pine, Scotch	*Pinus sylvestris*
Pine, Shortleaf*	*Pinus echinata**
Pine, Slash*	*Pinus elliottii**
Pine, Spruce*	*Pinus glabra**
Pine, Table-Mountain*	*Pinus pungens**
Pine, Virginia	*Pinus virginiana*
Pine, Yew	*Podocarpus macrophylla*
Pink lady	*Raphiolepis indica*
Plum, Natal	*Carissa grandiflora*
Plumbago, Cane	*Plumbago capensis*
Plumosa	*Chamaecyparis pisifera*
Portulaca, Sunglo*	*Portulaca grandiflora**
Potentilla verna*	*Potentilla verna**
Protea*	*Protea compacts**
Protea*	*Protea eximia**
Protea*	*Protea repens**
Protea, Giant/ King	*Protea cynaroides*
Protea, Oleander-leaved*	*Protea nerifolia**
Purple Hopseed Bush	*Dodonea viscosa purplurea*
Pyrancanths, Lodense	*Pyracanta koidzumii*
Quince, Flowering*	*Chaenomeles speciosa**
Radiator plant	*Peperomia scandens*
Red fountain grass	*Pennisetum setaceum*
Rhododendron	*Rhododendron formosa*

(cont. on next column)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Rhondodendron, Amoenum/ Coral Bells	*Rhododendron obtusum*
Rhuellia californica	*Rheullia california*
Rose	*Rosa sp.*
Rose, Hybrid tea	*Rosa hybrida*
Rose, Rock	*Cistus hybridus*
Rosemary dwarf	*Rosmarinus officinalis prostrates*
Rubber tree	*Ficus elastica decora*
Sage, Autumn's	*Salvia greggi*
Sage, Texas	*Leucophyllum frutescens*
Sally, Moneywort /Wandering	*Lysimachia nummularia*
Saltbush	*Atriplex sp.*
Sandwort	*Arenaria verna*
Sedum	*Sedum spectabile*
Sedum	*Sedum x rubrotinctum*
Senna	*Cassia sturtii*
Shore juniper	*Juniperus conferta*
Snapdragon, Yellow floral carpet*	*Antirrihinium majus**
Spider flower	*Grevillea rosmarinifolia*
Spirea, Anthony Waterer/ Crispa/ Froebelii/ Gold Flame	*Spiraea x bumalda*
Spirea, Billard	*Spiraea x billiardii*
Spirea, Coccinea*	*Spiraea japonica**
Spirea, False	*Astilbe x arendsii*
Spirea, Snowmound	*Spiraea nipponica*
Spirea, Thunberg	*Spiraea thenbergii*
Spruce Dwarf Alberta / Black Hills/ Densata	*Picea glauca*
Spruce, Blue	*Picea pungens*
Spruce, Norway	*Picea abies*
Spruce, Serbian	*Picea omorika*
Statice, Annual	*Statice sinuate*
Strawberry, Ornamental	*Fragaria chiloensis*
Sumac, African standard	*Rhus lancea*
Sumac, Fragrant	*Rhus aromatic*
Sweetgum, American	*Liquidambar styraciflua*
Sycamore*	*Platanus sp.**
Ti plant	*Cordyline terminalis*
Viburnum	*Viburnum odoratissium*
Viburnum, Arrowwood	*Viburnum dentatum*
Viburnum, Compact cranberrybush	*Viburnum trilobum*
Viburnum, Doublefile / tomentosum	*Viburnum plicatum*
Viburnum, Japanese snowball	*Viburnum japonicum*
Viburnum, Judd	*Viburnum x juddii*
Viburnum, Nanum	*Viburnum opulus*
Viburnum, Spandankwa	*Viburnum suspensum*
Viburnum, Willowwood	*Viburnum x rhytidophylloides*
Waffle plant/Metallic plant	*Hemigraphis sp.*
Water willow	*Jacobinia ghiesbreghtiana*
Weigelia, Newport red / Pink	*Weigela florida*
Willow, Australia	*Geijera parviflora*
Willow, Basket / Purple*	*Salix purpurea**
Willow, Desert	*Pittosporum phillyraeoides*
Willow, Tortuosa corkscrew	*Salix matsudana*
Willow, weeping*	*Salix babylonia**
Willow, Wheelers dwarf, variegated	*Pittosporum Tobira*
Willow, white	*Salix alba*
Xylosma	*Xylosma senticosa*
Yarrow, Common	*Achillea millefolium*
Yarrow, Coronation Gold/ Fernleaf	*Achillea filipendulina*
Yaupon, Dwarf yaupon / Tall	*Ilex vomitoria*

(cont. on next page)

Table 5 *(cont).* Over-The-Top Applications may be applied to the following ornamentals (Use only a nonionic surfactant).

Common Name/Variety	Scientific Name
Yellow bells	*Tecoma stans angustate*
Yellow oleander tree	*Thevetia peruviana*
Yew, Japanese	*Taxus cuspidata*
Yew, Dense / Hicks / Thayeri	*Taxus x media*
Yucca	*Yucca filamentosa*
Yucca, Spanish dagger	*Yucca gloriosa*
Yucca, Weeping dagger	*Yucca pendula*
Zinnia	*Zinnia sp.*

*Not applicable in California

Table 6. Directed applications minimize the foliar injury of the ornamentals shown in the list below. When possible and plant growth habit allows, applications should be made as a directed spray to the plants listed below. Limited testing of the same plants has shown phytotoxicity of up to 20% when this product is applied over-the-top at label rates.

Common Name/Variety	Scientific Name
Bamboo, Heavenly	*Nandina domestica*
Bottle-brush, Weeping	*Callistemon viminalis*
Bugle weed	*Ajuga variegate*
Cactus, Prickly pear	*Opuntia sp.*
Carmel Ceanothus, Carmel creeper, Yankee Point	*Ceonothus griseus*
Cats claw, Yellow trumpet	*Begonia tweediana*
Cinquefoil, Spring*	*Potentilla verna**
Columbine	*Aquilegia hybrid*
Cypress, Leyland	*Cupressocyparis leylandii*
Daisy, African bush	*Gamolepsis chrysanthemoides*
Daisy, African; Treasure flowers	*Gazania ringens*
Dracaena, Massangeana	*Dracaena fragans*
Dracaena, Tricolor	*Dracaena marginata*
Eureka; Kurume; Sunglow	*Rhododendron obtusum*
Fetterbush	*Leucothoe axillaris*
Fir, Fraser	*Abies fraseri*
Gallery	*Gladiolus x hortulanus*
Grass, Fountain	*Pennisetum setaceum*
Grass, Mondo	*Ophiopogon japonicum*
Green carpet	*Herniaria glabra*
Guava, Pineapple	*Feijoa sellowiana*
Gum, Lemon-scented	*Eucalyptus citriodora*
Honeysuckle, Japanese	*Lonicera japonica*
Indica	*Rhododendron indicum*
Juniper, Arcadia; Broadmoor; Scandia; Tamariseifolia	*Juniperus sabina*
Juniper, Blue Pacific	*Juniperus conferta*
Juniper, Blue Rug; Hughes; Variegata; Webberi; Wiltonii; Youngtown Compacta	*Juniperus horizontalis*
Juniper, Grey Owl; Skyrocket	*Juniperus virginiana*
Juniper, Maney; Nana; Old Gold; Pfitzeriana; Prostrata; Robdsta; Spearmint	*Juniperus chinensis*
Juniper, Pathfinder; Welchii	*Juniperus scopulorum*
Juniper, San Jose	*Juniperus japonica*
Lantana, White	*Lantana montevidensis*
Lilac	*Syringa chinensis*
Maki	*Podocarpus macrophyllus*
Maple, Red	*Acer rubrum*
Oleander	*Nerium oleander standard*
Oyster plant	*Rhoeo spathacea*
Philodendron	*Philodendron sp.*
PJM	*Rhododendron sp.*
Plumeria, Temple tree	*Plumeria acuminata*
Privet, Japanese	*Ligustrum japonicum*

(cont. on next column)

Table 6 *(cont).* Directed applications minimize the foliar injury of the ornamentals shown in the list below. When possible and plant growth habit allows, applications should be made as a directed spray to the plants listed below. Limited testing of the same plants has shown phytotoxicity of up to 20% when this product is applied over-the-top at label rates.

Common Name/Variety	Scientific Name
Protea*	*Banksia prinotes**
Protea*	*Banksia victoria**
Protea*	*Banksia speciosa**
Protea, Pincushion*	*Leucospermum cordifolium**
Ruellia	*Ruellia ciliosa*
Snowball, Chinese	*Viburnum macrocephalum*
Spirea, Vanhoutte	*Spiraea x vanhoutteii*
Star plant, Lavender	*Grewia caffra*
Strawberry tree	*Arbutus unedo*
Variegated ajuga	*Ajuga reptans*
Willow	*Salix caroliniana*

*Not applicable in California

Table 7. Directed applications minimize the foliar injury of the ornamentals shown in the list below. When possible and plant growth habit allows, applications should be made as a directed spray to the plants listed below. Limited testing of the same plants has shown phytotoxicity of up to 50% when this product is applied over-the-top at label rates.

Common Name/Variety	Scientific Name
Acacia	*Acacia latifolia*
Acacia, sweet	*Acacia farnesiana*
Bleeding heart	*Dicentra spectabilis*
Blueberry, Tifblue	*Vaccinium achei*
Bottle tree	*Brachychiton populneus*
Cardinal guard; Firespike; Scarlet flame	*Odontonema strictum*
Carrot wood	*Cupaniopsis anacardioides*
Cassia	*Cassia condolioma*
Cherry mazzard*	*Avium prunum**
Cordyline	*Cordyline stricta*
Coromandel	*Asystasia gangetica*
Croton, Chinese crenate	*Exococaria cochichinensis*
Desert broom	*Baccharis sarothroides*
Eucalyptus	*Eucalyptus nicholii*
Fiddlewood	*Citharexylum spinosum*
Formosa	*Rhododendron indicum*
Fragrant sumac	*Rhus aromatica*
Hearts and flowers	*Aptenia cordifolia*
Hersey red, Hino pink, Hinodegeri	*Rhododendron obtusum*
Hibiscus	*Hibiscus lepenk*
Ice Plant, White (trailing)	*Mesembryanthemum delosperma alba*
Ivy, Swedish	*Plectranthus australis*
Jade plant	*Crassula argentea*
Janet Craig/Warneckii	*Dracaena deremensis*
Juniper, Armstrongii	*Juniperus chinensis*
Juniper, Burkii	*Juniperus virginiana*
Juniper, Excelsa Strieta; Spiny Greek	*Juniperus scopulorum*
Karen	*Rhododendron poukhanense*
Kings crown	*Justicia carnea*
Knotweed, pinkhead	*Polygonum capitatum*
Magnolia, southern	*Magnolia grandiflora*
Pothos; Marble Queen	*Epipremnum aureum*
Primrose, Mexican evening	*Oenothera berlandieri*
Rubber plant, baby	*Peperomia obtusifolia*
Shrimp plant	*Justicia brandegeana*
Shrimp plant, white	*Justicia betonia*
Shrimp plant, yellow	*Pachystachys lutea*
Slipper flower	*Pedilanthus tithymaloides*
Sonoran palo verde	*Cercidium praecox*
Thunbergia, laurel-leaved	*Thunbergia laurifolia*
Umbrella plant	*Cyperus alternifolius*

*Not applicable in California

Table 8. Directed applications minimize the foliar injury of the ornamentals shown in the list below. When possible and plant growth habit allows, applications should be made as a directed spray to the plants listed below. Limited testing of the same plants has shown phytotoxicity greater than 50% when this product is applied over-the-top at label rates

Common Name/Variety	Scientific Name
Birch, river	*Betula nigra*
Chandelier plant	*Kalanchoe tubiflora*
Compacta	*Euonymus alata*
Falsecypress, boulevard	*Chamaecyparis pisifera*
Fern, Australia tree	*Cyathea australis*
Grass, Pampas	*Cortederia selloana*
Hinocrimson	*Rhododendron obtusum*
Juniper, bar harbor; Prince of Wales	*Juniperus spp.*
Juniper, blue chip	*Juniperus horizontalis*
Juniper, blue heaven	*Juniperus scopulorum*
Juniper, Sea green	*Juniperus chinesis*
Katherine Dykes	*Physocarpus fruticosa*
Lavender-scallops	*Kalanchoe fedtschenkoi*
Periwinkle, Madagascar	*Catharanthus roseus*
Purple heart	*Setcreasea purpurea*
Spider plant	*Chlorophytum comosum*
Wandering Jew	*Zebrina pendula*

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

PESTICIDE STORAGE: Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. 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.

