

School Pest Management Policy Statement

Structural and landscape pests can pose significant hazards to people, property and the environment. Pesticides can also pose hazards to people, property, and the environment. It is therefore the policy of Summit Hill School District 161 to incorporate Integrated Pest Management (IPM) procedures for control of pests and to give notification of any pesticide application deemed necessary. This policy has been developed to ensure the health and safety of children, teachers, staff, administration and all others using the district buildings and grounds.

Structural and landscape pests can pose significant hazards to people, property and the environment. Pesticides can also pose hazards to people, property, and the environment. It is therefore the policy of Summit Hill School District 161 to incorporate Integrated Pest Management (IPM) procedures for control of pests and to give notification of any pesticide application deemed necessary. This policy has been developed to ensure the health and safety of children, teachers, staff, administration and all others using the district buildings and grounds.

Structural and landscape pests can pose significant hazards to people, property and the environment. Pesticides can also pose hazards to people, property, and the environment. It is therefore the policy of Summit Hill School District 161 to incorporate Integrated Pest Management (IPM) procedures for control of pests and to give notification of any pesticide application deemed necessary. This policy has been developed to ensure the health and safety of children, teachers, staff, administration and all others using the district buildings and grounds.

Note: This policy is based on policies developed by the USEPA and the IDPH. Several other states where IPM is mandated by law have also advised similar policies for school board adoption.

State Law

According to state law:

1. Schools are required to adopt an integrated pest management program (IPM) indoors. A school may be exempt from the requirement if it demonstrates to the IDPH that IPM will cost the school more than it is currently paying for pest control.
2. Schools must provide notification to parents, guardians and school employees prior to the application of pesticides inside the school buildings.
3. Schools are required to provide notification prior to the application of pesticides on school grounds.
4. The notification can be provided through written notices to parents and staff who register to be notified or through written notification in newsletters, bulletins, calendars or other correspondence currently published by the school district.

The United State Environmental Protection Agency (USEPA) and the National PTA encourage Integrated Pest Management in schools.

Pests

Pests are living organisms (animals, plants or microorganisms) that interfere with human uses for the school site. Strategies for managing pest populations will be influenced by the pest species and the degree to which that population poses a threat to people, property, or the environment.

Pest Management

Pests will be managed to:

- Reduce any potential human health hazard or to protect against a significant threat to public safety;
- Prevent loss or damage to school structures or property;
- Prevent pests from spreading in the community or to plant and animal;
- Enhance the quality of life for students, staff and others.

Integrated Pest Management Procedures

IPM procedures will determine when to control pests and whether to use mechanical, physical, cultural, biological or chemical means. Chemical controls information on the pest and its environment and the best available pest control methods. Applying IPM principles prevents unacceptable levels of pest activity and damage by the most economical means and with the least possible hazards to people, property, and the environment.

The choice of using a pesticide will be based on a review of all other available options and a determination that these options are not acceptable or not feasible. Cost or staffing considerations alone will not be adequate justification for use of chemical control agents. Selected non-chemical pest management methods will be implemented whenever possible. It is the policy of this School District to utilize IPM principles to manage pest populations adequately. The full range of alternatives, including no action, will be considered.

Pesticide Application

When it is determined that a pesticide must be used to meet important management goals, the least hazardous material and method of application will be chosen. The application of such pesticides is subject to the Federal Insecticide, Fungicide and Rodenticide Act (7 USC '136 et seq.), School District policies and procedures, USEPA regulations in 40 CFR, Occupational Safety and Health Administration regulations, and state and local regulations. No routinely scheduled (e.g. seasonal, monthly, or weekly) pesticide applications will be made. Pesticide applications that have the potential to become airborne should not be made while school or school activities are in progress.

Contractors

The district will provide notification to all current district pest control, construction and landscape contractors of the need to adhere to the district's IPM policy in any pest control, planning, new construction, repair or maintenance work done for the district. Any pest control contractors hired will be required to inspect for conditions conducive to pest problems and develop appropriate prevention measures, not simply apply control materials. Pest control contractors will be expected to write recommendations for structural improvements or repairs and housekeeping and sanitation measures required to reduce or prevent recurrence of pest problems. Pesticide use by contractors will be done only with the approval of the IPM Coordinator as per this policy.

IMP Coordinator

The district shall appoint the Supervisor of Buildings and Grounds, IPM Coordinator. The IPM Coordinator shall have primary responsibility for ensuring that this IPM policy is carried out. Duties shall include: 1) Coordination with custodial, building and grounds maintenance staff to ensure implementation of pest prevention measures; 2) Oversight of IMP/pest control contractors or staff engaged in monitoring of pest problems and in pest management actions; 3) Coordination with principals and district training provisions in this policy; 4) Presentation of an annual report to the School Board evaluating the progress of the IPM program.

Education

Staff, students, pest managers and the public will be educated, as needed, about potential school pest problems and the IPM policies and procedures to be used to achieve the desired pest management objectives.

Record keeping

Records of pesticide use shall be maintained on site to meet the requirement of the state regulatory agency and School Board. Additionally, records of all pest control actions are to be maintained including information on the number of pests or other indicators of pest activity that can verify the need for action. Records shall be made available upon request to school staff and the general public.

Notification

This School District takes the responsibility to notify students, parents or guardians, and the school staff of upcoming pesticide treatments. Notice will be given to all parents and staff and those registered to be notified 48 hours prior to application. Those interested in being notified by US Mail should submit a written request to:

Supervisor of Buildings and Grounds
Summit Hill School District 161
20100 South Spruce Drive
Frankfort, Illinois 60423

Pesticide Storage and Purchase

Pesticide purchased will be limited to the amount authorized for available use during the year. Pesticides will be stored and disposed of in accordance with the USEPA registered label directions and state regulations. Pesticides must be stored in an appropriate, secure site not accessible to students or unauthorized personnel.

Pesticide Applicators

Any individual applying pesticides in the school must be educated and trained in the principles and practices of IPM and the use of pesticides allowed by this School District, and they must follow regulations and label precautions. The School District requires that applicators be certified and comply with this School District IPM policy and Pest Management Plan.

SECTION I
STATEMENT OF INTENT

STATEMENT OF INTENT

It is the intent of Summit Hill School District 161 to supply the most accurate and helpful information possible. We have attempted to gain a clear and concise understanding of the Pest Management Control-IPM Act and the Illinois Department of Public Health Structural Pest Management Act and Rules and Regulations. We have applied these rules to the best of our ability in order to produce a realistic representation of each building's common pest's status. We believe that we have complied with the requirements of IPM. Should-any pertinent information concerning the location or condition of pesticide containing material in error, it is our intent to make the necessary changes in information.

SECTION II
SURVEILLANCE REPORTS

Integrated Pest Management – Checklist

Date:
School:
Complaint:
Location:
Walk through:

[illegible]

Note:

C: Business Manager. Principal. Head Custodian

SECTION III OPERATIONS AND GENERAL MAINTENANCE

OPERATIONS AND GENERAL MAINTENANCE

Scheduled maintenance

Winter

December

Summer

June

During scheduled maintenance the following will be completed

- Surveillance inspection reports completed prior to non-attendance times (winter and summer break)
- Posting and notification of application of products (if warranted by inspection)
- Application of posted products
- Reinspection

SECTION IV

PESTICIDES

PESTICIDES

Products:

Real Kill Wasp & Hornet Killer

ProSedge

Ranger Pro

Triclopyr 3A

Broadstar

Trimec Classic

ProDeuce

SECTION V
MATERIAL SAFETY
DATA SHEETS
(MSDS)

Realex
Division of United Industries Corp.
P. O. Box 142642
St. Louis, MO 63114-0642

**Hazardous Material Identification
System – (HMIS)**

HEALTH – 1

REACTIVITY – 0

FLAMMABILITY – 2

PERSONAL –

Material Safety Data Sheet

Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200

I Trade Name: Real-Kill® Wasp & Hornet Killer₃

Product Type: Aerosol insecticide

Product Item Number: HG-95949A

Formula Code Number: 21-0897/21-0666

EPA Registration Number

Manufacturer

Emergency Telephone Numbers

9688-233-478

Chemsico
Division of United Industries Corporation
8494 Chapin Industrial Drive
St. Louis, MO 63114

For Chemical Emergency: 1-800-633-2873
For Information: 1-800-897-8524
Prepared by: Charlie Duckworth
Date Prepared: September 2, 2010

II Hazards Ingredient/Identity Information

Chemical	%	OSHA PEL	ACGIH TLV
Mineral spirits CAS# 8012-95-1	4.00	100 ppm	100 ppm
Propylene glycol monobutyl ether CAS# 5131-66-8	6.00	None	None
Lambda-cyhalothrin CAS# 91465-08-6	0.01	NA	NE
d-trans allethrin CAS# 28434-00-6	0.05	NE	NE
Hydrocarbon Propellant blend CAS #75-28-5/106-97-8/ 74-98-6	5.00	NE	NE

III Physical and Chemical Characteristics

Appearance & Odor:	Wet narrow fan spray with clear wet film and glycol ether odor.
Boiling Point:	NA
Melting Point:	NA
Vapor Pressure:	110 psig at 54° C/130° F
Specific Gravity:	0.993 (H ₂ O = 1)
Vapor Density:	Greater than 1 (Air = 1)
Solubility in Water:	Greater than 87%
Evaporation Rate:	Less than 1 (Butyl Acetate = 1)

IV Fire and Explosive Hazards Data

Flash Point:	119° F (TCC) (liquid portion)
Flame Extension:	0-inches (Level 1 Aerosol)
Flammable Limits:	NA
Autoignition Temperature:	NA
Fire Extinguishing Media:	Water fog, Carbon dioxide, Dry chemical
Decomposition Temperature:	NA
Special Fire-Fighting Procedures:	Keep cans cool. Use equipment or shielding to protect personnel against bursting, rupturing or venting cans.
Unusual Fire & Explosion Hazards:	At elevated temperatures (over 54° C/130° F), cans may vent, rupture or burst. Also see Section V.

V Reactivity Data

Stability:	Stable
Polymerization:	Will not occur
Conditions to Avoid:	Temperatures over 130° F
Incompatible Materials:	NA
Hazardous Decomposition or Byproducts:	Carbon dioxide, carbon monoxide

VI Health Hazard Data

Eye Contact:	Causes moderate eye irritation. First Aid: 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.
Special Notes:	Have the product container with you when calling a Poison Control Center or doctor, or going for treatment.
Health conditions Aggravated by Exposure:	None known
Ingredients listed by NTP, OSHA, or IARC as Carcinogens or Potential Carcinogens:	None

VII Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled:	Avoid breathing vapors. Avoid contact with liquid. Remove ignition sources. Soak up spills with absorbent material.
Waste Disposal:	Do not puncture or incinerate containers. If empty: Place in trash or offer for recycling if available. If partly filled: Call local solid waste agency for disposal instructions.
Handling & Storage Precautions:	Do not store where temperatures can exceed 54° C/130° F.

VIII Control Measures

Read and follow label directions. They are your best guide to using this product effectively, and give necessary safety precautions to protect your health.