For Plastic Containers – Nonrefillable with capacities equal to or less than 5 gallons:
CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

LIMITED WARRANTY AND DISCLAIMER

IMPORTANT: Read this LIMITED WARRANTY AND DISCLAIMER before buying or using this product. By opening and using this product, buyer and all users agree to accept the terms of this LIMITED WARRANTY AND DISCLAIMER in their entirety and without exception. If the terms are not acceptable, return this product unopened immediately to the point of purchase, and the purchase price will be refunded in full.

It is impossible to eliminate all risks inherently associated with use of this product. Damage to the treated article, ineffectiveness, or other unintended consequences can result from use of the product under abnormal conditions such as weather, presence of other materials, or the manner or use of application, etc. Such factors and conditions are beyond the control of the manufacturer, and **BY PURCHASING AND USING THIS PRODUCT THE BUYER AND ALL USERS OF THIS PRODUCT AGREE TO ACCEPT ALL SUCH RISKS.** Buyer and all users further agree to assume all risks of loss or damage from the use of the product in any manner that is not explicitly set forth in or that is inconsistent with label instructions, warnings and cautions.

The manufacturer warrants only that this product conforms to the chemical description given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use, subject to the inherent risks described below. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED.**

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The terms of this LIMITED WARRANTY AND DISCLAIMER cannot be varied by any written or verbal statements or agreements at the point of sale or elsewhere. No employee or agent of the manufacturer or seller is authorized to vary or exceed the terms of this LIMITED WARRANTY AND DISCLAIMER in any manner.

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ATTENTION: This specimen label is provided for informational use only. This product may not yet be available for sale in your state or area. The information found in this label may differ from the information found on the product label you are using. Always follow the instructions for use and precautions on the label of the product you are using.

Net Contents:
1 quart (946ml)

SIGHTLINE
HERBICIDE

KEEP OUT OF REACH OF CHILDREN
CAUTION

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

See Side/Back Panel for Additional Precautionary Statements, First Aid and Directions for Use

For the control of invasive and unwanted woody plants, vines, and broadleaf weeds in forests, industrial manufacturing and storage sites, rights of way such as electrical power lines, communication lines, pipelines, roadsides and railroads, fence rows, non-irrigation ditch banks, and around farm buildings. Sightline will also control invasive and unwanted woody plants and vines growing in landscape plantings and wooded areas of commercial and residential landscapes, parks, golf courses, airport grounds, and cemeteries. These sites may include grazed areas as well as establishment and maintenance of wildlife openings.

Active Ingredient	
Triclopyr:	
(3,5,6-trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester)	61.6%
Other Ingredients.....	38.4%
Total	100%

EPA Reg. No. . 74779-8 EPA Est. No.

Distributed by:

Rainbow Treecare
Scientific Advancements

Rainbow Treecare Scientific Advancements
11571 K-Tel Dr
Minnetonka, MN 55343
1-877-272-6747
www.treecarescience.com

FIRST AID:	
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call poison control center or doctor immediately for treatment advice.
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
HOT LINE NUMBER For 24 hour medical emergency assistance (human or animal), or chemical emergency assistance (spill, leak or accident). **Call CHEMTREC at 1-800-424-9300.**	

PRECAUTIONARY STATEMENT
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing. Avoid breathing mists or vapors. This product may cause skin sensitization reactions in some people.

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selections chart.

Mixers, loaders, applicators and other handlers must wear:
- Coveralls
- Chemical-resistant gloves such as nitrile or butyl
- Shoes plus socks
- Protective eyewear

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

Engineering Controls: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not apply directly to water, 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 wash waters or rinsate.

This Chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame. Do not cut or weld container.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for USE carefully before applying.

Not intended for manufacturing or formulating.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et. al. v. EP, C01-0132C, (W.D. WA).

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Agricultural chemical: Do not ship or store with food, feeds, drugs or clothing.

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 apply to uses that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval of 12 hours.

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

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks
- Protective eyewear

AGRICULTURAL USE REQUIREMENTS FOR FORESTRY USES: For use of this product on forestry sites, follow PPE and Reentry restrictions in the "Agricultural Use Requirements" section of this label.

USE REQUIREMENTS FOR AREAS OTHER THAN FORESTRY USES: No worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is applied to non-cropland.

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.

Entry Restrictions for Non-WPS Uses: For applications to non-cropland areas, do not allow entry into areas until sprays have dried, unless applicator and other handler PPE is worn.

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

PESTICIDE STORAGE: Store above 28° F or agitate before use.
PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable federal, state, or local procedures.
PLASTIC CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
METAL CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
CONTAINER DISPOSAL FOR REUSABLE CONTAINERS: Replace the dry disconnect cap, if applicable, and seal all openings which have been opened during use. Return the empty container to a collection site designated by Rainbow Treecare Scientific Advancements. If the container has been damaged and cannot be returned according to the recommended procedures, contact Rainbow Treecare Scientific Advancements at 877-272-6747 to obtain proper handling instructions.
General: Consult federal, state, or local disposal authorities for approved alternative procedures.

GENERAL INFORMATION

Sightline will control invasive and unwanted woody plants, vines, and broadleaf weeds in forests, industrial manufacturing and storage sites, rights of way such as electrical power lines, communication lines, pipelines, roadsides and railroads, fence rows, non-irrigation ditch banks, and around farm buildings. It is also effective in controlling invasive and unwanted woody plants and vines growing in landscape plantings and wooded areas of commercial and residential landscapes, parks, golf courses, airport grounds, and cemeteries. These sites may include grazed areas as well as establishment and maintenance of wildlife openings.

GENERAL USE PRECAUTIONS AND RESTRICTIONS

- The maximum use rate for triclopyr is 1 lb ai/A and one application per year for range and pasture sites, including rights-of-way, fence rows, and any other area where grazing or harvesting is allowed. The maximum application rate for triclopyr on forestry sites is 6 lbs ai/A per year, and the maximum application rate on all other use sites is 8 lbs ai/A per year.
- The state of Arizona has not approved Sightline for use on plants grown for commercial production; specifically forests grown for commercial timber production, or on designated grazing areas.
- When applying this product in tank mix combination, follow all applicable use directions and precautions on each manufacturer's label.

GENERAL USE PRECAUTIONS AND RESTRICTIONS (continued)

- For use only by certified applicators approved by the State in which this product is applied.
- Not for use on residential lawns or turfgrass.
- Do not apply on ditches used to transport irrigation water. Do not apply where runoff or irrigation water may flow onto agricultural land as injury to crops may result.
- Do not apply this product using mist blowers unless a drift control additive, high viscosity inverting system, or equivalent is used to control spray drift.
- Sprays applied directly to Christmas trees may result in conifer injury. When treating unwanted vegetation in Christmas tree plantations, care should be taken to direct sprays away from conifers.
- Do not apply Sightline directly to, or otherwise permit it to come into contact with grapes, tobacco, vegetable crops, flowers, or other desirable broadleaf plants and do not permit spray mists containing it to drift onto them.
- It is permissible to treat non-irrigation ditch banks, seasonally dry wetland, flood plains, deltas, marshes, swamps, bogs, and transitional areas between upland and lowland sites. Do not apply to open water such as lakes, reservoirs, rivers, streams, creeks, saltwater bays, or estuaries.

CHEMIGATION

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

AVOID INJURIOUS SPRAY DRIFT

Applications should be make only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movement, lapse conditions, or temperature inversion (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

AERIAL APPLICATION (Helicopter Only): For aerial application on rights-of-way or other areas near susceptible crops, use an agriculturally registered spray thickening drift control additive as recommended by the manufacturer or apply through the Microfoil boom, Thru-Valve boom, or equivalent drift control system. Thickened sprays prepared by using high viscosity invert systems or other drift reducing systems may be utilized if they are made as drift-free as are mixtures containing an agriculturally registered thickening agent or applications made with the Microfoil boom or Thru Valve boom. If a spray thickening agent is used, follow all use recommendations and precautions on the product label. Do not use thickening agent with the Microfoil boom, Thru Valve boom, or other systems that cannot accommodate thick sprays.

Reference within this label to a particular piece of equipment produced or available from other parties provided without consideration for use by the reader at its discretion and subject to the reader's independent circumstances, evaluation, and expertise. Such reference by Rainbow Treecare Scientific Advancements is not intended as an endorsement of such equipment, shall not constitute a warranty (express or implied) of such equipment, and is not intended to imply that other equipment is not available and equally suitable. Any discussion of methods of use of such equipment does not imply that the reader should use the equipment other than is advised in directions available from the equipment's manufacturer. The reader is responsible for exercising its own judgment and expertise, or consulting with sources other than Rainbow Treecare Scientific Advancements in selecting and determining how to use its equipment.

Spray Drift Management: Avoiding Spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Spray Drift Management (continued): The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they shall be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume –** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure –** Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles –** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation –** Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type –** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length – For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height – Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment – When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher winds, smaller drops, etc.).

Wind – Drift potential is lowest between speeds of 2 – 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity – When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

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

Sensitive Areas – The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

GROUND EQUIPMENT: To aid in reducing spray drift potential when making ground applications near susceptible crops or other desirable broadleaf plants, Sightline should be applied through large droplet producing equipment, such as the Radiarc sprayer or in thickened spray mixtures using an agriculturally registered drift control additive, or high viscosity invert systems. When using a spray thickening or inverting additive, follow all use directions and precautions on the product label. With ground equipment, spray drift can be reduced by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; and by spraying when wind velocity is low. Do not apply with nozzles that produce a fine droplet spray. Keep operating spray pressures at the lower end of the manufacturer's recommended pressures for the specific nozzle type used. Low pressure nozzles are available from spray equipment manufacturers. Select nozzles and pressures which provide adequate plant coverage, but minimize the production of fine spray particles.

HIGH VOLUME LEAF-STEM TREATMENT: To minimize spray drift, keep sprays no higher than brush tops and keep spray pressures low enough to provide coarse spray droplets. A spray thickening agent may be used to reduce spray drift.

GRAZING AND HAYING RESTRICTIONS

- Maximum single application rate is 1 quart (1 lb. ai) per acre on any area that may be grazed or harvested.
- One application allowed per year.
- Do not graze lactating dairy cattle until the next year following application.
- Do not graze or harvest green forage from treated area for 14 days after treatment.
- Withdraw livestock from grazing treated grass or consumption of treated hay at least 3 days before slaughter. This restriction applies to grazing during the season following treatment or hay harvested during the season following treatment.

PLANTS CONTROLLED BY SIGHTLINE

Woody Plants controlled:

Alder	Crataegus (Hawthorn)	Salmonberry
Arrowwood	Dogwood	Salt-bush
Ash	Douglas Fir	(Braccharis spp.)
Aspen	Elderberry	Salt-cedar+
Bear Clover	Elm	Sassafras
(bearmat)	GallberryGorse	Scotch Broom
Beech	Hazel	Sumac
Birch	Hickory	Sweetbay
Blackberry	Hornbeam	Magnolia
Blackgum	Kudzu++	Sweetgum
Boxelder+	Locust	Sycamore
Brazilian Pepper	Madrone	Tanoak
Buckthorn	Maples	Thimbleberry
Cascara	Mulberry	Tree-of-heaven
Ceanothus	Oaks	(Ailanthus)
Cherry	Persimmon	Tulip Poplar
Chinquapin	Pine	Wax myrtle
Choke Cherry	Poison Ivy	Wild Rose
Cottonwood	Poison Oak	Willow
	Poplar	Winged Elm

+ For best control, use either a basal bark or cut stump treatment.
++For complete control, retreatment may be necessary.

Annual and Perennial Broadleaf Weeds Controlled:

Black Medic	Matchweed
Bull Thistle	Mustard
Burdock	Oxalis
Canada Thistle	Plantain
Chicory	Purple Loosestrife
Clover	Ragweed
Creeping Beggarweed	Smartweed
Curly Dock	Sweet Clover
Dandelion	Vetch
Field Bindweed	Wild Carrot
Goldenrod	(Queen Anne's Lace)
Ground Ivy	Wild Lettuce
Lambsquarters	Wild Violet
Lepedeza	Yarrow

Table 1 (Maximum Application Rate)
The following table is a guide for the proper rate of Sightline without exceeding the maximum use rates listed below:

Spray Volume Per Acre	Quarts of Sightline Per 100 Gallons of Spray (Not to exceed allowable maximum use rates)
400	2
300	2.7
200	4
100	8
50	16
20	40
10	80

*Do not graze or harvest for forage. The maximum use rate for triclopyr is 1 lb ai/A and one application per year for for range and pasture sites, including rights-of-way, fence rows, and any other area where grazing or harvesting is allowed. The maximum application rate for triclopyr on forestry sites is 6 lbs ai/A per year, and the maximum application rate on all other use sites is 8 lbs ai/A per year.

FOREST AND RIGHTS-OF-WAY

APPROVED USES
FOLIAR APPLICATIONS

Apply 1 to 8 quarts per acre of Sightline to control broadleaf weeds and woody plants. Always use in sufficient water to give thorough coverage of the plants to be controlled.

Mix spray components in the following order:

1) Water
2) Spray thickening agent (if used)
3) Surfactant (if used)
4) Additional herbicide (if used)
5) Sightline

Mix and apply under moderate and continuous agitation.
Before using any recommended tank mixtures, read the directions and all use precautions on both labels.

Optimal control is achieved when woody plants and weeds are actively growing. On difficult to control species such as ash, blackgum, choke cherry, elm, maples, oaks, pines, or winged elm or when applying late summer when the plants are mature and during drought conditions, use the higher label rates.

When using Sightline in combination with 2, 4-D low volatile ester herbicides, generally the higher rates should be used for satisfactory brush control.

Apply higher rates when target brush is tall (approximately 10-15 feet in height) or when the brush foliage exceeds 60% of the area to be treated. Application of lower rates may cause re-sprouting the following year.

For easy to control brush species or reduced foliage, lower rates may be effective. Consult State or Local Extension personnel for such information.

Restrictions for Foliar Applications: Do not graze or harvest for forage and limited to 6 lbs. ai/A per year for forestry applications and 8 lbs. ai/A per year for all other uses.

FOLIAR TREATMENT WITH GROUND EQUIPMENT

High Volume Foliar Treatment
To control woody plants, apply 1 to 3 quarts of Sightline per 100 gallons of spray mixture. Sightline may be tank mixed with labeled rates of 2,4-D low volatile ester herbicide, Tordon* 101 herbicide, or Tordon* K herbicide and diluted to make 100 gallons of spray. Apply at a volume of 100 to 400 gallons of total spray per acre depending on foliage density of woody plants. Coverage should be made to thoroughly wet all foliage and root collars but not to create runoff.

Low Volume Foliar Treatment
To control susceptible woody plants, apply up to 20 quarts of Sightline in 10 to 100 gallons of finished spray. The spray concentration of Sightline and total spray volume per acre should be adjusted depending on the size and foliage density of target woody plants and type of spray equipment used. Regardless of spray volume uniform coverage of target plant foliage (including stems and root collars) is essential for optimal control (see "General use Precautions" and "Restrictions"). When making low volume applications a surfactant is recommended. Delivery rate of spray nozzles to height and density of woody plants is important. When treating tall, dense brush, a spray gun that can deliver up to 2 gallons per minute at 40 – 60 psi may be required. Application equipment with spray tips that deliver less than 1 gallon of spray per minute (Such as backpack sprayers) may only be appropriate for short, low to moderate density brush.

Tank Mixing: As a low volume foliar spray, up to 12 quarts of Sightline may be applied in a tank mix combination with labeled rates of Tordon* K or Tordon* 101 Mixture in 10 to 100 gallons of finished spray

BROADCAST APPLICATIONS WITH GROUND EQUIPMENT

Make application using equipment that will assure thorough and uniform coverage at spray volumes applied.

Woody Plant Control
Foliage Treatment: Apply 4 to 8 quarts of Sightline in enough water to make 5 or more gallons per acre of total spray, or Sightline at 1-1/2 to 3 quarts may be combined with labeled rates of 2,4-D low volatile ester, Tordon* 101 Mixture, or Tordon* K in sufficient water to make 5 or more gallons per acre of total spray.

Broadleaf Weed Control
Apply 1 to 4 quarts of Sightline in a total volume of 5 or more gallons per acre as a water spray mixture. Apply at any time weeds are actively growing. Sightline at ¼ to 3 quarts may be tank mixed with labeled rates of 2,4-D amine or low volatile ester, Tordon* K, or Tordon* 101 Mixture to improve the spectrum of activity. For higher viscosity spray mixtures to minimize drift or runoff potential, Sightline can be mixed with diesel oil or other inverting agent. If an inverting agent is used, read and follow the use directions and precautions on the product label.

AERIAL APPLICATION (HELICOPTER ONLY)

Apply using suitable drift control (See "General Use Precautions").

Foliage Treatment (Utility and Pipeline Rights-of-Way)
Apply 1 quart of Sightline alone, or tank mix 1 quart Sightline with labeled rates of 2,4-D low volatile ester, Tordon* 101 Mixture, or Tordon* K and apply in a total spray volume of 10 to 30 gallons per acre. Apply the higher rates and volumes when plants are dense or under drought conditions.

BASAL BARK AND DORMANT BRUSH TREATMENTS

For control of susceptible woody plants in forests, and in non-crop areas such as industrial manufacturing and storage sites, rights of way such as electrical power lines, communication lines, pipelines, roadsides and railroads, fence rows, non-irrigation ditch banks, and around farm buildings use Sightline in oil or in oil-water mixtures. Acceptable oils are either commercially available basal oil, or other oils or diluents cleared for use on growing crops. Do not use other oils or diluents unless recommended by the oil or diluent's manufacturer. Follow the use directions and precautions on the product label prepared by the oil or diluent's manufacturer.

Restrictions for Basal Bark and Dormant Brush Treatments: Do not graze or harvest for forage and limited to 6 lbs. ai/A per year for forestry applications and 8 lbs. ai/A per year for all other uses.

OIL MIXTURE SPRAYS

Add Sightline to the required amount of oil in the spray tank or mixing tank and mix thoroughly. If the mixture stands over 4 hours, re-agitation is required.

Oil Mixtures of Sightline and Tordon* K: Tordon* K and Sightline may be used in tank mix combination for basal bark treatment of woody plants. Due to inherent incompatibility of these formulations, a stable mixture can only be achieved when mixed together directly in oil after first combining each product with a compatibility agent. A stable tank mixture for application purposes can be made by following these steps:

a) Prepare a 1:1 mixture of Tordon* K and propylene glycol (1 part Tordon* K to 1 part propylene glycol). Mix equal volumes of the two materials and agitate until thoroughly mixed. Use of propylene glycol is necessary to prevent an invert emulsion from forming when further mixing occurs.
b) Prepare a 5:1 mixture of diluent oil and Sightline (5 parts oil to 1 part Sightline). Use commercially available basal oil, or other oil or diluent cleared for use on growing crops. Agitate until thoroughly mixed.
c) When ready to apply, combine the premixed Tordon* K plus propylene glycol and Sightline plus oil mixtures in the desired ratio. Agitate while mixing and agitate periodically during application to maintain a uniform spray mixture. Combine only enough of the mixtures for immediate use. Do not store the final mixture.

OIL MIXTURE SPRAYS (continued)

Note: The final mixture will separate if left unagitated for any period of time (approximately 15 to 30 minutes) but can be easily remixed. If applied by backpack sprayer, agitation can be accomplished by sloshing or shaking during application. Tordon* K is not registered for use in the states of California and Florida.

Oil-Water Mixture Sprays

First, premix the Sightline, oil and surfactant in a separate container. Do not allow any water or mixtures containing water to get into the Sightline or the premix. Fill the spray tank about half full with water, then slowly add the premix with continuous agitation and complete filling the tank with water. Continue moderate agitation.

Note: If the premix is put in the tank without any water, the first water added may form a thick "invert" (water in oil) emulsion which will be hard to break.

Basal Bark Treatment

For control of susceptible woody plants with stems less than 6 inches in basal diameter, mix 1 to 5 gallons of Sightline in enough oil to make 100 gallons of spray mixture. Apply with a low pressure (20 – 40 psi) knapsack sprayer or power spraying equipment. Spray the basal parts of brush and tree trunks to a height of 12 to 15 inches from the ground. Thorough wetting of this zone is needed for good control. Spray to the point of runoff. Brush or trees with older or rough bark may require more spray than smooth young bark. Apply at any time of year, including the winter, unless snow or water prevents spraying to the ground line.

Paint on Application

For control of susceptible woody plants, mix 20 to 25 gallons of Sightline in enough oil to make 100 gallons of mixture. Apply with a brush to area of stem or trunk of unwanted plant nearest to the ground. Cover at 6" to 12" of main stem or trunk up to ½ inch in diameter, and 5" more for every additional half inch in diameter. Wet bark thoroughly, but not to the point of runoff. Apply all the way around stem if possible, and treat all suckers and shoots. Do not allow contents to run off or drip onto ground or other plants. If dripping or contact occurs, isolate and remove affected area immediately. Solution may be added to cut stems, but do not allow to drip.

Low Volume Basal Bark Treatment

For susceptible woody plants with stems less than 6 inches in basal diameter, mix 20 to 30 gallons of Sightline in enough oil to make 100 gallons of spray mixture. Apply with a low pressure backpack or knapsack sprayer and a solid cone or flat fan nozzle. Spray the basal parts of brush tree trunks in a manner which thoroughly wets the lower stems, including the root collar area, but not to the point of runoff. Herbicide concentration should vary with size and susceptibility of species treated. Apply at any time, including the winter unless snow or water prevents spraying to the ground line or when stem surfaces are saturated with water.

Sightline Plus Tordon* K in Oil Tank Mix: Sightline and Tordon* K may be applied as a low volume basal bark treatment to improve control of certain woody species such as ash, elm, maple, poplar, aspen, hackberry, oak, oceanspray, birch, hickory, pine, tanoak, cherry, locust, sassafras, and multiflora rose.

Streamline Basal Bark Treatment (Southern States)

For control of suppression of susceptible woody plants for conifer release, mix 20 to 30 gallons of Sightline in enough oil to make 100 gallons of spray mixture. Apply as a directed spray with a backpack or knapsack sprayer. Apply sufficient spray to one side of stems less than 3 inches in basal diameter to form a treated zone that is 6 inches in height. When the optimum amount of spray mixture is applied, the treated zone should widen to encircle the stem within approximately 30 minutes. Treat both sides of stems which are 3 to 4 inches in basal diameter. Direct spray at bark that is approximately 1 to 2 feet above ground. Pines (loblolly, slash, shortleaf, and Virginia) up to 2 inches in diameter breast height (dbh) can be controlled by directing the spray at a point approximately 4 feet above ground.

Streamline Basal Bark Treatment (Southern States) -continued

Vary spray mixture concentration with size and susceptibility of the species being treated. Optimum results are obtained when applications are made to young growing stems which have not developed the thicker bark of slower growing trees in older stands. This technique is not recommended for scrub and live oak species, including blackjack, turkey, post, live, bluejack, and laurel oaks, or bigleaf maple. Apply from approximately 6 weeks prior to hardwood leaf expansion in the spring until approximately 2 months after leaf expansion is completed. Do not apply if snow or water prevents spraying at the desired height above ground level.

Low Volume Stem Bark Band Treatment (North Central and Lake States)

To control susceptible woody plants with stems less than 6 inches in basal diameter, mix 20 to 30 gallons of Sightline in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressure and solid cone or flat fan nozzle. Apply the spray in a 6 to 10 inch wide band that completely encircles the stem. Spray in a manner that completely wets the bark, but not to the point of runoff. The treatment band may be positioned at any height up to the first major branch. For best results apply the band as low as possible. Spray mixture concentration should vary with size and susceptibility of species to be treated. Applications may be made at any time, including winter months.

Thinline Basal Bark Treatment

To control susceptible woody plants with stems less than 6 inches in diameter, apply Sightline either undiluted or mixed at 50-75% v/v with oil in a thin stream to all sides of the lower stems. The stream should be directed horizontally to apply a narrow band around each stem or clump. Use a minimum of 2 to 15 milliliters of Sightline or oil mixture with Sightline to treat single stems and from 25 to 100 milliliters to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.

Dormant Stem Treatment

Dormant stem treatments will control susceptible woody plants and vines with stems less than 2 inches in diameter. Plants with stems greater than 2 inches in diameter may not be controlled and resprouting may occur. This treatment method is best suited for sites with dense, small diameter brush. Dormant stem treatments of Sightline can also be used as a chemical side-trim for controlling lateral branches of larger trees that encroach onto roadside, utility or other rights-of-way.

Mix 4 to 8 quarts of Sightline in 2 to 3 gallons of crop oil concentrate or other recommended oil and add this mixture to enough water to make 100 gallons of spray solution. Use continuous adequate agitation. Apply with Radiarc, OC or equivalent nozzles, or handgun using 70 to 100 gallons of spray per acre to achieve thorough coverage of stems. Sightline may be mixed with 4 quarts of Weedone 170 herbicide to improve the control of black cherry and broaden the spectrum of herbicidal activity. In western states, apply anytime after woody plants are dormant. In other areas apply anytime within 10 weeks of bud break, generally February through April. Do not apply to wet or saturated bark as poor control may result.