IX Transportation Data

DOT:	Consumer Commodity, Hazard Class ORM-D (Limited Quantity Exception)
IMDG:	Aerosols (Maximum 1 Liter), Hazard Class 2, UN-1950, Packing Group III
IATA:	Aerosols, Flammable, Containing Substances in Division 6.1, Packing Group III (Each Not Exceeding 1 Liter Capacity), Hazard Class 2.1, UN-1950, Packing Group III

The information and statements herein are believed to be reliable but are not to be construed as warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

SAFETY DATA SHEET

Prosedge Selective Herbicide



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Prosedge Selective Herbicide

EPA Reg. No.: 228-702

Product Type: Herbicide

Company Name: Nufarm Americas Inc
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

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 exactly the same as on the FIFRA label. Certain sections 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:

Not hazardous

HEALTH HAZARDS:

Acute toxicity / Oral

Category 4

Eye damage/irritation

Category 2B

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute

Category 1

Hazardous to aquatic environment, chronic

Category 1

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

Harmful if swallowed. Causes eye irritation. Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

IF SWALLOWED: Call a poison control center/doctor if you feel unwell. Rinse mouth.

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.

Collect spilled material.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Halosulfuron-methyl	100784-20-1	73 – 77
Kaolin	1332-58-7	8 – 13
Silica, amorphous precipitated	112926-00-8	< 3.0
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Mixture containing Halosulfuron methyl (Methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl)-1-methylpyrazole-4-carboxylate)

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

4. FIRST AID MEASURES

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. Get medical attention if irritation occurs and persists.

If Swallowed: 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. If symptoms develop, get medical advice.

If on Skin or Clothing: Take off contaminated clothing. Wash with soap and water. Get medical attention if irritation develops and persists.

If Inhaled: Move person to fresh air. If symptoms develop, get medical advice.

Most important symptoms/effects, acute and delayed: May cause mild eye irritation. Prolonged or repeated inhalation may cause lung damage or cancer.

Indication of immediate medical attention and special treatment if needed: For ingestion there is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

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 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, hydrogen, nitrogen and sulfur.

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.

Other 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:

Avoid contact with eyes or clothing. 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

SAFETY DATA SHEET

Prosedge Selective Herbicide

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:

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Do not contaminate water, food or feed 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. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves. Washing facilities should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

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:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Halosulfuron-methyl	NE	NE	NE	NE	
Kaolin	15 (T) 5 (R)	NE	2.0 (R)	NE	mg/m ³
Silica, amorphous precipitated	80 mg/m ³ %SiO ₂	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

T= Total Dust

R= Respirable Fraction

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige colored granules
Odor:	Scorched vanilla odor
Odor threshold:	No data available
pH:	6.6 (1% w/w dispersion in DIW)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
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:	Not applicable
Relative density:	0.65 g/cc
Solubility(ies):	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	Not applicable due to product form (solid)

SAFETY DATA SHEET

Prosedge Selective Herbicide

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: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, hydrogen, nitrogen and sulfur.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact

Symptoms of Exposure:

Eye Contact: Moderately irritating based on toxicity studies.

Skin Contact: Mildly toxic and non-irritating based on toxicity studies.

Ingestion: Slightly toxic based on toxicity studies.

Inhalation: Low inhalation toxicity.

Delayed, immediate and chronic effects of exposure: None expected.

Toxicological Data:

Data from laboratory studies on a substantially similar but not identical product are summarized below:

Oral: Rat LD₅₀: >1,287 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >5.7 mg/L

Eye Irritation: Rabbit: Moderately irritating

Skin Irritation: Rabbit: Slightly irritating

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to halosulfuron-methyl may cause decreased body weight gain and decreased liver weights.

Carcinogenicity / Chronic Health Effects: There was no evidence of carcinogenicity in animal studies using halosulfuron-methyl.

Reproductive Toxicity: Animal tests with halosulfuron-methyl have not demonstrated reproductive effects.

Developmental Toxicity: Animal tests with halosulfuron-methyl have not demonstrated developmental effects.

Genotoxicity: There have been some positive and negative studies, but the weight of evidence is that halosulfuron-methyl is not mutagenic.

Assessment Carcinogenicity:

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

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Halosulfuron Methyl	No	No	No	No
Kaolin	A4	No	No	No
Silica, amorphous precipitated	No	No	No	No
Other Ingredients	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Halosulfuron-methyl:

Bluegill 96-hour LC₅₀: >118 mg/l

Rainbow Trout 96-hour EC₅₀: >131 mg/l

Daphnia 48-hour EC₅₀: >107 mg/l

Green Algae 5-day EC₅₀: 0.0041 mg/l

Environmental Fate:

Degradation half-lives of Halosulfuron is temperature and pH dependent. Halosulfuron can persist in soil under cooler, milder climate conditions and acidic soil conditions. Soils with low organic matter content, heavy rainfall

SAFETY DATA SHEET

Prosedge Selective Herbicide

events could cause Halosulfuron to move to ground water in shallow aquifers. Halosulfuron could contaminate surface water by dissolved runoff following a heavy rainfall event. Aerobic soil metabolism and hydrolysis studies indicate that Halosulfuron degrades rapidly in soil and water. Halosulfuron hydrolyzes with a half-life of < 28 days at pH 5-9. Aerobic soil metabolism results in the formation of 2 major degradates (aminopyrimidine and 3-chlorosulfonamide ester).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling and Disposal:

COMMERCIAL:

Plastic Bottle Packaging: Nonrefillable container. Do not reuse or refill this container. 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank. 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 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. Once triple rinsed, recycle if available. Some agricultural pesticide containers can be taken to a container collection site or pick up for recycling. To find the nearest site, contact your chemical dealer or manufacturer. If recycling is not available, dispose of in a sanitary landfill or by incineration if allowed by state and local ordinances.

Water Soluble Packaging: Nonrefillable container. Do not reuse or refill this container. Completely use water soluble bags in application equipment. Then offer for recycling if available, or dispose of empty foil pouch and cardboard box in a sanitary landfill, or by incineration, or by burning, if allowed by state and local authorities. If burned, stay out of smoke.

RESIDENTIAL:

Plastic Bottle Packaging: Nonrefillable container. Do not reuse or refill this container. **If empty:** Place in trash or offer for recycling if available. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.

Water Soluble Packaging: Nonrefillable container. Do not reuse or refill this container. Completely use water soluble bags in application equipment. Then offer for recycling if available, or dispose of empty foil pouch and cardboard box in a sanitary landfill, or by incineration, or by burning, if allowed by state and local authorities. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

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

DOT

Non Regulated

IMDG

UN 3077, Environmentally hazardous substance, solid, nos, (Halosulfuron-methyl), 9, III, Marine Pollutant

IATA

UN 3077, Environmentally hazardous substance, solid, nos, (Halosulfuron-methyl), 9, III,

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

SAFETY DATA SHEET

Prosedge Selective Herbicide

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.

COMMERCIAL:

CAUTION. Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

RESIDENTIAL:

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Applicators and all other handlers must wear long-sleeved shirt, long pants, shoes, plus socks. User should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. User should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 0 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: July 8, 2015

Supersedes:

May 20, 2015

July 8, 2015

Page 6 of 6

MONSANTO COMPANY

Material Safety Data Sheet Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

Ranger® PRO Herbicide

EPA Reg. No.

524-517

Product use

Herbicide

Chemical name

Not applicable.

Synonyms

None.

Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, **Fax:** 314-694-5557

Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).

FOR MEDICAL EMERGENCY - Day or Night: 314-694-4000 (collect calls accepted).

2. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate}

Composition

COMPONENT	CAS No.	% by weight (approximate)
Isopropylamine salt of glyphosate	38641-94-0	41
Other ingredients		59

The specific chemical identity is being withheld because it is trade secret information of Monsanto Company.

OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

Emergency overview

Appearance and odour (colour/form/odour): Amber / Liquid / Sweet

CAUTION!

CAUSES EYE IRRITATION

Potential health effects

Likely routes of exposure

Skin contact, eye contact

Eye contact, short term

May cause temporary eye irritation.

Skin contact, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Refer to section 11 for toxicological and section 12 for environmental information.

4. FIRST AID MEASURES

Eye contact

If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

Skin contact

Take off contaminated clothing, wristwatch, jewellery.
Wash affected skin with plenty of water.
Wash clothes and clean shoes before re-use.

Inhalation

Remove to fresh air.

Ingestion

Immediately offer water to drink.
Do NOT induce vomiting unless directed by medical personnel.
If symptoms occur, get medical attention.

Advice to doctors

This product is not an inhibitor of cholinesterase.

Antidote

Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

Flash point

None.

Extinguishing media

Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.
Environmental precautions: see section 6.

Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (P_xO_y), nitrogen oxides (NO_x)

Fire fighting equipment

Self-contained breathing apparatus.
Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

SMALL QUANTITIES:

Low environmental hazard.

LARGE QUANTITIES:

Minimise spread.

Keep out of drains, sewers, ditches and water ways.

Notify authorities.

Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.

Dig up heavily contaminated soil.

Collect in containers for disposal.

Refer to section 7 for types of containers.

Flush residues with small quantities of water.

Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

Handling

When using do not eat, drink or smoke.

Wash hands thoroughly after handling or contact.

Thoroughly clean equipment after use.

Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.

Emptied containers retain vapour and product residue.

Refer to section 13 for disposal of rinse water.

Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

Storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, aluminium, fibreglass, plastic, glass lining

Incompatible materials for storage: galvanised steel, unlined mild steel, see section 10.

Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.

Partial crystallization may occur on prolonged storage below the minimum storage temperature.

If frozen, place in warm room and shake frequently to put back into solution.

Minimum shelf life: 5 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components	Exposure Guidelines
Isopropylamine salt of glyphosate	No specific occupational exposure limit has been established.
Other ingredients	No specific occupational exposure limit has been established.

Engineering controls

No special requirement when used as recommended.

Eye protection

If there is significant potential for contact:
Wear chemical goggles.

Skin protection

No special requirement when used as recommended.
If repeated or prolonged contact:
Wear chemical resistant gloves.

Respiratory protection

No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	Amber
Form:	Liquid
Odour:	Sweet
Flash point:	None.
Specific gravity:	1.169 @ 20 °C / 15.6 °C
Solubility:	Water: Completely miscible.
pH:	4.4 - 5.0
Partition coefficient (log Pow):	< 0.00 (active ingredient)

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage.

Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

Materials to avoid/Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on similar products and on components are summarized below.

Similar formulation

Acute oral toxicity

Rat, LD50: 5,108 mg/kg body weight
Practically non-toxic.
FIFRA category IV.

Acute dermal toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

No mortality.

Skin irritation

Rabbit, 6 animals, OECD 404 test:

Days to heal: 3

Primary Irritation Index (PII): 0.5/8.0

Essentially non irritating.

FIFRA category IV.

Eye irritation

Rabbit, 6 animals, OECD 405 test:

Days to heal: 3

Slight irritation.

FIFRA category III.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: 2.9 mg/L

Other effects: weight loss, breathing difficulty

Practically non-toxic.

FIFRA category IV.