Cut Stump Treatment

To prevent resprouting of cut stumps of susceptible species, mix 20 to 30 gallons of Sightline in enough oil to make 100 gallons of spray mixture. Apply with a low pressure backpack or knapsack sprayer using a solid cone or flat fan nozzle. Spray the root collar area, sides of the stump, and the outer portion of the cut surface including the cambium until thoroughly wet, but not to the point of runoff. Spray mixture concentration should be modified to allow for differences in size and susceptibility of species treated. Apply at any time, including in winter, unless snow or water prevent spraying to the ground line.

Treatment of Cut Stumps in Western States

To control resprouting of salt-cedar and other Tamarix species, bigleaf maple, tanoak, Oregon myrtle, and other susceptible species, apply undiluted Sightline to wet the cambium and adjacent wood around the entire circumference of the cut stump. Treatment may be applied throughout the year; however, control may be reduced with treatment during periods of moisture stress as in late summer. Use an applicator which can be calibrated to deliver the small amounts of material required.

Note: All basal bark and dormant brush treatment methods may be used to treat susceptible woody species on range and permanent pasture land provided that no more than 1.5 quarts of Sightline are applied per acre. Large plants or species requiring higher rates of Sightline may not be completely controlled.

LANDSCAPE AND WOODED AREAS

FOLIAR APPLICATIONS

Apply 0.75 to 4.4 oz per 1000 ft2 of Sightline to control woody plants. Always use in sufficient water to give thorough coverage of the plants to be controlled.

Mix spray components in the following order:

1) Water
2) Spray thickening agent (if used)
3) Surfactant (if used)
4) Additional herbicide (if used)
5) Sightline

Mix and apply under moderate and continuous agitation.
Before using any recommended tank mixtures, read the directions and all use precautions on both labels.

Optimal control is achieved when woody plants and weeds are actively growing. On difficult to control species such as ash, blackgum, choke cherry, elm, maples, oaks, pines, or winged elm or when applying late summer when the plants are mature and during drought conditions, use the higher label rates.

When using Sightline in combination with 2, 4-D low volatile ester herbicides, generally the higher rates should be used for satisfactory brush control.

Apply higher rates when target brush is tall (approximately 10-15 feet in height) or when the brush foliage exceeds 60% of the area to be treated. Application of lower rates may cause re-sprouting the following year.

For easy to control brush species or reduced foliage, lower rates may be effective. Consult State or Local Extension personnel for such information.

Restrictions for Foliar Applications:

- Do not graze or harvest for forage
- Do not apply more than 6 lbs. ai/A per year for forestry applications and 8 lbs. ai/A per year for all other uses.
- Not for use on residential lawns or turfgrass
- For use only by licensed applicators

FOLIAR TREATMENT WITH GROUND EQUIPMENT

High Volume Foliar Treatment

To control woody plants, apply 8 to 24 oz of Sightline per 25 gallons of spray mixture. Sightline may be tank mixed with labeled rates of 2,4-D low volatile ester herbicide, Tordon* 101 herbicide, or Tordon* K herbicide and diluted to make 25 gallons of spray. Apply at a volume of 2.3 to 9 gallons of total spray per 1000 ft2 depending on foliage density of woody plants. Coverage should be made to thoroughly wet all foliage and root collars but not to create runoff.

FOLIAR TREATMENT WITH GROUND EQUIPMENT (continued)

Low Volume Foliar Treatment

To control susceptible woody plants, apply up to 1 quart of Sightline in 1/2 to 5 gallons of finished spray. The spray concentration of Sightline and total spray volume per 1000 ft2 should be adjusted depending on the size and foliage density of target woody plants and type of spray equipment used. Regardless of spray volume uniform coverage of target plant foliage (including stems and root collars) is essential for optimal control (see "General use Precautions" and "Restrictions"). When making low volume applications a surfactant is recommended. Delivery rate of spray nozzles to height and density of woody plants is important. When treating tall, dense brush, a spray gun that can deliver up to 2 gallons per minute at 40 – 60 psi may be required. Application equipment with spray tips that deliver less than 1 gallon of spray per minute (Such as backpack sprayers) may only be appropriate for short, low to moderate density brush.

Tank Mixing: As a low volume foliar spray, up to 3 quarts of Sightline may be applied in a tank mix combination with labeled rates of Tordon* K or Tordon* 101 Mixture in 2.5 to 2 gallons of finished spray.

BROADCAST APPLICATIONS WITH GROUND EQUIPMENT

Make application using equipment that will assure thorough and uniform coverage at spray volumes applied.

Woody Plant Control

Foliage Treatment: Apply 4 to 8 quarts of Sightline in enough water to make 5 or more gallons per acre of total spray, or Sightline at 1-1/2 to 3 quarts may be combined with labeled rates of 2,4-D low volatile ester, Tordon* 101 Mixture, or Tordon* K in sufficient water to make 5 or more gallons per acre of total spray.

BASAL BARK AND DORMANT BRUSH TREATMENTS

For the control of invasive and unwanted woody plants and vines growing in landscape plantings and wooded areas of commercial and residential landscapes, parks, golf courses, airport grounds, and cemeteries use Sightline in oil or in oil-water mixtures. Acceptable oils are either commercially available basal oil, or other oils or diluents cleared for use on growing crops. Do not use other oils or diluents unless recommended by the oil or diluent's manufacturer. Follow the use directions and precautions on the product label prepared by the oil or diluent's manufacturer.

Restrictions for Basal Bark and Dormant Brush Treatments:

- Do not graze or harvest for forage and limited to 6 lbs. ai/A per year for forestry applications and 8 lbs. ai/A per year for all other uses.
- Not for use on residential lawns or turfgrass
- For use only by licensed applicators

Oil Mixture Sprays

Add Sightline to the required amount of oil in the spray tank or mixing tank and mix thoroughly. If the mixture stands over 4 hours, re-agitation is required.

Oil Mixtures of Sightline and Tordon* K: Tordon* K and Sightline may be used in tank mix combination for basal bark treatment of woody plants. Due to inherent incompatibility of these formulations, a stable mixture can only be achieved when mixed together directly in oil after first combining each product with a compatibility agent. A stable tank mixture for application purposes can be made by following these steps:

a) Prepare a 1:1 mixture of Tordon* K and propylene glycol (1 part Tordon* K to 1 part propylene glycol). Mix equal volumes of the two materials and agitate until thoroughly mixed. Use of propylene glycol is necessary to prevent an invert emulsion from forming when further mixing occurs.
b) Prepare a 5:1 mixture of diluent oil and Sightline (5 parts oil to 1 part Sightline). Use a commercially available basal oil, or other oil or diluent cleared for use on growing crops. Agitate until thoroughly mixed.
c) When ready to apply, combine the premixed Tordon* K plus propylene glycol and Sightline plus oil mixtures in the desired ratio. Agitate while mixing and agitate periodically during application to maintain a uniform spray mixture. Combine only enough of the mixtures for immediate use. Do not store the final mixture.

Oil Mixture Sprays (continued)

Note: The final mixture will separate if left unagitated for any period of time (approximately 15 to 30 minutes) but can be easily remixed. If applied by backpack sprayer, agitation can be accomplished by sloshing or shaking during application. Tordon* K is not registered for use in the states of California and Florida.

Oil-Water Mixture Sprays

First, premix the Sightline, oil and surfactant in a separate container. Do not allow any water or mixtures containing water to get into the Sightline or the premix. Fill the spray tank about half full with water, then slowly add the premix with continuous agitation and complete filling the tank with water. Continue moderate agitation.

Note: If the premix is put in the tank without any water, the first water added may form a thick "invert" (water in oil) emulsion which will be hard to break.

Basal Bark Treatment

For control of susceptible woody plants with stems less than 6 inches in basal diameter, mix 1 to 5 quarts of Sightline in enough oil to make 25 gallons of spray mixture. Apply with a low pressure (20 – 40 psi) knapsack sprayer or power spraying equipment. Spray the basal parts of brush and tree trunks to a height of 12 to 15 inches from the ground. Thorough wetting of this zone is needed for good control. Spray to the point of runoff. Brush or trees with older or rough bark may require more spray than smooth young bark. Apply at any time of year, including the winter, unless snow or water prevents spraying to the ground line.

Paint on Application

For control of susceptible woody plants, mix 4 to 5 gallons of Sightline in enough oil to make 25 gallons of mixture. Apply with a brush to area of stem or trunk of unwanted plant nearest to the ground. Cover at 6" to 12" of main stem or trunk up to ½ inch in diameter, and 5" more for every additional half inch in diameter. Wet bark thoroughly, but not to the point of runoff. Apply all the way around stem if possible, and treat all suckers and shoots. Do not allow contents to run off or drip onto ground or other plants. If dripping or contact occurs, isolate and remove affected area immediately. Solution may be added to cut stems, but do not allow to drip.

Low Volume Basal Bark Treatment

For susceptible woody plants with stems less than 6 inches in basal diameter, mix 2 to 3 gallons of Sightline in enough oil to make 10 gallons of spray mixture. Apply with a low pressure backpack or knapsack sprayer and a solid cone or flat fan nozzle. Spray the basal parts of brush tree trunks in a manner which thoroughly wets the lower stems, including the root collar area, but not to the point of runoff. Herbicide concentration should vary with size and susceptibility of species treated. Apply at any time, including the winter unless snow or water prevents spraying to the ground line or when stem surfaces are saturated with water.

Sightline Plus Tordon* K in Oil Tank Mix: Sightline and Tordon* K may be applied as a low volume basal bark treatment to improve control of certain woody species such as ash, elm, maple, poplar, aspen, hackberry, oak, oceanspray, birch, hickory, pine, tanoak, cherry, locust, sassafras, and multiflora rose

Streamline Basal Bark Treatment (Southern States)

For control of suppression of susceptible woody plants for conifer release, mix 2 to 3 gallons of Sightline in enough oil to make 10 gallons of spray mixture. Apply as a directed spray with a backpack or knapsack sprayer. Apply sufficient spray to one side of stems less than 3 inches in basal diameter to form a treated zone that is 6 inches in height. When the optimum amount of spray mixture is applied, the treated zone should widen to encircle the stem within approximately 30 minutes. Treat both sides of stems which are 3 to 4 inches in basal diameter. Direct spray at bark that is approximately 1 to 2 feet above ground. Pines (loblolly, slash, shortleaf, and Virginia) up to 2 inches in diameter breast height (dbh) can be controlled by directing the spray at a point approximately 4 feet above ground.

Streamline Basal Bark Treatment (Southern States) -continued

Vary spray mixture concentration with size and susceptibility of the species being treated. Optimum results are obtained when applications are made to young growing stems which have not developed the thicker bark of slower growing trees in older stands. This technique is not recommended for scrub and live oak species, including blackjack, turkey, post, live, bluejack, and laurel oaks, or bigleaf maple. Apply from approximately 6 weeks prior to hardwood leaf expansion in the spring until approximately 2 months after leaf expansion is completed. Do not apply if snow or water prevents spraying at the desired height above ground level.

Low Volume Stem Bark Band Treatment (North Central and Lake States)

To control susceptible woody plants with stems less than 6 inches in basal diameter, mix 2 to 3 gallons of Sightline in enough oil to make 10 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressure and solid cone or flat fan nozzle. Apply the spray in a 6 to 10 inch wide band that completely encircles the stem. Spray in a manner that completely wets the bark, but not to the point of runoff. The treatment band may be positioned at any height up to the first major branch. For best results apply the band as low as possible. Spray mixture concentration should vary with size and susceptibility of species to be treated. Applications may be made at any time, including winter months.

Thinline Basal Bark Treatment

To control susceptible woody plants with stems less than 6 inches in diameter, apply Sightline either undiluted or mixed at 50-75% v/v with oil in a thin stream to all sides of the lower stems. The stream should be directed horizontally to apply a narrow band around each stem or clump. Use a minimum of 2 to 15 milliliters of Sightline or oil mixture with Sightline to treat single stems and from 25 to 100 milliliters to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.

Dormant Stem Treatment

Dormant stem treatments will control susceptible woody plants and vines with stems less than 2 inches in diameter. Plants with stems greater than 2 inches in diameter may not be controlled and resprouting may occur. This treatment method is best suited for sites with dense, small diameter brush. Dormant stem treatments of Sightline can also be used as a chemical side-trim for controlling lateral branches of larger trees that encroach onto roadside, utility or other rights-of-way.

Mix 1 to 2 quarts of Sightline in 2 to 3 quarts of crop oil concentrate or other recommended oil and add this mixture to enough water to make 25 gallons of spray solution. Use continuous adequate agitation. Apply at a rate of 1.6 to 2.3 gallons of spray per 1000 ft2 to achieve thorough coverage of stems. Sightline may be mixed with 4 quarts of Weedone 170 herbicide to improve the control of black cherry and broaden the spectrum of herbicidal activity. In western states, apply anytime after woody plants are dormant. In other areas apply anytime within 10 weeks of bud break, generally February through April. Do not apply to wet or saturated bark as poor control may result.

Cut Stump Treatment

To prevent resprouting of cut stumps of susceptible species, mix 2 to 3 gallons of Sightline in enough oil to make 10 gallons of spray mixture. Apply with a low pressure backpack or knapsack sprayer using a solid cone or flat fan nozzle. Spray the root collar area, sides of the stump, and the outer portion of the cut surface including the cambium until thoroughly wet, but not to the point of runoff. Spray mixture concentration should be modified to allow for differences in size and susceptibility of species treated. Apply at any time, including in winter, unless snow or water prevent spraying to the ground line.

Treatment of Cut Stumps in Western States

To control resprouting of salt-cedar and other Tamarix species, bigleaf maple, tanoak, Oregon myrtle, and other susceptible species, apply undiluted Sightline to wet the cambium and adjacent wood around the entire circumference of the cut stump. Treatment may be applied throughout the year; however, control may be reduced with treatment during periods of moisture stress as in late summer. Use an applicator which can be calibrated to deliver the small amounts of material required.

Note: All basal bark and dormant brush treatment methods may be used to treat susceptible woody species on range and permanent pasture land provided that no more than 1.5 quarts of Sightline are applied per acre. Large plants or species requiring higher rates of Sightline may not be completely controlled.

FOREST MANAGEMENT APPLICATIONS

Optimal control for broadcast applications of Sightline is achieved using spray volumes that allow thorough plant coverage. Recommended spray volumes are usually 25 gallons per acre by air or 10 to 100 gallons per acre by ground depending upon equipment. When using spray volumes less than 50 gallons per acre, the addition of an agriculturally labeled non-ionic surfactant as described under "Directions for Use" will help assure more complete coverage of foliage. Application systems or additives designed to minimize drift by producing larger droplets may require higher spray volumes to maintain brush control.

Restrictions for Forest Management Applications: Do not graze or harvest for forage and limited to 6 lbs. ai/A per year for forestry applications and 8 lbs. ai/A per year for all other uses.

Plant Back Interval for Conifers: Conifers planted less than 1 month after treatment with Sightline at less than 4 quarts per acre or less than 2 months after treatment at 4 to 8 quarts per acre may suffer injury. When tank mixtures of herbicides are used for forest site preparation, labels for all products in the mixture should be consulted and the longest recommended waiting period observed.

Broadcast Treatments for Forest Site Preparation (Not For Conifer Release)

Southern States Including Alabama, Arkansas, Delaware, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia:

To control susceptible woody plants and broadleaf weeds, apply Sightline at a rate of 4 to 6 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 2 to 4 quarts per acre of Sightline in tank mix combination with labeled rates of Tordon* 101 Mixture or Tordon* K. Tordon* 101 Mixture and Tordon* K are not registered for use in the states of California and Florida. Where grass control is also desired, Sightline, alone or in combination with Tordon* K or Tordon* 101 Mixture, may be tank mixed with labeled rates of other herbicides registered for grass control in forests. Use of tank mix products must be in accordance with the most restrictive of label limitations and precautions. No label application rates should be exceeded.

Do not tank mix with any product containing a label prohibition against such mixing.

In Western, Northeastern, North Central, and Lake States (States Not Listed Above As Southern States):

To control susceptible woody plants and broadleaf weeds, apply Sightline at a rate of 3 to 6 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 1.5 to 3 quarts per acre of Sightline in a tank mix combination with labeled rates of Tordon* 101 Mixture, Tordon* K, or 2,4-D low volatile ester. Tordon* 101 Mixture and Tordon* K are not registered for use in the states of California and Florida.

In Western, Northeastern, North Central, and Lake States (States Not Listed Above As Southern States) -continued

Where grass control is also desired, Sightline, alone or in tank mix combination with Tordon* 101 Mixture or Tordon* K, may be applied with labeled rates of other herbicides registered for grass control in forests. When applying tank mixes, follow applicable use directions and precautions on each product label.

Applications for Site Preparation in Southern Coastal Flatwoods:

To control susceptible broadleaf weeds and woody species such as gallberry and wax-myrtle, and for partial control of saw-palmetto, apply 2 to 4 quarts per acre of Sightline. To broaden the spectrum of species controlled to include fetterbush, staggerbush, titi, and grasses, apply 2 to 3 quarts per acre of Sightline in tank mix combination with labeled rates of Arsenal Applicator's Concentrate herbicide. Where control of gallberry, wax-myrtle, broadleaf weeds, and grass is desired, 2 to 3 quarts of Sightline may be applied in tank mix combination with labeled rates of Accord herbicide.

These treatments may be broadcast during site preparation of flat planted or bedded sites or, on bedded sites, applied in bands over the top of beds. For best results, make applications in late summer or fall. Efficacy may not be satisfactory when applications are made in early season prior to August. Note: Do not apply after planting pines.

Applications for Conifer Release

Note: Application for conifer release may cause temporary damage and growth suppression where contact with conifers occurs; however, injured conifers should recover and grow normally. Over-the-top spray applications kill pines.

Directed Sprays

To release conifers from competing hardwoods and brush such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, hickory, alder, birch, aspen, pin cherry, Ceanothus spp., blackberry, chinquapin, and poison oak, mix 4 to 20 quarts of Sightline in enough water to make 100 gallons of spray mixture. This spray should be directed onto foliage of competitive hardwoods using knapsack or backpack sprayers with flat fan nozzles or equivalent any time after the hardwoods and brush have reached full leaf size, but before autumn coloration. The majority of treated hardwoods and brush should be less than 6 feet in height to ensure adequate spray coverage. Care should be taken to direct spray solutions away from conifer foliage, particularly foliage of desirable pines. Refer to "Table 1" to determine proper mixing rate, spray volume and maximum application rate.

Broadcast Applications for Mid-Rotation Understory Brush Control in Southern Coastal Flatwoods Pine Stands (Ground Equipment Only)

To control susceptible species such as gallberry and wax-myrtle and broadleaf weeds, apply 2 to 4 quarts per acre of Sightline. To include control of fetterbush, staggerbush, and titi, apply 2 to 3 quarts per acre of Sightline in tank mix combination with labeled rates of Arsenal Applicator's Concentrate. Saw-palmetto will be partially controlled by use of Sightline at 4 quarts per acre or by mixtures Sightline at 2 to 3 quarts per acre in tank mix combination with either Arsenal Applicator's Concentrate or Escort herbicide.

These mixtures should be broadcast applied over target understory brush species. To prevent injury to pines, direct applications below the pine foliage. Sprays should be applied in 30 or more gallons per acre of total volume. For optimum results, make applications in late summer or fall. Reduced control may occur when applications are made in early season prior to August.

Broadcast Applications for Conifer Release in the Pacific Northwest and California

On Dormant Conifers Before Bud Swell (Excluding Pines): To control or suppress deciduous hardwoods such as vine maple, bigleaf maple, alder, scotch broom, or willow before leaf-out or evergreen hardwoods such as madrone, chinquapin, and Ceanothus spp., use Sightline at 1 to 2 quarts per acre. Diluents used may be diesel or fuel oil. Alternately, water plus 1 to 2 gallons per acre of diesel oil or a suitable surfactant or oil substitute at manufacturer's recommended rates may be used.

On Conifer Plantations (Excluding Pines) After Hardwoods Begin Growth and Before Conifer Bud Break ("Early Foliar" hardwood stage): Use Sightline at 1.0 to 1.5 quarts alone or plus 2,4-D low volatile ester in water carrier to provide no more than 3 pounds acid equivalent per acre from both products. After bud break, these sprays may cause more serious injury to the crop trees. Use of a surfactant may cause unacceptable injury to conifers especially after bud break.

On Conifer Plantations (Excluding Pines) After Conifers Harden Off in Late Summer and While Hardwoods Are Still Growing Actively: Use Sightline at rates of 1.0 to 1.5 quarts per acre alone or plus 2,4-D low volatile ester to provide no more than 3 pounds acid equivalent per acre from both products. Treat as soon after conifer bud hardening as possible so that hardwoods and brush are actively growing. Use of oil, oil substitute, or surfactant may cause unacceptable injury to conifers.

Broadcast Applications for Conifer Release in the Eastern United States

To release spruce, fir, red pine, and white pine from competing hardwoods such as red maple, sugar maple, alder, birch (white, yellow, and grey), aspen, ash, pin cherry, and Rubus spp. and perennial and annual broadleaf weeds, use Sightline at rates of 1.5 to 3.0 quarts per acre alone or plus 2,4-D amine or low volatile ester to provide no more than 4 pounds acid equivalent per acre from both products. Applications should be made in late summer or early fall after conifers have formed their overwintering buds and hardwoods are in full leaf and prior to autumn coloration.

Broadcast Applications for Conifer Release in the Lake State Region

To release spruce, fir, and red pine from competing hardwoods such as aspen, birch, maple, cherry, willow, oak, hazel and Rubus spp. and perennial and annual broadleaf weeds, use Sightline at rates of 1.5 to 3.0 quarts per acre. Applications should be made in late summer or early fall after conifers have formed their overwintering buds and hardwoods are in full leaf and prior to autumn coloration.

Rainbow Treecare™
Scientific Advancements

Rainbow Treecare Scientific Advancements
11571 K-Tel Dr
Minnetonka, MN 55343
1-877-272-6747
www.treecarescience.com

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.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Tree injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or tree conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS or seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS and seller harmless for any claims relating to such factors.

RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, RAINBOW TREECARE MAKES NO WARRANTIES OR MERCHANABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.
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RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of RAINBOW TREECARE SCIENTIFIC ADVANCMENTS.

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : Sightline
Product code : EPA Reg. No. 74779-8

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Herbicide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Ecoscience
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.Rainbowecoscience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

Hazard Identification Summary

Light yellow clear liquid

GHS Labeling Elements

Hazard pictograms (CLP) :

Signal word : WARNING

HEALTH HAZARDS : Moderate eye irritant. Potential skin sensitizer from exposure to concentrate.

PHYSICAL HAZARDS : May release toxic fumes if burned.

ENVIRONMENTAL HAZARDS : Triclopyr is highly toxic to certain terrestrial plant and aquatic organisms in its ester form.

SECTION 3: Composition/information on ingredients

Component	Percentage	CAS Number
Triclopyr Butoxy Ethyl Ester	61.6	64700-56-7
Petroleum distillates*	> 25.0	64742-94-5
Naphthalene (*contained)	2 – 5	91-20-3

SECTION 4: First aid measures

4.1. Description of first aid measures

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

IF SWALLOWED : Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Do not give liquid to the person.

IF IN EYES : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

IF INHALED : Move person to fresh air, if person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN : May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagoscopic control.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5: Firefighting measures

National Fire Protection Rating (NFPA)

HEALTH	2
FLAMMABILITY	2
REACTIVITY	0
4 = Severe 3 = Serious 2 = Moderate 1 = Slight 0 = Minimal	

FLASHPOINT: 142°F (61°C)

5.1. Extinguishing media

EXTINGUISHING MEDIA : Use foam, dry chemical, carbon dioxide, or water spray when fires involve this material

5.2. Special hazards arising from the substance or mixture

FIRE AND EXPLOSION HAZARD : May decompose in fire due to thermal decomposition, releasing toxic gases.

5.3. Advice for firefighters

FIRE FIGHTING INSTRUCTIONS : Evacuate area and fight fire upwind from a safe distance to avoid possible hazardous fumes and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff.

Minimize use of water to prevent environmental contamination. Contact your State Pesticide or Environmental Control Agency, or nearest EPA Regional Office for guidance on disposal.

FIRE FIGHTING EQUIPMENT : Self-contained breathing apparatus with full facepiece and protective clothing.

SECTION 6: Accidental release measures

IN CASE OF SPILLS OR LEAKS : Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

SMALL SPILL : Absorb small spills on sand, vermiculite, or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL : Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Minimize use of water to prevent environmental contamination.

SECTION 7: Handling and storage

KEEP OUT OF REACH OF CHILDREN!