Skin sensitization

Guinea pig, Buehler test:

Positive incidence: 0 %

N-(phosphonomethyl)glycine; {glyphosate}

Mutagenicity

In vitro and in vivo mutagenicity test(s):

Not mutagenic.

Repeated dose toxicity

Rabbit, dermal, 21 days:

NOAEL toxicity: > 5,000 mg/kg body weight/day

Target organs/systems: none

Other effects: none

Rat, oral, 3 months:

NOAEL toxicity: > 20,000 mg/kg diet

Target organs/systems: none

Other effects: none

Carcinogenicity

Mouse, oral, 24 months:

NOEL tumour: > 30,000 mg/kg diet

NOAEL toxicity: ~ 5,000 mg/kg diet

Tumours: none

Target organs/systems: liver

Other effects: decrease of body weight gain, histopathologic effects

Rat, oral, 24 months:

NOEL tumour: > 20,000 mg/kg diet

NOAEL toxicity: ~ 8,000 mg/kg diet

Tumours: none

Target organs/systems: eyes

Other effects: decrease of body weight gain, histopathologic effects

Toxicity to reproduction/fertility

Rat, oral, 3 generations:

NOAEL toxicity: > 30 mg/kg body weight

NOAEL reproduction: > 30 mg/kg body weight

Target organs/systems in parents: none

Other effects in parents: none
Target organs/systems in pups: none
Other effects in pups: none

Developmental toxicity/teratogenicity

Rat, oral, 6 - 19 days of gestation:

NOAEL toxicity: 1,000 mg/kg body weight
NOAEL development: 1,000 mg/kg body weight
Other effects in mother animal: decrease of body weight gain, decrease of survival
Developmental effects: weight loss, post-implantation loss, delayed ossification
Effects on offspring only observed with maternal toxicity.

Rabbit, oral, 6 - 27 days of gestation:

NOAEL toxicity: 175 mg/kg body weight
NOAEL development: 175 mg/kg body weight
Target organs/systems in mother animal: none
Other effects in mother animal: decrease of survival
Developmental effects: none

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on product and components are summarized below.

Aquatic toxicity, fish

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, static, LC50: 5.4 mg/L
Moderately toxic.

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: 7.3 mg/L
Moderately toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 11 mg/L
Slightly toxic.

Avian toxicity

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet
Practically non-toxic.

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet
Practically non-toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral/contact, 48 hours, LD50: > 100 µg/bee
Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 1,250 mg/kg soil
Practically non-toxic.

N-(phosphonomethyl)glycine: {glyphosate}

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1
No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days
Koc: 884 - 60,000 L/kg
Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

Product

Excess product may be disposed of by agricultural use according to label instructions.
Keep out of drains, sewers, ditches and water ways.
Recycle if appropriate facilities/equipment available.
Burn in proper incinerator.
Follow all local/regional/national/international regulations.

Container

See the individual container label for disposal information.
Emptied containers retain vapour and product residue.
Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.
Empty packaging completely.
Triple or pressure rinse empty containers.
Do NOT contaminate water when disposing of rinse waters.
Ensure packaging cannot be reused.
Do NOT re-use containers.
Store for collection by approved waste disposal service.
Recycle if appropriate facilities/equipment available.
Follow all local/regional/national/international regulations.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not hazardous under the applicable DOT, ICAO/IATA, IMO, TDG and Mexican regulations.

15. REGULATORY INFORMATION

TSCA Inventory

All components are on the US EPA's TSCA Inventory

OSHA Hazardous Components

Surfactant

SARA Title III Rules

Section 311/312 Hazard Categories
Immediate
Section 302 Extremely Hazardous Substances
Not applicable.
Section 313 Toxic Chemical(s)
Not applicable.

CERCLA Reportable quantity

Not applicable.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.
Follow all local/regional/national/international regulations.
Please consult supplier if further information is needed.
In this document the British spelling was applied.

	Health	Flammability	Instability	Additional Markings
NFPA	2	1	1	

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS 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-approved 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, MONSANTO Company 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 the purposes prior to use. In no event will MONSANTO Company 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 TO THE PRODUCT TO WHICH INFORMATION REFERS.

ATTENTION:

This specimen label is provided for general information only.

- This pesticide product may not yet be available or approved for sale or use in your area.
- It is your responsibility to follow all Federal, state and local laws and regulations regarding the use of pesticides.
- Before using any pesticide, be sure the intended use is approved in your state or locality.
- Your state or locality may require additional precautions and instructions for use of this product that are not included here.
- Monsanto does not guarantee the completeness or accuracy of this specimen label. The information found in this label may differ from the information found on the product label. You must have the EPA approved labeling with you at the time of use and must read and follow all label directions.
- You should not base any use of a similar product on the precautions, instructions for use or other information you find here.
- Always follow the precautions and instructions for use on the label of the pesticide you are using.

21225G1-13



Complete Directions for Use

The complete broad-spectrum postemergence professional herbicide for industrial, turf and ornamental weed control.

EPA Reg. No. 524-517

2007-1

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Read the entire label before using this product.

Use only according to label instructions.

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

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

1.0 INGREDIENTS

ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl)glycine,
in the form of its isopropylamine salt..... 41.0%
OTHER INGREDIENTS (including surfactant): 59.0%
100.0%

*Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent Nos. 5,683,958; 5,703,015; 6,063,733; 6,121,199; 6,121,200. No license granted under any non-U.S. patent(s).

2.0 IMPORTANT PHONE NUMBERS

FOR PRODUCT INFORMATION OR ASSISTANCE
IN USING THIS PRODUCT,
CALL TOLL-FREE, 1-800-332-3111.
IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT,
OR FOR MEDICAL ASSISTANCE,
CALL COLLECT, DAY OR NIGHT, (314)-694-4000.

3.0 PRECAUTIONARY STATEMENTS

3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

CAUSES EYE IRRITATION.

Avoid contact with eyes or clothing.

FIRST AID: Call a poison control center or doctor for treatment advice.

IF IN EYES	<ul style="list-style-type: none">• 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.
-------------------	---

- Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.
- This product is identified as **Ranger PRO® herbicide, EPA Registration No. 524-517.**

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.

3.2 Environmental Hazards

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 cleaning equipment or disposing of equipment washwaters.

3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

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

Agricultural Use Requirements

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls, chemical resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks.

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 (40 CFR Part 170) for agricultural pesticides. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

4.0 STORAGE AND DISPOSAL

PESTICIDE STORAGE: Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

CONTAINER DISPOSAL: Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

FOR REFILLABLE PORTABLE CONTAINERS: Do not reuse this container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse container, then 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.

FOR BULK CONTAINERS: Triple rinse emptied bulk container. Then offer for recycling or reconditioning, or dispose of in a manner approved by state and local authorities.

FOR PLASTIC 1-WAY CONTAINERS & BOTTLES: Do not reuse container. Triple rinse container, then 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.

FOR DRUMS: Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then 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.

5.0 GENERAL INFORMATION (How This Product Works)

Product Description: This product is a postemergence, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant.

Time to Symptoms: This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Mode of Action in Plants: The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfastness: Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

Tank Mixing: This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this label. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

When this label recommends a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the mixture product's label allows the specific application.

Annual Maximum Use Rate: The combined total of all treatments must not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate containing products does not exceed stated maximum use rates.

ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

6.2 Tank Mixing Procedure

When tank mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the recommended amount of this product.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance. Ensure that the specific tank mixture product is registered for application at the desired site.

Refer to the "TANK MIXING" section of "GENERAL INFORMATION" for additional precautions.

6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

Desired Volume	Amount of Ranger PRO herbicide					
	1/2%	1%	1-1/2%	2%	5%	10%
1 gal	2/3 oz	1-1/3 oz	2 oz	2-2/3 oz	6-1/2 oz	13 oz
25 gal	1 pt	1 qt	1-1/2 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1-1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in backpack, knapsack or pump-up sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

6.4 Surfactant

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5-percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1-percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

6.5 Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's recommendations.

6.6 Drift Control Additives

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

7.0 APPLICATION EQUIPMENT AND TECHNIQUES

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

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

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.

AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 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 should be observed.

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. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the Wind, Temperature and Humidity, and Temperature Inversion sections of this label).

Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the 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 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 backwards, parallel to the air stream, will produce larger droplets than other orientations. Significant deflection from the 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 larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than 3/4 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 the exposure of the droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. 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 wind, smaller droplets, etc.).

Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour 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 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 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.

Sensitive Areas

This product 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).

7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Avoid direct application to any body of water.

Use the recommended rates of this herbicide in 3 to 25 gallons of water per acre.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear is most susceptible.

7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check for even distribution of spray droplets.

7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the "ANNUAL WEEDS" section of "WEEDS CONTROLLED", apply a 1/2-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1-percent solution. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For best results, use a 2-percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 5- to 10-percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees. Spray coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION, AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.

Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

Shielded and Hooded Applicators

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Wiper Applicators and Sponge Bars

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

For Rope or Sponge Wick Applicators—Solutions ranging from 33 to 75 percent of this product in water may be used.

For Panel Applicators and pressure-feed systems—Solutions ranging from 33 to 100 percent of this product in water may be used.

When applied as recommended above, this product CONTROLS the following weeds:

Corn, volunteer	Sicklepod
Panicum, Texas	Spanishneedles
Rye, common	Starbur, bristly
Shattercane	

When applied as recommended above, this product SUPPRESSES the following weeds:

Beggarweed, Florida	Ragweed, common
Bermudagrass	Ragweed, giant
Dogbane, hemp	Smulgrass
Dogfennel	Sunflower
Guineagrass	Thistle, Canada
Johnsongrass	Thistle, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically recommended.

7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

CDA equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

8.0 SITE AND USE RECOMMENDATIONS

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Refer also to the "SELECTIVE EQUIPMENT" section.

8.1 Cut Stumps

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly-cut surface **immediately after cutting**. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Saltcedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

8.2 Forestry Site Preparation

This product is recommended for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also recommended for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product is recommended for use in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

APPLICATION RATES AND TIMING

APPLICATION	RANGER PRO HERBICIDE	SPRAY VOLUME GAL/A
BROADCAST		
Aerial	2 to 10 qts/A	5 to 30
Ground	2 to 10 qts/A	10 to 60
SPRAY-TO-WET		
Handgun, Backpack	3/4% to 2%	spray-to-wet by volume
LOW VOLUME DIRECTED SPRAY		
Handgun, Backpack	5% to 10%	partial coverage* by volume

*For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results.

Use higher rates of this product within the recommended range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the recommended range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the recommended range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

This product has no herbicidal or residual activity in the soil. Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

Tank Mixtures

Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

NOTE: For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any recommended rate of this product may be used in a tank mix with the following products for forestry site preparation.

PRODUCT

Arsenal Applicators Concentrate
Escort
Chopper
Garlon 4
Oust

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

Do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release.

8.3 General Non-crop Areas and Industrial Sites

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

General Weed Control, Trim-and-Edge, Bare Ground

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product may be tank mixed with the following products provided that the specific product is registered for use on such non-crop sites. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal	Karmex DF	Ronstar 50 WSP
Barricade 65WG	Krovar I DF	Sahara
Clarity	Oust	simazine
diuron	Pendulum 3.3 EC	Surflan
Endurance	Pendulum WDG	Telar
Escort	Plateau	Vanquish
Garlon 3A	Princep DF	2,4-D
Garlon 4	Princep Liquid	

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Quackgrass
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Chemical Mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 6 fluid ounces of this

product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

Chemical Mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

Bromus Species and Medusahead in Pastures and Rangelands

Bromus species. This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus secalinus*) found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

Medusahead. To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

Dormant Turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring green-up.

Apply 8 to 64 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

Turfgrass Renovation, Seed, or Sod Production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

8.4 Habitat Management

Habitat Restoration and Management

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

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 application before tillage to allow translocation into underground plant parts.

8.5 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 1/25 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

Control

Oak
Poplar
Sweetgum
Sycamore

Partial Control

Black gum
Dogwood
Hickory
Maple, red

8.6 Ornamentals, Plant Nurseries, and Christmas Trees

Post-Directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Site Preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

Wiper Applications

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "SELECTIVE EQUIPMENT" section of this label for further information about the proper use of wiper applicators.

Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

8.7 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

8.8 Railroads

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to railroads.

Bare Ground, Ballast and Shoulders, Crossings, and Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight

at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

This product may be tank mixed with the following products provided that the specific product is registered for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar I DF
Clarity	Oust
diuron	Sahara
Escort	Spike
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar X	2,4-D

Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 3/4- to 2-percent solution of this product when using high-volume spray-to-wet applications. Apply a 5- to 10-percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon K
Garlon 3A	

Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

8.9 Roadsides

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to roadsides.

Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

Guardrails and Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Tank Mixtures

This product may be tank-mixed with the following products provided that the specific product is registered for shoulder, guardrail, spot and bare ground treatments:

Clarity	Princep DF
diuron	Princep Liquid
Endurance	Ronstar 50 WSP
Escort	Sahara
Krovar I DF	simazine
Oust	Surflan
Outrider®	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D

See the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section of this label for general instructions for tank mixing.

Release of Bermudagrass or Bahiagrass

Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank-mixed with Outrider herbicide or Oust for residual control. Tank mixtures of this product with Oust may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product in a tank mixture with 3/4 to 1 1/3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green-up and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 1/2 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

This product may be tank mixed with Outrider herbicide for control or partial control of Johnsongrass and other weeds listed in the Outrider herbicide label. Use 8 to 32 fluid ounces of this product with 3/4 to 1 1/3 ounces of Outrider herbicide. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpetcreeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider herbicide label in actively growing bahiagrass. Apply 1 1/2 to 4 3/4 ounces of this product with 3/4 to 1 1/3 ounces of Outrider herbicide per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 6 fluid ounces of this product plus 1/4 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

8.10 Utility Sites

In utilities, this product is recommended for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

This product is also recommended for use in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

Tank Mixtures

Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees provided that the specific product is registered for application to the desired site. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any recommended rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

NOTE: For side trimming treatments, it is recommended that this product be used alone or in tank mixture with Garlon 4.

BROADCAST APPLICATION

Arsenal
Escort
Garlon 3A*
Garlon 4
Oust

SPRAY-TO-WET APPLICATION

Arsenal
Escort

LOW VOLUME DIRECTED SPRAY APPLICATION

Arsenal
Escort

*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

Bare Ground and Trim-and-Edge

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product may be tank mixed with the following products. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal	Plateau
Banvel	Princep DF
Barricade 65WG	Princep Liquid
diuron	Ronstar 50 WSP
Endurance	Sahara
Escort	simazine
Garlon 3A	Surflan

9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for recommended rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

9.1 Annual Weeds

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 1/2-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1- to 2-percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

WEED SPECIES

Anoda, spurred	Brome, downy*
Barley*	Brome, Japanese*
Barnyardgrass*	Browntop panicum*
Bassia, fivehook	Buttercup*
Bittercress*	Carolina foxtail*
Black nightshade*	Carolina geranium
Bluegrass, annual*	Castorbean
Bluegrass, bulbous*	Cheatgrass*

WEED SPECIES (Cont'd.)

Cheeseweed (<i>Malva parviflora</i>)	Mustard, tansy*
Chervil*	Mustard, tumble*
Chickweed*	Mustard, wild*
Cocklebur*	Oats
Copperleaf, hophornbeam	Pigweed*
Corn*	Plains/Tickseed coreopsis*
Corn speedwell*	Prickly lettuce*
Crabgrass*	Puncturevine
Dwarf dandelion*	Purslane, common
Eastern manna grass*	Ragweed, common*
Eclipta*	Ragweed, giant
Fall panicum*	Red rice
Falsedandelion*	Russian thistle
Falseflax, smallseed*	Rye*
Fiddleneck	Ryegrass*
Field pennycress*	Sandbur, field*
Filaree	Shattercane*
Fleabane, annual*	Shepherd's-purse*
Fleabane, hairy	Sicklepod
(<i>Conyza bonariensis</i>)*	Signalgrass, broadleaf*
Fleabane, rough*	Smartweed, ladythumb*
Florida pusley	Smartweed, Pennsylvania*
Foxtail*	Sowthistle, annual
Goatgrass, jointed*	Spanishneedles
Goosegrass	Speedwell, purslane*
Grain sorghum (milo)*	Sprangletop*
Groundsel, common*	Spurge, annual
Hemp sesbania	Spurge, prostrate*
Henbit	Spurge, spotted*
Horseweed/Marestail	Spurry, umbrella*
(<i>Conyza canadensis</i>)	Starthistle, yellow
Itchgrass*	Stinkgrass*
Johnsongrass, seedling	Sunflower*
Junglerice	Teaweed/Prickly sida
Knotweed	Texas panicum*
Kochia	Velvetleaf
Lamb's-quarters*	Virginia copperleaf
Little barley*	Virginia pepperweed*
London rocket*	Wheat*
Mayweed	Wild oats*
Medusahead*	Witchgrass*
Morningglory (<i>Ipomoea spp</i>)	Woolly cupgrass*
Mustard, blue*	Yellow rocket

*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 1 pint of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

9.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the recommended range.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low-volume directed spot treatments, apply a 5- to 10-percent solution of this product.

Allow 7 or more days after application before tillage.

Weed Species	Rate (QT/A)	Hand-Held % Solution
Alfalfa*	1	2
Alligatorweed*	4	1.5
Anise (fennel)	2 - 4	1 - 2
Bahiagrass	3 - 5	2
Beachgrass, European (<i>Ammophila arenaria</i>)	—	5
Bentgrass*	1.5	2
Bermudagrass	5	2
Bermudagrass, water (knotgrass)	1.5	2
Bindweed, field	4 - 5	2
Bluegrass, Kentucky	2	2
Blueweed, Texas	4 - 5	2
Brackenfern	3 - 4	1 - 1.5
Bromegrass, smooth	2	2
Bursage, woolly-leaf	—	2

Weed Species	Rate (QT/A)	Hand-Held % Solution
Canarygrass, reed	2 - 3	2
Cattail	3 - 5	2
Clover, red, white	3 - 5	2
Cogongrass	3 - 5	2
Dallisgrass	3 - 5	2
Dandelion	3 - 5	2
Dock, curly	3 - 5	2
Dogbane, hemp	4	2
Fescue (except tall)	3 - 5	2
Fescue, tall	1 - 3	2
German ivy	2 - 4	1 - 2
Guineagrass	3	1
Horsenettle	3 - 5	2
Horseradish	4	2
Iceplant	2	1.5 - 2
Jerusalem artichoke	3 - 5	2
Johnsongrass	2 - 3	1
Kikuyugrass	2 - 3	2
Knapweed	4	2
Lantana	—	1 - 1.25
Lespedeza	3 - 5	2
Milkweed, common	3	2
Muhly, wirestem	2	2
Mullein, common	3 - 5	2
Napiergrass	3 - 5	2
Nightshade, silverleaf	2	2
Nutsedge, purple, yellow	3	1 - 2
Orchardgrass	2	2
Pampasgrass	3 - 5	1.5 - 2
Paragrass	3 - 5	2
Pepperweed, perennial	4	2
Phragmites*	3 - 5	1 - 2
Poison hemlock	2 - 4	1 - 2
Quackgrass	2 - 3	2
Redvine*	2	2
Reed, giant	4 - 5	2
Ryegrass, perennial	2 - 3	1
Smartweed, swamp	3 - 5	2
Spurge, leafy*	—	2
Sweet potato, wild*	—	2
Thistle, artichoke	2 - 3	1 - 2
Thistle, Canada	2 - 3	2
Timothy	2 - 3	2
Torpedograss*	4 - 5	2
Trumpet creeper*	2 - 3	2
Vaseygrass	3 - 5	2
Velvetgrass	3 - 5	2
Wheatgrass, western	2 - 3	2

*Partial control

9.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 5- to 10-percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3 - 4	1 - 1.5
Ash*	2 - 5	1 - 2
Aspen, quaking	2 - 3	1 - 1.5
Bearclover (Bearmat)*	2 - 5	1 - 2
Beech*	2 - 5	1 - 2
Birch	2	1
Blackberry	3 - 4	1 - 1.5
Blackgum	2 - 5	1 - 2
Bracken	2 - 5	1 - 2
Broom; French, Scotch	2 - 5	1.5 - 2
Buckwheat, California*	2 - 4	1 - 2
Cascara*	2 - 5	1 - 2
Catsclaw*	—	1 - 1.5
Ceanothus*	2 - 5	1 - 2
Chamise*	2 - 5	1
Cherry; bitter, black, pin	2 - 3	1 - 1.5
Coyote brush	3 - 4	1.5 - 2
Deerweed	2 - 5	1
Dogwood*	2 - 5	1 - 2
Elderberry	2	1
Elm*	2 - 5	1 - 2
Eucalyptus	—	2
Gorse*	2 - 5	1 - 2
Hasardia*	2 - 4	1 - 2
Hawthorn	2 - 3	1 - 1.5
Hazel	2	1
Hickory*	2 - 5	1 - 2
Honeysuckle	3 - 4	1 - 1.5
Hornbeam, American*	2 - 5	1 - 2
Kudzu	4	2
Locust, black*	2 - 4	1 - 2
Madrone sprouts*	—	2
Manzanita*	2 - 5	1 - 2
Maple, red	2 - 4	1 - 1.5
Maple, sugar	—	1 - 1.5
Monkey flower*	2 - 4	1 - 2
Oak; black, white*	2 - 4	1 - 2
Oak, post	3 - 4	1 - 1.5
Oak, northern pin	2 - 4	1 - 1.5
Oak, scrub*	2 - 4	1 - 1.5
Oak, southern red	2 - 3	1 - 1.5
Peppertree, Brazilian (Florida holly)*	2 - 5	1 - 2
Persimmon*	2 - 5	1 - 2
Pine	2 - 5	1 - 2
Poison ivy	4 - 5	2
Poison oak	4 - 5	2
Poplar, yellow*	2 - 5	1 - 2
Redbud, eastern	2 - 5	1 - 2
Rose, multiflora	2	1
Russian olive*	2 - 5	1 - 2
Sage, black	2 - 4	1
Sage, white*	2 - 4	1 - 2
Sage brush, California	2 - 4	1
Salmonberry	2	1
Saltcedar*	2 - 5	1 - 2
Sassafras*	2 - 5	1 - 2
Sourwood*	2 - 5	1 - 2
Sumac; laurel, poison, smooth, sugarbush, winged*	2 - 4	1 - 2
Sweetgum	2 - 3	1 - 1.5
Swordfern*	2 - 5	1 - 2
Tallowtree, Chinese	—	1
Tan oak sprouts*	—	2
Thimbleberry	2	1
Tobacco, tree*	2 - 4	1 - 2
Toyon*	—	2
Trumpet creeper	2 - 3	1 - 1.5

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Vine maple*	2 - 5	1 - 2
Virginia creeper	2 - 5	1 - 2
Waxmyrtle, southern*	2 - 5	1 - 2
Willow	3	1
Yerbasanta, California*	—	2

*Partial control

10.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Outrider, Ranger PRO, and Monsanto & Vine symbol are trademarks of Monsanto Technology LLC.