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

7.1. Precautions for safe handling

HANDLING : Use only in a well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

STORAGE : Store above 28°F or agitate before use. Store in original container with lid tightly closed. Keep away from food, feed and drinking water. Combustible liquid, store in a well-ventilated, dry place away from heat and other sources of ignition.

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SECTION 8: Exposure controls/personal protection

EXPOSURE LIMITS (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Triclopyr BEE ester	Not listed	Not listed
Naphthalene	10 ppm	10 ppm

ENGINEERING CONTROLS : Proper ventilation is required when handling or using this product to minimize exposure to airborne contaminants. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Personal Protective Equipment

EYE PROTECTION	:	Safety goggles, face shield or full face respirator if vapors cause eye discomfort.
CLOTHING	:	Long-sleeved shirt and long pants. Shoes plus socks.
GLOVES	:	Chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC) or Viton.
RESPIRATOR	:	When handling in enclosed areas use a respirator approved for pesticides.

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

USER SAFETY RECOMMENDATIONS:
Wash hands before eating, drinking or chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	:	Light yellow clear liquid
Odor	:	Paint like odor
pH	:	3.65 – 4.65
Melting point	:	Not applicable
Boiling point	:	No data
Flash point	:	59°C
Evaporation rate	:	No data
Flammability	:	No data
Flammability limits	:	No data
Vapor pressure	:	0.2 mPa (25°C) (Triclopyr)
Vapor density	:	Not applicable
Density	:	1.15 – 1.21 g/ml (9.60 – 10.10 lb/gl)*
Solubility	:	Emulsifies
Partition coefficient	:	Log P_{ow} = 0.42 (pH5), -0.45 (pH7), -0.96 (pH9), (Triclopyr)
Auto-ignition temperature	:	No data
Decomposition temperature	:	No data
Viscosity	:	14.49 cSt (20°C); 6.7 cSt (40°C)

*Listed density is an approximate value and does not necessarily represent that of a specific batch.

SECTION 10: Stability and reactivity

10.1. Reactivity

PRODUCT REACTIVITY: None known

10.2. Chemical stability

CHEMICAL STABILITY: Stable, however may decompose if heated.

10.3. Possibility of hazardous reactions

Product will not undergo polymerization.

10.4. Conditions to avoid

CONDITIONS TO AVOID: Avoid temperatures above 105°F (40°C) and below 30°F (6°C).

10.5. Incompatible materials

INCOMPATIBLE MATERIALS: Strong acids and oxidizing materials.

10.6. Hazardous decomposition products

May decompose to hydrogen chloride, oxides of nitrogen and phosgene when burning.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity values are from a similar but not identical formulation.

ACUTE TOXICITY

Oral LD_{50} (rat)	: >1,000 mg/Kg
Dermal LD_{50} (rat)	: >2,000 mg/Kg
Inhalation LC_{50} (rat)	: >4.0 mg/L
Eye Irritation (rabbit)	: Slight irritant
Skin Irritation (rabbit)	: Moderate irritant
Sensitization (guinea pig)	: Potential sensitizer from prolonged or repeated exposure.

CARCINOGEN STATUS

OSHA	: Not listed
NTP	: Not listed
IARC	: Not listed

TERATOGENICITY : Evidence of reproductive and developmental toxicity only at maternally toxic doses.

MUTAGENICITY : Little evidence of mutagenic effects during in vivo or in vitro studies.

SECTION 12: Ecological information

12.1. Toxicity

ENVIRONMENTAL SUMMARY: This pesticide is toxic to fish. Do not apply directly to water, 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 or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

FATE: Triclopyr BEE ester rapidly hydrolyzes to the parent acid. Triclopyr acid is slightly persistent with a soil half-life of 2 to 6 weeks depending on soil type and weather conditions. Triclopyr acid is water soluble and mobile in soil.

FISH TOXICITY (BEE ester formulation)

96 hour LC_{50}, Rainbow trout	:	1.3 ppm
96 hour LC_{50}, Bluegill	:	1.5 ppm

AVIAN TOXICITY (BEE ester formulation)

Dietary LC_{50}, Bobwhite quail	:	>9,000 ppm
Dietary LC_{50}, Mallard duck	:	>10,000 ppm

BEE TOXICITY (BEE ester formulation)

Triclopyr acid -	:	>100 ug/bee

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

Pesticide Disposal: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable federal, state, or local procedures.

Container Disposal: Non-refillable containers (1, 2.5, 30 & 55 gallon): Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

Refer to the product label for additional and complete Container Handling instructions.

SECTION 14: Transport information

SHIPPING DESCRIPTION:
(Ground transport)
Containers ≤ 119 gallons : Not regulated by DOT

Containers > 119 gallons : NA1993, Combustable Liquid, N.O.S., (contains petroleum distillates), PG III

DOT HAZARD CLASS : Combustable Liquid (>119 gallons)
IDENTIFICATION NUMBER : NA1993
DOT PACKING GROUP : PG III

SECTION 15: Regulatory information

CERCLA REPORTABLE QUANTITY : Not listed

SARA TITLE III STATUS
311/312 Hazard Categories : Immediate & Delayed Health Hazard, Fire Hazard
313 Toxic Chemicals : None known

CALIFORNIA PROP 65 : Not listed

TSCA : This product is exempted from TSCA because it is solely for FIFRA regulated use.

SECTION 16: Other information

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	2
	PHYSICAL HAZARD	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

MSDS US

***Disclaimer**: The information provided by Rainbow Ecoscience contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.*

Revised: October 3, 2022
Reason: Rainbow Ecoscience Rebrand

SAFETY DATA SHEET

Vastlan™

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03/31/2022	800080005428	Date of first issue: 03/31/2022

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. IDENTIFICATION

Product name : Vastlan™

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : CORTEVA AGRISCIENCE LLC
9330 ZIONSVILLE RD
INDIANAPOLIS, IN, 46268-1053
UNITED STATES

Customer Information Number : 800-992-5994

E-mail address : customerinformation@corteva.com

Emergency telephone : INFOTRAC (CONTRACT 84224).

800-992-5994 or 317-337-6009

Recommended use of the chemical and restrictions on use

Recommended use : End use herbicide product

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Eye irritation : Category 2A

Skin sensitization : Sub-category 1B

Specific target organ toxicity - repeated exposure : Category 2

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/ attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Triclopyr, Choline salt	1048373-85-8	54.72
Choline, hydroxide	123-41-1	>= 3 - < 10
Glycerol	56-81-5	>= 1 - < 3
Balance	Not Assigned	> 30

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
In case of skin contact	:	Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.
In case of eye contact	:	Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.
If swallowed	:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health. Do not allow run-off from firefighting to enter drains or water courses.
Hazardous combustion products	:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.

Combustion products may include and are not limited to:
Nitrogen oxides (NOx)
Carbon oxides

Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities. Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. Prevent from entering into soil, ditches, sewers, underwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up	:	Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container. Keep in suitable, closed containers for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Do not breathe vapors/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Avoid inhalation of vapor or mist.
Do not swallow.
Do not get in eyes.
Avoid contact with skin and eyes.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Conditions for safe storage : Store in a closed container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in properly labeled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1

Engineering measures : Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.
Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or

guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection : Use chemical goggles.

Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid.
Color	:	Black
Odor	:	Characteristic
Odor Threshold	:	No data available
pH	:	7.0 (68 °F / 20 °C) Method: pH Electrode
Melting point/range	:	Not applicable
Freezing point		No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 212 °F / > 100 °C Method: Pensky-Martens Closed Cup ASTM D 93, closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Density	:	1.235 g/cm3 (68 °F / 20 °C) Method: Digital density meter
Solubility(ies)		
Water solubility	:	No data available
Autoignition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	No decomposition if stored and applied as directed. Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned. None known.
Conditions to avoid	:	None known.
Incompatible materials	:	None.
Hazardous decomposition products	:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Nitrogen oxides (NOx) Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat, female): 1,000 mg/kg Method: OECD Test Guideline 423 Remarks: For similar material(s):
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.85 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: For similar material(s):

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: No deaths occurred at this concentration.

Components:

Triclopyr, Choline salt:

Acute oral toxicity : LD50 (Rat, female): 577 - 630 mg/kg
Remarks: For similar active ingredient(s).

LD50 (Rat, male): 692 - 729 mg/kg
Remarks: For similar active ingredient(s).

Acute inhalation toxicity : Remarks: Prolonged excessive exposure to dust may cause adverse effects.
Dust may cause irritation to upper respiratory tract (nose and throat).

LC50 (Rat): > 2.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: For similar active ingredient(s).

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: For similar active ingredient(s).

Choline, hydroxide:

Acute oral toxicity : Remarks: Oral LD50 has not been determined due to corrosivity.

Glycerol:

Acute oral toxicity : LD50 (Rat): > 11,500 mg/kg
Remarks: Excessive exposure may cause:
Central nervous system effects.
Observations in humans include:
Altered blood sugar levels.

Acute inhalation toxicity : LC50 (Rat): > 2.75 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred following exposure to a saturated atmosphere.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Guinea pig): >= 56,750 mg/kg

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

Choline, hydroxide:

Result : Corrosive

Glycerol:

Result : No skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : Eye irritation

Components:

Triclopyr, Choline salt:

Result : Eye irritation

Choline, hydroxide:

Result : Corrosive

Glycerol:

Result : No eye irritation

Respiratory or skin sensitization

Product:

Species : Mouse
Result : The product is a skin sensitizer, sub-category 1B.
Remarks : For similar material(s):

Components:

Triclopyr, Choline salt:

Assessment : The product is a skin sensitizer, sub-category 1B.
Remarks : For similar active ingredient(s).
Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.
With the dilute mix, no allergic skin reaction is expected.

Germ cell mutagenicity

Components:

Glycerol:

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative.

Carcinogenicity

Components:

Triclopyr, Choline salt:

Carcinogenicity - Assessment : For similar active ingredient(s)., Did not cause cancer in laboratory animals.

Glycerol:

Carcinogenicity - Assessment : For the major component(s):, Did not cause cancer in laboratory animals.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

Triclopyr, Choline salt:

Reproductive toxicity - Assessment : For similar active ingredient(s)., In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
For similar active ingredient(s)., Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Glycerol:

Reproductive toxicity - Assessment : Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses of glycerine given in the diet. Similar effects have been seen in animals fed synthetic diets.
Did not cause birth defects or any other fetal effects in laboratory animals.

STOT-single exposure

Product:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:

Triclopyr, Choline salt:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Choline, hydroxide:

Assessment : May cause respiratory irritation.

Glycerol:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT-repeated exposure

Components:

Choline, hydroxide:

Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Triclopyr, Choline salt:

Remarks : For similar active ingredient(s).
In animals, effects have been reported on the following organs:
Kidney.
Liver.

Choline, hydroxide:

Remarks : No relevant data found.

Glycerol:

Remarks : Excessive exposure to glycerine may cause increased fat levels in blood.

Aspiration toxicity

Product:

Based on physical properties, not likely to be an aspiration hazard.

Components:

Triclopyr, Choline salt:
Based on physical properties, not likely to be an aspiration hazard.

Choline, hydroxide:
Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Glycerol:
Based on physical properties, not likely to be an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Triclopyr, Choline salt:

Toxicity to fish	:	Remarks: For similar active ingredient(s). Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested). LC50 (Oncorhynchus mykiss (rainbow trout)): 117 mg/l Exposure time: 96 h Remarks: For similar active ingredient(s).
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 133 mg/l Exposure time: 48 h Remarks: For similar active ingredient(s).
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 87.7 mg/l End point: Biomass Exposure time: 96 h Remarks: For similar material(s):

Ecotoxicology Assessment

Chronic aquatic toxicity	:	Harmful to aquatic life with long lasting effects.

Glycerol:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): >= 885 mg/l Exposure time: 96 h Test Type: static test Method: Method Not Specified.
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 1,955 mg/l Exposure time: 48 h Test Type: static test Method: Method Not Specified.

Toxicity to algae/aquatic plants	:	EC50 (Other): 2,900 mg/l End point: Growth inhibition (cell density reduction) Exposure time: 192 h Test Type: static test Method: Method Not Specified.
Toxicity to microorganisms	:	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h Method: OECD 209 Test

Persistence and degradability

Components:

Triclopyr, Choline salt:

Biodegradability	:	Remarks: For similar active ingredient(s). Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

Glycerol:

Biodegradability	:	Result: Readily biodegradable. Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation: 63 % Exposure time: 14 d Method: OECD Test Guideline 301C or Equivalent Remarks: 10-day Window: Not applicable
ThOD	:	1.22 kg/kg

Bioaccumulative potential

Components:

Triclopyr, Choline salt:

Partition coefficient: n-octanol/water	:	Remarks: For similar active ingredient(s). Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Choline, hydroxide:

Partition coefficient: n-octanol/water	:	Remarks: No relevant data found.