All other trademarks are the property of their respective owner.

This product is protected by U.S. Patent Nos. 5,683,958; 5,703,015; 6,063,733; 6,121,199; 6,121,200. No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-517

In case of an emergency involving this product, or for medical assistance,
Call Collect, day or night, (314) 694-4000.

Packed For:
MONSANTO COMPANY
800 N. LINDBERGH BLVD.
ST. LOUIS, MISSOURI, 63167 USA
©2007



SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**COMPANY ADDRESS:**

ALBAUGH, LLC
Ankeny, IA 50021

EMERGENCY TELEPHONE NUMBERS:

(800) 424-9300 (CHEMTREC, transportation and spills)

PRODUCT NAME

: **TRICLOPYR 3A**

CHEMICAL NAME

: Triclopyr triethylamine salt

PRODUCT USE

: Herbicide

PRODUCT CODE

: EPA Reg. No 42750-127

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Light pinkish amber clear liquid

HEALTH HAZARDS: DANGER! Corrosive, serious eye damage. Potential skin sensitizer from exposure to concentrate.

PHYSICAL HAZARDS: Combustible liquid. May release toxic fumes if burned.

ENVIRONMENTAL HAZARDS: Highly toxic to certain terrestrial plant species. Mobile in soil and potential groundwater contaminant.

**SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER
Triclopyr Triethylamine salt	44.4	57213-69-1
Ethylenediaminetetraacetic acid (EDTA)	< 5.0	64-02-8
Ethanol	< 5.0	64-17-5

SECTION 4 - FIRST AID MEASURES

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

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

IF 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.

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: Probable mucosal damage may contraindicate the use of gastric lavage.

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

SECTION 5 - FIRE FIGHTING MEASURES

National Fire Protection Rating (NFPA)

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

FLASHPOINT: 141°F (61°C)

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

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

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

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. Clean contaminated area thoroughly with water. Pick up wash liquid with 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.

HANDLING: Use only in a well-ventilated area.

STORAGE: 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.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**EXPOSURE LIMITS (8 hour TWA, ppm):**

COMPONENT	OSHA PEL	ACIGH TLV
Triclopyr TEA salt	Not listed	Not listed
EDTA	Not listed	Not listed
Ethanol	1,000	1,000

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: Applicators and other handlers must wear:

EYE PROTECTION - Protective eyewear such as safety goggles or full face shield.

CLOTHING - Long-sleeved shirt and long pants, Shoes plus socks.

GLOVES - Chemical resistant gloves such as butyl rubber, nitrile rubber, neoprene rubber, or viton.

RESPIRATOR - When handling in enclosed areas where exposure limits may be exceeded, 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, 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

Appearance:	Light pinkish amber clear liquid
Odor:	Light alkaline odor
pH:	8.29 – 9.29
Melting Point:	Not applicable
Boiling Point:	No data
Flash Point:	141°F (61°C)
Evaporation Rate:	No data
Flammability:	Not flammable
Flammability Limits:	Not applicable
Vapor Pressure:	0.2 mPa (25°C) (Triclopyr)
Vapor Density:	Not applicable
Density:	1.14 – 1.18 g/ml (9.51 – 9.85 lb/gal)*
Solubility:	No data
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:	21.331 cSt (20°C); 8.679 cSt (40°C)

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

SECTION 10 - STABILITY AND REACTIVITY

PRODUCT REACTIVITY: None known.

CHEMICAL STABILITY: Stable, however may decompose if heated.

HAZARDOUS REACTION/POLYMERIZATION: Product will not undergo polymerization.

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

INCOMPATIBLE MATERIALS: Strong acids and oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: May decompose to hydrogen chloride, oxides of nitrogen and phosgene when burning.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity values from a similar but not identical formulation.

ACUTE TOXICITY:

Oral LD ₅₀ (rat)	- 1,800 mg/Kg
Dermal LD ₅₀ (rat)	- > 5,000 mg/Kg
Inhalation LC ₅₀ (rat)	- > 2.0 mg/L
Eye Irritation (rabbit)	- Severely irritating with corneal injury possible.
Skin Irritation (rabbit)	- Slight 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 toxicity only at maternally toxic doses.

MUTAGENICITY: No evidence of mutagenicity.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Do not contaminate water when disposing of equipment washwaters. Under certain conditions, treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants, which may contribute to fish suffocation. This loss can cause fish suffocation. Therefore, to minimize this hazard, do not treat more than one-third to one-half of the water area in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State agency for fish and game before applying to public water to determine if a permit is needed.

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 TEA salt rapidly disassociates 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: (triclopyr TEA)

96 hour LC ₅₀ , Rainbow trout –	400 ppm
96 hour LC ₅₀ , Bluegill –	600 ppm

AVIAN TOXICITY: (triclopyr TEA)

Dietary LC₅₀, Bobwhite quail – > 10,000 ppm
Dietary LC₅₀, Mallard duck – > 10,000 ppm

BEE TOXICITY: (triclopyr TEA) – > 100 ug/bee

SECTION 13 - DISPOSAL CONSIDERATIONS

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

PESTICIDE WASTE: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate, is a violation of federal law and may contaminate groundwater. 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: Non-refillable containers: Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

(non-refillable <5 gallons): 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Refer to product label to determine if container is refillable and for complete cleaning and disposal instructions.

SECTION 14 - TRANSPORT INFORMATION**DOT SHIPPING DESCRIPTION:**

Containers ≤ 119 gallons – Not regulated by DOT
Containers > 119 gallons – NA1993, Combustible Liquid, N.O.S. (triethylamine, ethanol), PG III

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

SECTION 15 - REGULATORY INFORMATION

CERCLA REPORTABLE QUANTITY: 5,000 # (EDTA) (< 3% of product formulation)

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

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Albaugh's knowledge. Albaugh makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED 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-approved label.

REVISED DATE: November, 2014

REFERENCE: Update for GHS compliance



Safety Data Sheet

BroadStar™ Herbicide

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: BroadStar™ Herbicide
VC NUMBER(S): 1836 and 1911
PRODUCT CODE: 88560
SYNONYM(S): V-53482 0.25 G
EPA REGISTRATION NUMBER: 59639-128

MANUFACTURER/DISTRIBUTOR
VALENT U.S.A. CORPORATION
P.O. Box 8025
1600 Riviera Avenue, Suite 200
Walnut Creek, CA 94596-8025

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION
PROFESSIONAL PRODUCTS: (800) 898-2536

The current SDS is available through our website (www.valent.com), or by calling the product information numbers listed above.

2. HAZARDS IDENTIFICATION

For EPA FIFRA-specific information see Section 15

Classification

Reproductive toxicity

Category 2

Label elements

EMERGENCY OVERVIEW

WARNING

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0214
REVISION DATE: 05/13/2015

**Hazard statements**

Suspected of damaging fertility or the unborn child

Precautionary Statements - Prevention

Read product label prior to using this product. For specific handling instruction refer to Section 7, Handling and Storage

Precautionary Statements - Response

See Section 4, First Aid Measures

Precautionary Statements - Storage

For information on Storage and Handling see Section 7.

Precautionary Statements - Disposal

For further information on product and container disposal see Section 13.

Hazards not otherwise classified (HNOC)**Other Information**

<5% of the mixture consists of ingredient(s) of unknown toxicity

For information on Transportation requirements see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight/ Percent	TRADE SECRET
Flumioxazin	103361-09-7	0.22-0.28	
Dipropylene glycol	25265-71-8	1 -2	
Propylene glycol	57-55-6	.5 - 1.5	
Hydrated Amorphous Silica	112926-00-8	.0 - .5	
Others	Various CAS#s	92 - 97	

* The chemical name, CAS number and/or exact percentage have been withheld as a trade secret

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling (800) 892-0099 at any time.

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 892-0099

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0214
REVISION DATE: 05/13/2015

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

EYE CONTACT:

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.

SKIN CONTACT:

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.

INGESTION:

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

INHALATION:

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

NOTES TO PHYSICIAN:

None

5. FIRE FIGHTING MEASURES

AUTOIGNITION:	Not Applicable
EXTINGUISHING MEDIA:	Water fog, carbon dioxide, foam, dry chemical
FLAMMABLE LIMITS IN AIR - LOWER (%):	Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%):	Not applicable

NFPA RATING:

Health:	1
Flammability:	1
Reactivity:	0
Special:	None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

FIRE FIGHTING INSTRUCTIONS: Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce: oxides of nitrogen, Nitrogen compounds Fluorine compounds. Incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0214
REVISION DATE: 05/13/2015

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300
OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

UN/NA NUMBER: Not applicable

EMERGENCY RESPONSE GUIDEBOOK NO.: Not applicable

FOR SPILLS ON LAND:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT: This material is insoluble in water. This material will sink to the bottom. Stop or reduce contamination of any water. Isolate contaminated water.

CLEANUP: Remove contaminated water for treatment or disposal.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

HANDLING:

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers.

STORAGE:

Store in a cool, dry place, out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If ventilation is not adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

This material may be a respiratory irritant and, unless ventilation is adequate, the use of approved respiratory protection is recommended. Use this material only in well ventilated areas.

SKIN & HAND PROTECTION: Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves made of any waterproof material.

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

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.

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Flumioxazin	None	None	None
Dipropylene glycol	None	None	None
Propylene glycol	AIHA WEEL - 10mg/M3	None	None
Hydrated Amorphous Silica	10 mg/m ³ (total amorphous dust); 3 mg/m ³ (respirable nuisance particulate)	6 mg/m ³ (total dust)	None
Others	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid	Odor	Odorless
Appearance	Granular solid	Odor threshold	No information available
Color	Gray		

PROPERTIES

	Values	Remarks • Method
pH	6.2 - 6.6	@ 25°C (1% slurry)
Melting point/freezing point	Not Applicable	
Boiling point/boiling range	No information available	
Flash point		
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limits	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	Not applicable	
Explosive properties	No information available	
Oxidizing properties	No apparently reaction.	
Density	No information available	
Bulk density	45 - 49 lb/ft ³	

10. STABILITY AND REACTIVITY

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0214
REVISION DATE: 05/13/2015

Reactivity

No data available

Chemical stability

Stable under normal ambient conditions.

Possibility of Hazardous Reactions

Not an oxidizing or reducing agent.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

This product is compatible with water, monoammonium phosphate (fire extinguishing agent), elemental zinc (reducing agent), and 1% (w/v) aqueous potassium permanganate (oxidizing agent).

Hazardous Decomposition Products

Normal combustion forms carbon dioxide, water vapor and may produce: oxides of nitrogen. Incomplete combustion may produce carbon monoxide.

11. TOXICOLOGICAL INFORMATION**ACUTE TOXICITY:**

There is no toxicology information available for this specific formulation. The following information is for the technical material or a similar formulation.

Oral Toxicity LD ₅₀ (rats)	> 5000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD ₅₀ (rats)	> 2000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC ₅₀ (rats)	> 3.9 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Mildly irritating	EPA Tox Category	IV
Skin Irritation (rabbits)	Non-irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical Name	IARC	OSHA - Select Carcinogens	NTP Carcinogen List
Flumioxazin	Not listed	Not listed	Not listed
Others	Not listed	Not listed	Not listed
Dipropylene glycol	Not listed	Not listed	Not listed
Propylene glycol	Not listed	Not listed	Not listed
Hydrated Amorphous Silica	Group 3	Not listed	Not listed

TOXICITY OF FLUMIOXAZIN TECHNICAL:

SUBCHRONIC: Compound related effects of Flumioxazin Technical noted in rats following subchronic exposures at high dose levels were hematotoxicity including anemia, and increases in liver, spleen, heart, kidney and thyroid weights. In dogs, the effects produced at high dose levels included a slight prolongation in activated partial thromboplastin time, increased cholesterol and phospholipid, elevated alkaline phosphatase, increased liver weights and histological changes in the liver. The lowest no-observable-effect-level (NOEL) in subchronic studies was 30 ppm in the three-month toxicity study in rats.

CHRONIC/CARCINOGENICITY: In a one year dog feeding study, Flumioxazin Technical produced treatment-related changes in blood chemistry and increased liver weights at 100 and 1000 mg/kg/day. Minimal treatment-related histological changes were noted in the livers of animals in the 1000 mg/kg/day group. Based on these data the NOEL is 10 mg/kg/day. Dietary administration of Flumioxazin Technical for 18 months produced liver changes in mice of the 3000 and 7000 ppm groups. There was no evidence of any treatment-related oncogenic effect. The NOEL for this study is 300 ppm. Dietary administration of Flumioxazin Technical for 24 months produced anemia and chronic nephropathy in rats of the 500 and 1000 ppm groups. The anemia lasted throughout the treatment period, however, it was not progressive nor aplastic in nature. No evidence of an oncogenic effect was observed. The NOEL for this study is 50 ppm.

DEVELOPMENTAL TOXICITY: Flumioxazin Technical produces developmental toxicity in rats in the absence of maternal toxicity at doses of 30 mg/kg/day by the oral route and 300 mg/kg/day by the dermal route. The developmental effects noted consisted primarily of decreased number of live fetuses and fetal weights, cardiovascular abnormalities, wavy ribs and decreased number of ossified sacrococcygeal vertebral bodies. The developmental NOEL in the rat oral and dermal developmental toxicity studies were 10 and 100 mg/kg/day, respectively. The response in rabbits was very different from that in rats. No developmental toxicity was noted in rabbits at doses up to 3000 mg/kg/day, a dose well above the maternal NOEL of 1000 mg/kg/day.

Mechanistic studies indicate that the effects seen in the rat are highly unlikely to occur in the human and that flumioxazin would not be a developmental toxicant in the human.

REPRODUCTION: Reproductive toxicity was observed in F1 males, P1 females and F1 females at 300 ppm Flumioxazin Technical, the highest dose tested and a dose that also produced signs of systemic toxicity. Toxicity was also observed in the F1 and F2 offspring at doses of 200 ppm and greater.

MUTAGENICITY: Flumioxazin Technical was not mutagenic in most *in vitro* assays: gene mutation and a chromosome aberration assay in the absence of metabolic activation. In three *in vivo* assays, chromosome aberration, unscheduled DNA synthesis and micronucleus assay, Flumioxazin Technical was not mutagenic. The only positive response was observed in the *in vitro* chromosome aberration assay in the presence of metabolic activation. Overall, Flumioxazin Technical does not present a genetic hazard.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION

AVIAN TOXICITY:

Based upon EPA designation, Flumioxazin Technical is practically non-toxic to avian species. The following results were obtained from studies with Flumioxazin Technical:

Oral LD₅₀ bobwhite quail: greater than 2250 mg/kg
Dietary LC₅₀ bobwhite quail: greater than 5620 ppm
Dietary LC₅₀ mallard duck: greater than 5620 ppm.

Flumioxazin Technical in the diet. In mallard ducks, a slight, but not statistically significant reduction in hatchlings and 14-day old survivors was observed. Based on a possible, slight effect on egg production at 500 ppm, the NOEL for this study was 250 ppm.

AQUATIC ORGANISM TOXICITY: Based upon EPA designation, Flumioxazin Technical is slightly to moderately toxic to freshwater fish; moderately toxic to freshwater invertebrates; moderately toxic to estuarine/marine fish and moderately to highly toxic to estuarine/marine invertebrates, based on the following tests:

96-hour LC₅₀ rainbow trout: 2.3 mg/L
96-hour LC₅₀ bluegill sunfish: greater than 21 mg/L
48-hour LC₅₀ Daphnia magna: greater than 5.5 mg/L
96-hour LC₅₀ sheepshead minnow: greater than 4.7 mg/L
96-hour (shell deposition) EC₅₀ eastern oyster: 2.8 mg/L
96-hour LC₅₀ mysid shrimp: 0.23 mg/L
Fish early life-stage (rainbow trout): NOEC >7.7 µg/L, <16 µg/L
Chronic toxicity (mysid shrimp): NOEC >15 µg/L, <27 µg/L
Chronic toxicity (Daphnia magna): NOEC >52 µg/L, <99 µg/L.

OTHER NON-TARGET ORGANISM TOXICITY:

Based upon EPA designation, Flumioxazin Technical is practically non-toxic to bees. The acute contact LC₅₀ to bees was greater than 105 ug/bee.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

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

CONTAINER DISPOSAL: Nonrefillable outer bag. Do not reuse or refill the outer bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Herbicide, solid, non-regulated
EMERGENCY RESPONSE Not applicable
GUIDEBOOK NO.:

ICAO/IATA SHIPPING NAME: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Flumioxazin), 9, III, Marine Pollutant

REMARKS: Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations -- see UN Special Provision 375.

IMDG SHIPPING NAME: UN 3077, Environmentally Hazardous Substance, Solid, N.O.S. (flumioxazin), Marine pollutant

EMS NO.: F-A, S-F

15. REGULATORY INFORMATION

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0214
REVISION DATE: 05/13/2015

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

This material is a pesticide product registered by the EPA under FIFRA and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

EPA FIFRA SIGNAL WORD: CAUTION

- *Harmful if absorbed through skin*
- *Avoid contact with eyes, skin and clothing*
- *Avoid breathing dust or spray mist*

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Dipropylene glycol

TSCA Inventory List - Present

Polyoxypropylene-Polyoxyethylene copolymer

TSCA Inventory List - Present

Propylene glycol

TSCA Inventory List - Present

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	Yes
Fire:	No
Sudden Pressure:	No
Reactivity:	No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Dipropylene glycol

PA Right To Know Present

Propylene glycol

NJ Right To Know	3595
PA Right To Know	Present
RI Right To Know	Listed
MN Hazardous Substance	Present

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0214
REVISION DATE: 05/13/2015

Hydrated Amorphous Silica

MA Right To Know	Present
NJ Right To Know	3510
PA Right To Know	Present
RI Right To Know	Listed
MN Hazardous Substance	Present

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE:	Updated information to meet OSHA Hazcom 2012 (GHS) regulations. New VC Number.
SDS NO.:	0214
EPA REGISTRATION NUMBER:	59639-128
REVISION NUMBER:	1
REVISION DATE:	05/13/2015
SUPERCEDES DATE:	None
RESPONSIBLE PERSON(S):	Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED 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 is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. 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-approved label.

The information in this SDS is based on data available to us as of the revision date given herein, and believed to be correct. Contact Valent U.S.A. Corporation to confirm if you have the most current SDS.

Judgments as to the suitability of information herein for the individual's own use or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Valent extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.

2015 Valent U.S.A. Corporation



BroadStar™

HERBICIDE



PROVIDES PREEMERGENCE WEED CONTROL IN:

- CONTAINER GROWN ORNAMENTALS
- FIELD GROWN ORNAMENTALS INCLUDING CHRISTMAS TREE PLANTATIONS
- LANDSCAPE ORNAMENTALS
- NON-BEARING FRUIT AND NUT TREES AND VINES
- BARE GROUND NON-CROP AREAS

Active Ingredient	By Wt.
*Flumioxazin	0.25%
Other Ingredients	99.75%
Total	100.00%
*(2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione)	

BroadStar™ Herbicide is a granule containing 0.25% active ingredient.

EPA Reg. No. 59639-128

EPA Est. 39578-TX-01

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE BELOW FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust and spray mist.

FIRST AID

- 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.
- 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.

(continued)

FIRST AID (continued)

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

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 **800-892-0099** for emergency medical treatment information.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

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

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS:

This product is toxic to aquatic invertebrates. 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 apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

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

Under some conditions this product may have a potential to runoff to surface water or adjacent land.

Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide runoff. Use of vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where runoff could occur will minimize water runoff is recommended.

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

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 statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical-resistant gloves made of any waterproof material, shoes plus socks.

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 Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forest, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.

Do not enter or allow others to enter treated areas until dust has settled.

DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in
(continued)

(continued)

accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

LIMITATION OF LIABILITY

To the fullest extent allowed by law, Valent or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements, Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law, if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability**, which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.