Glycerol:

Partition coefficient: n-octanol/water	:	log Pow: -1.76 (68 °F / 20 °C) Method: Measured Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Balance:

Partition coefficient: n-	:	Remarks: No relevant data found.

octanol/water

Mobility in soil

Components:

Triclopyr, Choline salt:

Distribution among environmental compartments : Remarks: For similar active ingredient(s).
Triclopyr.
Potential for mobility in soil is very high (Koc between 0 and 50).

Choline, hydroxide:

Distribution among environmental compartments : Remarks: No relevant data found.

Glycerol:

Distribution among environmental compartments : Koc: 1
Method: Estimated.
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Balance:

Distribution among environmental compartments : Remarks: No relevant data found.

Other adverse effects

Components:

Triclopyr, Choline salt:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Choline, hydroxide:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Glycerol:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is readily biodegradable and thus is not considered persistent or very persistent (P or vP).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list

of substances that deplete the ozone layer.

Balance:

Results of PBT and vPvB assessment	:	This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards	:	Acute toxicity (any route of exposure) Respiratory or skin sensitization Specific target organ toxicity (single or repeated exposure) Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

Glycerol 56-81-5

The ingredients of this product are reported in the following inventories:

TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number : 62719-687

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

May be fatal if swallowed.
Causes substantial but temporary eye injury
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SECTION 16. OTHER INFORMATION

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Full text of other abbreviations

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

OSHA Z-1 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely

Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 03/31/2022

Product code: GF-3169

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN

GLUFOSINATE-AMMONIUM	GROUP 10	HERBICIDE

Cheetah® Pro

A COMPLETE BROAD SPECTRUM NONSELECTIVE POSTEMERGENCE HERBICIDE

ACTIVE INGREDIENT:	
Glufosinate ammonium*	24.5%**
OTHER INGREDIENTS:	75.5%
TOTAL:	100.0%

*CAS Number 77182-82-2

**Equivalent to 2.34 pounds of active ingredient per gallon

Shake Well, Agitate or Recirculate Before Use

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

SEE INSIDE BOOKLET FOR ADDITIONAL FIRST AID AND PRECAUTIONARY STATEMENTS

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

FIRST AID

IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

NOTE TO PHYSICIAN

If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

EPA Reg. No. 228-743

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

Nufarm
Grow a better tomorrow

1 91662 01483 9

Net Contents

2.5 Gal.

(9.46 L)

Nonrefillable Container

15484000

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing. Avoid breathing vapor. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

• All handlers must wear long-sleeved shirt, long pants, shoes and socks and chemical-resistant gloves.

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

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

ENVIRONMENTAL HAZARDS

Do not apply directly to water or to areas where surface water is present. Do not apply to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate.

This pesticide is toxic to vascular plants and must be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions, this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no tillage to reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands, etc. or on the downhill side of fields where run-off could occur to minimize water run-off is recommended.

PHYSICAL AND CHEMICAL HAZARDS

Do not mix or allow contact with oxidizing agents. Hazardous chemical reaction may occur.

Combustible. Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not use this product until you have read the entire label. 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 requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

In the State of New York Only: Not for use in Nassau and Suffolk Counties.

AGRICULTURAL USE REQUIREMENTS

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

Restricted entry-interval (REI) 12 hours for all post-application.

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

- Coveralls worn over short-sleeved shirt and short pants;
- Chemical resistant gloves;
- Chemical resistant footwear plus socks;
- Protective eyewear (goggles, face shield or safety glasses).

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, or greenhouses. Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

This product may be applied for the control of undesirable plant vegetation, including emerged annual and perennial grass, sedge and broadleaf weeds in a variety of settings. This product is foliar-active with little or no activity in soil. Weeds that emerge after application will not be controlled. Necrosis of leaves and young shoots occur within 2 to 4 days after application under active growing conditions.

RESISTANCE MANAGEMENT

For resistance management, this product is a Group 10 herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 10 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies should be followed.

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

- Rotate the use of this product or other Group 10 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use [and crop rotation] and that considers mechanical control methods, cultural (e.g., timing to favor the turf and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report non-performance or suspected resistance, contact Nufarm at 1-800-345-3330

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. **DO NOT** assume that each listed weed is being controlled by this mechanism of action. Co-formulated active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredients in this product.

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

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

INTEGRATED PEST MANAGEMENT

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

APPLICATION METHODS

When applied as directed in this label, this herbicide controls annual and perennial weeds. Applications may be made on a broadcast, banded or spot treatment basis. Avoid direct spray or drift to desirable vegetation. Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat treatments may be necessary to control plants generating from underground parts or seed.

Application Restrictions:

- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply directly to or allow drift to contact desirable green tissue or green, thin, or uncalloused bark of desirable vegetation.
- **DO NOT** allow grazing of vegetation treated with this product.

Application Precautions:

- Uniform, thorough spray coverage is necessary to achieve consistent weed control.
- This product is rainfast 4 hours after application to most weed species; therefore, rainfall within 4 hours may necessitate retreatment or may result in reduced weed control.
- Weed control may be reduced if application is made when heavy dew, fog, and mist/rain are present; or when weeds are under stress due to environmental conditions including drought, cool temperatures, or extended periods of cloudiness.
- Plants may be safely planted into treated areas after spray has dried.

Compatibility Testing:

- If this product is to be mixed with pesticides, test the compatibility of the intended tank mixture prior to mixing the products in the spray tank. The following procedure assumes a spray volume of 25 gallons per acre. For other spray volumes, adjust the amount of the water used accordingly. Check compatibility as follows:
- Place 1 pint of water from the source that will be used to prepare the spray solution in a clear 1-quart jar.
- For each pound of a dry tank mix partner to be applied per acre, add 1.5 teaspoons to the jar.
- For each 16 fl. oz. of a liquid tank mix partner to be applied per acre, add 0.5 teaspoon to the jar.
- For each 16 fl. oz. of this product to be applied per acre, add 0.5 teaspoon to the jar.
- After adding all the ingredients, place a lid on the jar and tighten. Invert 10 times to mix.
- Let the mixture stand for 15 minutes and evaluate the solution for uniformity and stability. Look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. If the tank mix partners are not compatible, **DO NOT** use the mixture in a spray tank.
- After compatibility testing is complete, dispose of any pesticide wastes in accordance with the STORAGE AND DISPOSAL section of this label.

MIXING INSTRUCTIONS:

Tank Mix Instructions: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Prior to adding this product to the spray tank, ensure that the spray tank is thoroughly clean, particularly if an herbicide with the potential to injure crops was previously used (see Cleaning Instructions).

Mix this product with water to make a finished spray solution as follows:

1. Properly calibrate and clean equipment
2. Fill the spray tank half full with water.
3. Start agitation.
4. If mixing with a flowable/wettable powder tank mix partner, prepare a slurry of the proper amount of the product in a small amount of water. Add the slurry to the spray tank.
5. If hard water is a concern, add 17 lbs per 100 gallons of spray solution of ammonium sulfate (AMS) to the spray tank. No surfactant is required when applying this product.
6. If mixing with a liquid tank mix partner, add the liquid mix partner next.
7. Complete filling the spray tank with water before adding this product, as foaming may occur.
8. Add the proper amount of this product and continue agitation.
9. If foaming occurs, use a silicone-based antifoam agent.

Ensure that all spray system lines including pipes, booms, etc. have the correct concentration of spray solution by flushing out the spray system lines before starting the crop application. Maintain good agitation at all times until contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying is resumed. Keep bypass line on or near bottom of tank to minimize foaming. Screen size in nozzles or line strainers must be 50 mesh or larger.

Cleaning Instructions:

Before using this product, thoroughly clean bulk storage tank, refillable tank, nurse tanks, spray tank, lines, and filter, particularly if an herbicide with the potential to injure crops was previously used. Thoroughly rinse equipment using a commercial tank cleaner and as instructed on the prior herbicide label.

After using this product, triple rinse the spray equipment and clean with a commercial tank cleaner before using the equipment. Make sure any rinsate or foam is thoroughly removed from spray tank and boom. Rinsate may be disposed following the pesticide disposal directions on this label.

MANDATORY SPRAY DRIFT

- When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor blade vortices. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- When applying to crops via aerial application equipment, applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.
- For aerial applications, do not release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is required for pilot safety.
- For ground applications and aerial applications, select nozzle and pressure that deliver medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.
- Spray the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 24 inches above target pest or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.
- For non-crop vegetation management ground applications, apply with the nozzle height no more than 4 feet above the ground or target vegetation, unless necessitated by the application equipment. Examples would include roadside, railroad, utility rights of way, forestry and other industrial vegetation management applications where safety or natural barriers obstruct application.

SPRAY DRIFT ADVISORIES

POLLINATOR ADVISORY STATEMENT

This product contains an herbicide. Follow all label directions and precautions to minimize potential off-target exposure in order to prevent effects to non-target plants adjacent to the treated site which may serve as habitat or forage for pollinators.

SPRAY DRIFT MANAGEMENT

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

- Importance of Droplet Size

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

- Techniques for Controlling Droplet Size
- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrow spray angles produce larger droplets. Consider using low-drift nozzles.
- Controlling Droplet Size – Aircraft
- Number of Nozzles –Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations. AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.
- Nozzle Type – Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length – Longer booms increase drift potential. Therefore a shorter boom length is recommended.
- Application height – Application more than 10 ft. above the canopy increases the potential for spray drift.
- Boom Height

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

- Drift Reduction Technology (DRT)

The EPA Drift Reduction Technology (DRT) Program was developed to encourage the manufacturer, marketing, and use of spray technologies scientifically verified to significantly reduce pesticide drift. The use of DRTs should result in significantly less pesticide from spray applications drifting and being deposited in areas not targeted by those applications, compared to spray technologies that do not meet the minimum DRT standard. EPA-verified drift reduction technologies (DRTs) and their ratings will be added to the following webpage when they become available:

https://www.epa.gov/reducing-pesticide-drift/epa-verified-and-rated-drift-reduction-technologies

• Wind

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS. Note: Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

• Temperature and Humidity

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

• Temperature Inversions

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

• Shielded Sprayers

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

NON-AGRICULTURAL USE SITES AND APPLICATION DIRECTIONS

When applied as directed, this product non-selectively controls undesirable plant vegetation on private, public and military lands in the following areas: airfields, airports, alleys, lanes, paths, trails, access roads, around commercial or industrial structures or outbuildings, around farm and ranch structures and outbuildings, around ornamental gardens, around ornamental trees and shrubs (including Christmas trees), site preparation areas for conifer and hardwood, bare ground, beaches*, campgrounds, construction sites, ditch banks, barrier strips, drive-in theaters, driveways and ramps, dry ditches and canals, fences and fencerows, firebreaks, golf courses (excluding greens, tees, aprons, fairways and roughs)*, gravel yards, Conservation Reserve Program (CRP)*, habitat restoration and management areas, highways and roadsides (including aprons, medians, guardrails and right of ways), industrial plant sites, industrial areas, lumber yards, greenhouses and shade houses, landscapes and mulched areas, natural areas, parking areas, parks, paved areas, petroleum and other tank farms, pumping installations, pipeline, power, telephone and utility rights-of-way, sewage disposal areas, fuel storage areas, power stations, preplant to turf and ornamental plants, railroad rights-of way, recreation areas, refineries, resorts, schools, sidewalks, sports areas, storage areas, substations, tennis courts, shelter belts, uncropped farmstead areas, vacant lots, walkways, wastelands, wildlife openings, wildlife habitat areas, wildlife food plots*

*Not for use in CA

RESTRICTIONS

Maximum Rate – Annual

• **DO NOT** apply more than 246 fl. oz./A per year (4.5 lb. ai/A/year).

Maximum Rate – Single Application

• **DO NOT** apply more than 82 fl. oz./A per single application (1.5 lb. ai/A/application).

Maximum Number of Applications Per Year

DO NOT apply more than a total of 3 broadcast applications (excluding spot treatments) per year. **DO NOT** exceed a maximum total of 4.5 lb. ai/A/year.

Re-treatment Interval:

• Minimum re-treatment interval is 5 days.

APPLICATION RATES

Mix 0.5 to 2.0 fl. oz. (0.009 to 0.036 lb. ai) of this product per gallon of spray solution (24 to 82 fl. oz./A (0.44 to 1.5 lb. ai/A) and apply 1 gallon of spray solution to 1,000 square feet to actively growing weeds. Adjust application rate as needed when using spray volumes delivering greater or less than 1 gallon per 1,000 square feet. Determine proper use rate based on weed size in Table 1. Larger weeds will require a higher use rate and see Table 1 for details.