TABLE OF CONTENTS

GENERAL INFORMATION

- General Restrictions and Limitations
- Tolerance of Turfgrass Adjacent to Ornamental Plantings
- Preemergence Application
- Application Instructions
- Application Recommendations
- Application Techniques
- Drift Management
- Resistance Management

CALIBRATION OF HERBICIDE

APPLICATION EQUIPMENT

- Settings (Port Opening) for Hand Cranked Rotary Spreaders..... Table 1
- Weight to Volume Conversion..... Table 2
- Application Amounts for Individual Containers..... Table 3

ORNAMENTAL PLANT TOLERANCE INFORMATION

- Treatment of Ornamental Plant Species Labeled as Sensitive
- Treatment of Ornamental Plant Species Not Listed on Label
- Treatment of Ornamental Plant Species with Wet Foliage
- Treatment of Recently Transplanted Liners
- Treatment of Herbaceous Plants, Tropical Shrubs and Foliage Plants
- Treatment of Seedling Trees and Shrubs

DIRECTIONS FOR USE IN CONTAINER, FIELD AND LANDSCAPE GROWN ORNAMENTAL SHRUBS, TREES, CHRISTMAS TREES, GROUND COVERS, NON-BEARING FRUIT AND NUT TREES AND VINES AND BARE GROUND NON-CROP AREAS

- Special Product Use Precautions for Landscape Application

WEEDS CONTROLLED..... Table 4

SENSITIVE ORNAMENTAL SPECIES..... Table 5

TOLERANT ORNAMENTAL SPECIES

- Trees including Christmas Trees..... Table 6
- Shrubs and Ground Covers..... Table 7
- Non-Bearing Fruit and Nut Trees and Vines . Table 8

STORAGE AND DISPOSAL

GENERAL INFORMATION

BroadStar Herbicide is a selective preemergence herbicide that provides extended residual control of a wide variety of annual broadleaf and grassy weeds. *BroadStar* Herbicide is labeled for use in containerized and field grown (in-ground) woody, ornamental shrubs and trees, groundcovers and non-bearing fruit and nut trees that are grown in nurseries, conifer plantations and ornamental landscapes. *BroadStar* Herbicide is also labeled to maintain bare ground in non crop areas.

BroadStar Herbicide controls weeds by inhibiting protoporphyrinogen oxidase, an essential enzyme required by plants for chlorophyll biosynthesis. Seedling weeds are controlled preemergence when exposed

to sunlight following contact with the soil applied herbicide. *BroadStar* Herbicide has limited postemergent activity against newly germinated seedlings of some weed species, but should be applied before weed germination to ensure optimal control.

Most hardy woody ornamental shrubs, trees, and ground covers are tolerant to *BroadStar* Herbicide so long as the product is applied in accordance with the label. *BroadStar* Herbicide may cause leaf spotting on some tolerant species if granules are allowed to remain in contact with leaf surfaces, especially on new flush or on foliage that is wet at the time of application. However, subsequent plant growth is generally unaffected. *BroadStar* Herbicide may injure some otherwise tolerant species if not applied in accordance with the label, and may also injure ornamental species that are not listed on the label. Therefore, read all label precautions and restrictions before applying *BroadStar* Herbicide to ornamental plants.

General Restrictions and Limitations

- Do not apply by air.
- Do not apply to moist or wet foliage.
- Do not apply when winds are gusty or above 10 mph.
- Do not apply to plants that are under moisture stress or stress from insects, diseases, animals, winter injury, planting shock or any other stresses.
- Use caution when applying to plants that are producing a new flush of growth because herbicide may injure tender, newly formed leaves if granules remain in contact with leaf surfaces.
- Do not apply to plants grown from seed until at least one year after seed germination, unless tolerance is first confirmed on a small number of plants.
- Do not apply to plants whose leaves channel the herbicide granules to the leaf base.
- Do not apply to herbaceous bedding plants or areas where bedding plants will be planted or transplanted within three months following application.
- Do not apply to plants while in propagation.
- Do not apply to liners that are in pots less than 4 inches in diameter.
- Do not apply to recently transplanted liners with root balls that are less than 4 inches in diameter until liners have been actively growing for at least 6 weeks after transplanting.
- Non-bearing fruit and nut trees such as citrus, apples, pears, peaches, etc. are defined as plants that will not bear fruit for at least one year after application.
- Do not incorporate product into soil or potting media.
- Do not apply more than 150 lbs per acre in a single application or more than 300 lbs per acre in a single year.
- Do not treat the same plants more than one time every 8 weeks or more than two times per year.
- Do not apply in an enclosed greenhouse structure.
- Do not graze or feed livestock forage cut from treated areas.

Tolerance of Turfgrass Adjacent to Ornamental Plantings

BroadStar Herbicide may injure actively growing turfgrass, especially if wet at time of application. Therefore, do not apply *BroadStar* Herbicide directly to turfgrass and minimize drift of *BroadStar* Herbicide onto turfgrass during application to ornamentals. Injury from accidental drift of *BroadStar* Herbicide onto turfgrass will generally be temporary.

Preemergence Application

BroadStar Herbicide provides effective preemergence control of weeds listed in Table 4. For optimal preemergence control, apply *BroadStar* Herbicide to clean, weed free soil or mulch before weed seeds germinate. Disturbing soil surfaces after application may reduce herbicide efficacy. Remove existing weeds, weed residues and trash before applying *BroadStar* Herbicide. Approximately 1/2 to 3/4 inch of rainfall, overhead sprinkler irrigation or hand irrigation is required to activate *BroadStar* Herbicide. Inadequate irrigation or rainfall following application may reduce effectiveness of *BroadStar* Herbicide. If adequate soil moisture is maintained following application, *BroadStar* Herbicide should provide at least 8 to 12 weeks of preemergent control of labeled weeds, except under unusual environmental conditions (excessive rainfall, irrigation or temperature). Control is generally most persistent under cooler temperatures.

Application Instructions

Apply *BroadStar* Herbicide with clean, well maintained drop or rotary type granular application equipment. Calibrate application equipment prior to use according to manufacturer's directions. Refer to Table 1 for calibration of hand cranked rotary spreaders. Check frequently to be sure equipment is working properly and distributing granules uniformly. Avoid skips and overlaps, as poor weed control or crop injury may occur. Clean equipment before adding *BroadStar* Herbicide to ensure that no residue from the previous operation remains. Some pesticides are active at very trace quantities and can cause injury when applied to susceptible plants.

Application Recommendations

- Remove any existing weeds before applying *BroadStar* Herbicide.
- **Apply to dry foliage only.** To test for moisture, rub hands over plant foliage.
- Irrigate plants within 1 hour after application with 1/2 to 3/4 inch of water to activate the herbicide and remove any remaining herbicide granules. If herbicide granules are allowed to remain on plant foliage for an extended period, herbicide residues may be released and cause leaf spotting on some sensitive ornamental species, especially on new flush.
- If granules remain on foliage following application, and plants will not be irrigated for more than one hour after application, lightly brushing or blowing plants will reduce the potential for plant injury.

Application Techniques

Apply *BroadStar* Herbicide with a properly calibrated drop or rotary type spreader that will ensure accurate, even particle distribution.

- When using a drop type spreader, a splashboard mounted under the hopper will provide more even granule distribution.
- When using a hand held or push type rotary applicator, such as a whirlybird or cyclone unit, walk and turn the crank at a constant rate of speed.
- Use a hand shaker to treat small numbers of plants, or areas that are difficult to reach with a whirlybird or cyclone spreader. Construct hand shakers by punching holes in the lid of a small plastic container. Calculate amount of *BroadStar* Herbicide needed to treat area, place this amount in shaker and apply evenly over plants. Refer to Table 3 for amounts needed to treat individual containers.

Drift Management

Do not apply under circumstances where possible drift to unprotected persons or to food, forage or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

- Make applications when the wind velocity favors on-target product deposition. Apply only when the wind speed is less than or equal to 10 mph. For all applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.
- All application equipment must be properly maintained and calibrated using appropriate carriers.

Resistance Management

Any weed population may contain or develop plants naturally resistant to herbicides in various mode of action classes. Resistant biotypes may eventually dominate the weed population if the same class of chemistry/mode of action herbicides are used repeatedly in the same use site or in successive years.

To Delay Herbicide Resistance

- Avoid the use of herbicides that have a similar target site mode of action in consecutive years.
- Base herbicide use should be based on an Integrated Pest Management (IPM) program that includes scouting, record keeping, and consideration of cultivation practices, water management, weed free crop seed, crop rotation, and other chemical or cultural control practices.
- Monitor treated weed population for resistance development and report suspected resistance.
- Contact your local extension or crop expert (advisor) for any additional pesticide resistance management and/or IPM recommendations for specific crops and weed biotypes.
- For further information contact Valent U.S.A. Corporation at the following toll free number 800-682-5368.

CALIBRATION OF HERBICIDE APPLICATION EQUIPMENT

BroadStar Herbicide is a very active herbicide and can injure some otherwise tolerant plants if applied at excessive rates. The user is responsible for accurately calibrating herbicide application equipment so that *BroadStar* Herbicide is applied at the labeled rate of 150 lbs per acre. The user assumes responsibility for any plant damage or other liability resulting from application of *BroadStar* Herbicide at excessive rates.

Hand Cranked Spreaders

The application rate (lbs/acre) of *BroadStar* Herbicide with hand cranked spreaders will depend on the width of the plant bed to be treated, the operator's walking speed, the speed at which the operator turns the crank and the spreader setting (opening). The walking and cranking speed will vary among individual operators. Therefore, hand cranked spreaders must be calibrated for individual operators in order to apply *BroadStar* Herbicide at the labeled rate of 150 lbs per acre.

Use the spreader settings in Table 1 as a starting point when calibrating hand cranked spreaders for application of *BroadStar* Herbicide. These settings assume a walking speed of 3 mph, a cranking speed of 60 revolutions per minute (rpm) and that the operator makes one pass down each aisle between each plant bed.

To more precisely calibrate hand cranked spreaders for application of *BroadStar* Herbicide by individual operators, first select a test area that does not have plants present. Calculate the number of square feet in the test area by multiplying the length by the width (in feet) of the area to be treated. Include aisle space between beds when determining length and width of the test area. Then calculate the amount of *BroadStar* Herbicide needed to treat the test area by multiplying the number of square feet in the test area by 150, and dividing this result by 43,560. If the hand cranked spreader is listed in Table 1, set the spreader opening to the position indicated for the appropriate bed width. Place *BroadStar* Herbicide calibration trays in test area. Weigh out calculated amount of *BroadStar* Herbicide, place in the spreader, and apply to the test area at applicator's standard walking and cranking speed. Adjust spreader opening if measured amount of *BroadStar* Herbicide does not evenly cover the test area and/or if calibration trays indicate that too much or too little *BroadStar* Herbicide has been applied.

Example: there is room for six plant beds in the test area that will be treated with *BroadStar* Herbicide. Beds are 60 feet in length, six feet wide, and are separated by two-foot aisles. Therefore, the width of test area (i.e. distance between outside of Bed 1 and outside of Bed 6) is 46 ft, and the number of square feet in the test area = 60 ft x 46 ft = 2,760 square feet. Amount of *BroadStar* Herbicide needed to treat the test area = $2,760 \times 150 / 43,560 = 9.5$ pounds.