Table 1: USE RATE FOR THIS HERBICIDE

Apply this product at the rates listed below for broadcast applications based on weed size and stage of growth.

Weed Size and Stage	Rate of this product (Per Gallon of Water)	Rate of this product (Per 1,000 sq. ft.)	Rate of this product Per Acre)	Spot Spray % Solution
Easily Controlled Weeds < 3 in height*	0.5 fl. oz. (0.009 lb. ai)	0.5 fl. oz. (0.009 lb. ai)	24 fl. oz./A (0.44 lb. ai)	0.5
Weeds < 3 in height	1.0 fl. oz. (0.018 lb. ai)	1.0 fl. oz. (0.018 lb. ai)	48 fl. oz./A (0.88 lb. ai)	0.5-0.75
Weeds < 6 in height pre-tiller grasses	1.25 fl. oz. (0.023 lb. ai)	1.25 fl. oz. (0.023 lb. ai)	56 fl. oz./A (1.0 lb. ai)	0.75-1.25
Weeds > 6 in height and/or grasses that have tillered	1.25 to 2.0 fl. oz. (0.023 to 0.036 lb. ai)	1.25 to 2.0 fl. oz. (0.023 to 0.036 lb. ai)	56 to 82 fl. oz./A (1.0 to 1.5 lb. ai)	1.25-1.5

*See Weeds Controlled Table below for details.

For spot or directed spray applications by backpack sprayers, mix this product at 0.5 to 2.0 fl. oz. of product (0.009 to 0.036 lb. ai) per gallon of water. Larger and more difficult to control weeds require a higher use rate. When using the per gallon rate, calibrate sprayers to deliver 1 gallon of spray solution per 1,000 square feet. Adjust application rate as needed when using spray volumes delivering greater or less than 1 gallon per 1,000 square feet. Thorough spray coverage of weeds is necessary to maximize weed control. Spray coverage needs to be uniform, but **DO NOT** spray to the point of runoff. Thoroughly clean the sprayer following use. **DO NOT** make spot or directed spray applications to desired plant foliage or stems as injury may occur.

Use Restrictions:

- **DO NOT** apply this product within any enclosed structure in residential or commercial landscapes.
- **DO NOT** apply this product over-the-top as a broadcast application to ornamentals, conifers or hardwood plantings.
- **DO NOT** apply this product over-the-top of ornamental plants, and **DO NOT** allow spray of this product to contact or drift onto the foliage, green stems, exposed roots or fruit of desirable plants. Avoid application of this product under conditions that favor drift of sprays onto desired ornamentals or residential lawns.

This product offers postemergence control of susceptible grasses, sedges and broadleaf weeds (See WEEDS CONTROLLED Table), as well as additional mode of action to assist in the control of resistant weeds.

IMPORTANT: Contact with spray or spray drift of this product may cause severe injury or destruction of certain desirable plants, especially herbaceous species including bedding plants or direct seeded annual and perennial flowers. The use of spray shields that limit the plant exposure to this product is highly advised when applying this product near desirable plants.

Trim and Edge: This product may be used to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a nursery setting, along fences, in dry ditches and canals, and prior to planting landscape ornamentals.

Site Preparation: Following preplant applications of this product, any ornamental, nursery species or Christmas Tree species may be planted. Precautions need to be taken to protect nontarget plants during site preparation applications.

Greenhouse: This product may be used to control weeds listed on this label which are growing in greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Industrial: This product may be used to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way, and wayside structures. This product may be tank mixed with other herbicides for these use sites unless specifically prohibited by the product label.

Conservation Reserve Program (CRP)*: This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres. For selective applications with broadcast spray equipment, apply 48 to to 56 fl. oz./A (0.88 to 1.0 lb. ai/A) of this product in early spring before desirable CRP grasses, including crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

* Not for use in CA

Wildlife Food Plots*: This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling.

* Not for use in CA

Dormant Bermudagrass and/or Bahiagrass*: When applied to dormant Bermudagrass and/or Bahiagrass*, this product will provide control or suppression of many winter annual weeds. Treat with 56 to 82 fl. oz./A (1.0-1.5 lb. ai/A) only when turfgrass is fully dormant in late fall or winter and prior to spring green-up. Spot treatments or broadcast applications of this product to non-dormant turfgrass may result in injury or delayed green-up. Avoid high volume and spot applications where spray volume exceeds 80 gallons per acre or injury or delayed green-up may occur. Applications to residential lawns are limited to spot treatments only. The maximum application rate must not exceed 4 fl. oz./gal. of water/1000 sq. ft. (corresponding to a rate of 0.0312 lb. ai/100 sq. ft.). Applications for renovating Bermudagrass lawns must be conducted when the weather is cool and Bermudagrass is dormant.
*Not for use in CA

HOW TO APPLY

Use of Spray Adjuvants: The addition of a nonionic antifoaming agent may reduce foaming, especially when using soft water. The use of Methylated seed oil (MSO) at 1% v/v (1 gal. per 100 gal. of spray solution) or non-ionic surfactant (NIS) at a minimum rate of 0.25% v/v (1 qt. per 100 gal. of spray solution) may be used for foliar applications. The addition of 8.5 to 17.0 lbs. of ammonium sulfate (spray grade) per 100 gal. of water (1 to 2% by weight) or 2 to 4 lbs. of ammonium sulfate per acre may result in better weed control.

Tank Mixtures: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

This herbicide can be tank mixed with other non-selective herbicides including glyphosate and preemergence residual herbicides including flumioxazin. Follow the most restrictive label restrictions and precautions for each product. A combination with a residual herbicide including flumioxazin provides effective control of existing weeds as well as lasting residual weed control in areas including landscape beds and xeriscapes.

WEEDS CONTROLLED

Alfalfa+
Alkali sida
Amaranth, Palmer+
Ammannia, purple
Anoda, spurred*^
Arrowhead, California
Artichoke, Jerusalem+
Aster, white heath
Bahiagrass
Barley, volunteer*^
Barnyardgrass*
Beggarweed, Florida+
Bermudagrass+
Bindweed, field
Bindweed, hedge
Black medic+
Bluegrass, annual
Bluegrass, Kentucky
Blueweed, Texas+
Brome, ripgut
Bromegrass, downy
Bromegrass, smooth
Buckwheat, wild
Buffalobur
Bulrush***
Burclover, California
Burcucumber+
Burdock
Bursage, woolyleaf+
Canarygrass
Carpetgrass
Carpetweed
Catchweed bedstraw (cleavers) *^
Chess, soft
Chickweed, common
Chickweed, mouse-ear+
Chinese thornapple
Clover, Alsike
Clover, red
Clover, white
Cocklebur, common
Copperleaf, hophornbeam+
Copperleaf, Virginia
Corn, volunteer+
Cotton, volunteer+
Crabgrass, large*^
Crabgrass, smooth*^
Croton, tropic*^
Croton, woolly*^
Cudweed
Cupgrass, woolly
Cutleaf eveningprimrose
Dallisgrass
Dandelion
Devil's claw*^
Dock, curly
Dock, smooth+
Dodder
Dogbane (hemp)
Eclipta
Fescue
Fleabane, annual
Fiddleneck
Filaree
Filaree, redstem
Foxtail, bristly+
Foxtail, giant
Foxtail, green
Foxtail, robust purple+
Foxtail, yellow*^
Gallinsoga, hairy+
Gallinsoga, small flower+
Geranium, cutleaf+
Goosefoot
Goosegrass*^
Goldenrod, gray
Gromwell, field
Groundcherry, cutleaf
Groundsell, common
Guineagrass
Hempnettle+
Henbit
Horsenettle, Carolina*^
Horsetail
Johnsongrass, rhizome+
Johnsongrass, seedling*^
Jimsonweed
Junglerice*^
Knotweed*^
Kochia
Ladysthumb+
Lambsquarters, common
Lettuce, miners
Lettuce, prickly
London rocket
Lovegrass
Mallow, common
Mallow, Venice+
Malva (little mallow)
Marestail
Marshelder, annual+
Mayweed
Milkweed, common***+
Milkweed, honeyvine***+
Millet, wild proso+
Millet, proso volunteer+
Morningglory, entireleaf
Morningglory, ivyleaf
Morningglory, pitted
Morningglory, sharppod*^
Morningglory, smallflower+
Morningglory, tall+
Mugwort
Muhly, wirestem***+
Mullein, common
Mullein, turkey
Mustard, tansy
Mustard, wild
Nettle
Nightshade, black
Nightshade, eastern black
Nightshade, hairy
Nightshade, silverleaf+
Nutsedge, purple
Nutsedge, yellow
Oat, wild*^
Onion, wild
Orchardgrass
Panicum, fall*^
Panicum, Texas
Paragrass
Pennycress
Pigweed, redroot*^
Pigweed, prostrate*^
Pigweed, spiny*^
Pigweed, smooth*^
Pigweed, tumble*^
Pineapple weed
Plantain
Pointsettia, wild+
Poison ivy/oak
Pokeweed+
Puncturevine

(continued)

WEEDS CONTROLLED *(continued)*

Purslane, common*^
Pusley, Florida+
Quackgrass
Radish, wild
Ragweed, common
Ragweed, giant
Ragweed, Parthenium+
Redmaids
Rocket, yellow
Rose, wild
Rubus spp.
Rice, red+
Rice, volunteer+
Rush, toad***
Ryegrass, annual**
Sandbur, field
Senna coffee+
Shattercane
Shepherd's Purse
Sicklepod (java bean)+
Sida, prickly+
Signalgrass, broadleaf*^
Smartweed, Pennsylvania
Smellmelon+
Sowthistle, annual
Sowthistle, perennial+
Soybean, volunteer+
Sprangletop
Spurge, prostrate*^
Spurge, leafy
Spurge, spotted*^
Starbur, bristly+
Starthistle, yellow
Stinkgrass
Sunflower, common
Sunflower, prairie*^
Sunflower, volunteer
Swinecress
Thistle, bull
Thistle, Canada
Thistle, musk
Thistle, Russian
Timothy+
Torpedograss
Turnip, wild
Vaseygrass
Velvetleaf*^
Vervain
Vetch
Waterhemp, common+
Waterhemp, tall+
Wheat, volunteer
Willowherb, panicle
Windgrass
Witchgrass
Woodsorrel
Wormwood, biennial+
Yarrow, common

+Not for use in CA
^Use rate in CA 24 fl. oz./A (0.44 lb. ai)
*easily controlled species
**apply to annual ryegrass prior to 3 inches in height
**indicates suppression only

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not use or store near heat or open flame. Keep container tightly closed and dry in a cool, well ventilated place. Storage temperature must not exceed 125° F. If storage temperature of this product is below 32° F, the material must not be pumped until its temperature exceeds 32° F. Protect against direct sunlight.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. 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:

NOTE: This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "No refillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type / size.

Non-refillable Containers 5 Gallons or Less: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Non-refillable Containers Larger than 5 Gallons: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Containers Larger than 5 Gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Refillable Container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

RV120219

GLUFOSINATE-AMMONIUM | GROUP 10 | HERBICIDE

Cheetah® Pro

A COMPLETE BROAD SPECTRUM NONSELECTIVE POSTEMERGENCE HERBICIDE

ACTIVE INGREDIENT:	
Glufosinate ammonium*	24.5%**
OTHER INGREDIENTS:	75.5%
TOTAL:	100.0%

*CAS Number 77182-82-2

**Equivalent to 2.34 pounds of active ingredient per gallon

Shake Well, Agitate or Recirculate Before Use

KEEP OUT OF REACH OF CHILDREN

CAUTION

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.)

SEE INSIDE LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE

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

FIRST AID

IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

NOTE TO PHYSICIAN

If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

EPA Reg. No. 228-743

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

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing. Avoid breathing vapor. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

STORAGE AND DISPOSAL

Do not contaminate water, food, feed or seed by storage or disposal. **PESTICIDE STORAGE:** Do not use or store near heat or open flame. Keep container tightly closed and dry in a cool, well ventilated place. Storage temperature must not exceed 125° F. If storage temperature of this product is below 32° F, the material must not be pumped until its temperature exceeds 32° F. Protect against direct sunlight. **PESTICIDE DISPOSAL:** Pesticide wastes are toxic. 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: NOTE:** This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "No refillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type / size. **Non-refillable Containers 5 Gallons or Less:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. **Non-refillable Containers Larger than 5 Gallons:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **Refillable Containers Larger than 5 Gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Refillable Container:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

PULL HERE TO OPEN

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