Table 1. Settings (Port Opening) for Hand Cranked Rotary Spreaders

Spreader	One Sided Operation		Two Sided Operation	
	Bed Width (ft)	Spreader Setting	Bed Width (ft)	Spreader Setting
Spyker 75	4	2.5	4	3.0
	6	3.0	6	3.5 - 4.0
	8	3.5	8	4.5
	10	3.5 - 4.0	10	4.5 - 5.0
	12	4.0	12	5.0 - 6.0
Warren T-7 11	4	—	4	4.0
	6	3.5 - 4.0	6	4.5
	8	4.0 - 4.5	8	5.0 - 5.5
	10	4.5	10	6.0
	12	5.0	12	—
Earthway 3100	4	8	4	8 - 10
	6	10 - 12	6	10
	8	10 - 12	8	10 - 12
	10	12	10	12
	12	12	12	12 - 14
Solo 421S	4	1	4	2
	6	1 - 2	6	3
	8	1 - 2	8	4
	10	2	10	5 - 6
	12	3 - 4	12	—

Table 2. Weight To Volume Conversion Table

Rate	Amount/1000 sq ft		Amount/100 sq ft	
Lbs/Acre	Lbs	Qts	Lbs	Cups
150	3.4	2.4	0.34	1.0

One pound of *BroadStar* Herbicide = 0.7 quarts = 2.8 cups

Application to Individual Containers

BroadStar Herbicide may be applied to the soil surface of individual containers, but only at a rate that is equivalent to the amount of product that would land on the media surface of an individual container if broadcast at 150 lbs per acre. Use the conversions in Table 3 to determine how much *BroadStar* Herbicide to apply to an individual container, and then use a hand shaker to evenly distribute over the media surface.

Table 3. Application Amounts for Individual Containers (equivalent to 150 lbs/A)

Pot Diameter (inches)	Gram(s) <i>BroadStar</i> Herbicide/pot	Teaspoon(s) <i>BroadStar</i> Herbicide/pot
4	0.14	1/28
5	0.21	1/18
6	0.31	1/12
7	0.42	1/9
8	0.55	1/7
9	0.69	1/6
10	0.85	1/5
11	1.03	1/4
12	1.23	1/3
13	1.44	1/3
14	1.67	1/2
15	1.92	1/2
16	2.18	5/8
17	2.46	5/8
18	2.79	3/4
19	3.08	3/4
20	3.41	7/8
21	3.76	1
22	4.12	1
23	4.51	1-1/4
24	4.91	1-1/4
25	5.33	1-1/2
26	5.76	1-1/2
27	6.21	1-3/4
28	6.68	1-3/4
29	7.17	2
30	7.67	2
31	8.19	2
32	8.73	2-1/4
33	9.28	2-1/2
34	9.85	2-1/2
35	10.44	2-3/4
36	11.05	3
37	11.67	3
38	12.31	3-1/4
39	12.96	3-1/2
40	13.64	3-1/2
41	14.33	3-3/4
42	15.03	4

One level teaspoon of *BroadStar* Herbicide weighs approximately 3.8 grams

One heaping teaspoon of *BroadStar* Herbicide weighs approximately 5.9 grams

One level tablespoon of *BroadStar* Herbicide weighs approximately 11.2 grams

ORNAMENTAL PLANT TOLERANCE INFORMATION

Most woody ornamental plants are tolerant to *BroadStar* Herbicide when the product is applied according to the label. However, *BroadStar* Herbicide is a very active herbicide and should not be applied on a commercial scale until the user has first confirmed its safety on a small number of test plants grown under his or her growing conditions. Test plants should be actively growing at the time of application, and examined for 4 to 8 weeks for symptoms of plant injury. If test plants are dormant at the time of application, or enter dormancy within 8 weeks after application, continue the injury evaluation until after plants break dormancy in the spring.

Mild leaf spotting is the most common symptom of *BroadStar* Herbicide injury on tolerant ornamental plants, and usually appears within 1 to 2 days after application. Leaf spotting is most likely to occur when *BroadStar* Herbicide is applied to new flush that is wet at time of application. In order to minimize the risk of leaf spotting, completely read and follow the **Application Recommendations** section of the label.

If NOT applied in accordance with the label, *BroadStar* Herbicide may cause unacceptable injury to some otherwise tolerant ornamental plant species.

Treatment of Ornamental Plant Species Labeled as Sensitive

BroadStar Herbicide can cause significant injury to woody ornamental plants listed in Table 5. **The user assumes responsibility for any plant damage that results from the application of *BroadStar* Herbicide to plants listed as sensitive.**

Treatment of Ornamental Plant Species NOT Listed on Label

BroadStar Herbicide can be applied to woody ornamental shrubs and trees not specifically listed on this label. However, the user should NOT begin commercial scale application of *BroadStar* Herbicide on non-listed species until after first confirming the product's safety on a small number of plants grown under standard growing conditions. **The user assumes responsibility for any plant damage that results from the application of *BroadStar* Herbicide to non-listed plant species.**

Treatment of Ornamental Plant Species with Wet Foliage

When *BroadStar* Herbicide is applied to dry plants, most *BroadStar* Herbicide granules will bounce or roll off of foliage before releasing herbicide residues. However, if *BroadStar* Herbicide is applied to plants that are wet from dew, irrigation water or rainfall, some granules may stick to foliage and release herbicide residues. Herbicide release **onto** wet foliage can injure some plant species, including those that are tolerant, when *BroadStar* Herbicide is applied to dry foliage. Therefore, *BroadStar* Herbicide should NOT be applied to wet plants, especially those with

pubescent foliage or a leaf structure that tends to trap granules at growing points.

Treatment of Recently Transplanted Liners

Under certain conditions, *BroadStar* Herbicide can cause significant injury to recently transplanted liners of some plant species that are tolerant when more established (i.e. have formed a well developed root system). Injury to recently transplanted liners is most likely when *BroadStar* Herbicide is applied to smaller liners (less than one gallon container size), is applied at above labeled rates, and is applied before potting media has been settled by irrigation or rainfall. Therefore, **do not apply *BroadStar* Herbicide to recently transplanted liners with root balls less than 4 inches in diameter until plants have been actively growing for at least 6 weeks after transplanting and have established a vigorous root system.**

Treatment of Herbaceous Plants, Tropical Shrubs and Foliage Plants

BroadStar Herbicide will severely injure many annual bedding plants (e.g. Petunia), and some herbaceous perennials (e.g. Hosta), tropical shrubs and foliage plants. Therefore, do not apply *BroadStar* Herbicide over-the-top of herbaceous annual bedding plants, herbaceous perennials, tropical shrubs or foliage plants until after the user has confirmed the product's safety on a small number of plants grown under standard growing conditions.

Treatment of Seedling Trees and Shrubs

BroadStar Herbicide may injure seedlings of some trees and shrubs if applied before seedlings have established a vigorous root system. Therefore, do not apply *BroadStar* Herbicide to tree and shrub seedlings within one year after germination, unless the user has first confirmed the product's safety on a small number of plants grown under standard growing conditions.

DIRECTIONS FOR USE IN CONTAINER, FIELD OR LANDSCAPE GROWN ORNAMENTAL SHRUBS, TREES, CHRISTMAS TREES, GROUND COVERS, NON-BEARING FRUIT AND NUT TREES, VINES, AND BARE GROUND NON-CROP AREAS

In residential and commercial landscape, *BroadStar* Herbicide should only be applied by commercial licensed applicators. *BroadStar* Herbicide applied at 150 lbs per acre (approximately 3.5 lbs per 1000 sq ft) is an effective herbicide treatment for control of the weeds listed in Table 4 when applied to established container, field or landscape grown shrubs, trees, Christmas trees, ground covers, non-bearing fruit and nut trees and vines. *BroadStar* Herbicide may also be applied at 150 lbs/A to maintain bare ground in non-crop areas in apartment complexes, gravel surfaces, ground mats, golf courses, office complexes, parks, parking areas, recreational sites, schools, sidewalks and other similar sites. Apply *BroadStar* Herbicide in these settings before weeds germinate.

READ AND FOLLOW THE ENTIRE **GENERAL INFORMATION** SECTION OF THIS LABEL BEFORE APPLYING **Special Product Use Precautions for Landscape Application**

BroadStar Herbicide can cause contact injury to foliage of landscape ornamentals if applied over the top of new flush, and especially if foliage is wet. To maximize crop tolerance, apply *BroadStar* Herbicide to dormant or non-actively growing landscape plants and avoid application to new flush.

To minimize the potential for plant injury do not apply *BroadStar* Herbicide:

- To foliage that is wet due to rainfall, irrigation or dew.
- Over the top of ornamental plants not listed on this label until evaluating plant tolerance on a small number of plants grown under standard growing conditions.
- To plants whose leaves channel the herbicide granules to the leaf base.
- To plants grown from seed until at least one year after seed germination, unless tolerance is first confirmed on a small number of plants.
- To bedding plants or in areas where bedding plants will be planted or transplanted within three months following application.
- To recently transplanted ornamentals (including those on the list of tolerant ornamental species) until such plants have been actively growing for at least 6 weeks after transplanting, and have established a vigorous root system.

WEEDS CONTROLLED

When applied at 150 lbs/A before weeds germinate, *BroadStar* Herbicide will provide good to excellent preemergent control of the following annual grass and broadleaf weeds.

Table 4. WEEDS CONTROLLED

COMMON NAME	SCIENTIFIC NAME
Alyssum, Hoary	<i>Berteroa incana</i>
Amaranth	
Palmer	<i>Amaranthus palmeri</i>
Spiny	<i>Amaranthus spinosus</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Beggarweed, Florida	<i>Desmodium tortuosum</i>
Bittercress, Hairy	<i>Cardamine hirsute</i>
Bluegrass, Annual	<i>Poa annua</i>
Burclover, California	<i>Medicago hispida</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed	
Common	<i>Stellaria media</i>
Mouseear	<i>Cerastium vulgatum</i>
Crabgrass	
Large	<i>Digitaria sanguinalis</i>
Smooth	<i>Digitaria ischaemum</i>
Southern	<i>Digitaria ciliaris</i>
Croton, Tropic	<i>Croton glandulosus</i> var. <i>septrionalis</i>
Dandelion	<i>Taraxacum officinale</i>
Dayflower, Benghal	<i>Commelina benghalensis</i>
Dogfennel	<i>Eupatorium capillifolium</i>
Doveweed	<i>Murdannia nudiflora</i>

(continued)

Table 4. WEEDS CONTROLLED (continued)

COMMON NAME	SCIENTIFIC NAME
Eclipta	<i>Eclipta prostrata</i>
Filaree, Redstem	<i>Erodium cicutarium</i>
Foxtail	
Bristly	<i>Setaria verticillata</i>
Giant	<i>Setaria faberi</i>
Green	<i>Setaria viridis</i>
Yellow	<i>Setaria glauca</i>
Galinsoga, Hairy	<i>Galinsoga ciliata</i>
Geranium, Carolina	<i>Geranium carolinianum</i>
Goosegrass	<i>Eleusine indica</i>
Groundsel, Common	<i>Senecio vulgaris</i>
Henbit	<i>Lamium amplexicaule</i>
Horseweed	<i>Conyza canadensis</i>
Indigo, Hairy	<i>Indigofera hirsuta</i>
Jimsonweed	<i>Datura stramonium</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters,	
Common	<i>Chenopodium album</i>
Liverwort*	<i>Marchantia polymorpha</i>
Lovegrass, California	<i>Eragrostis diffusa</i>
Mallow	
Common	<i>Malva neglecta</i>
Little	<i>Malva parviflora</i>
Venice	<i>Hibiscus trionum</i>
Mayweed	<i>Anthemis cotula</i>
Morningglory	
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>
Ivyleaf	<i>Ipomoea hederacea</i>
Smallflower	<i>Jacquemontia tamnifolia</i>
Tall	<i>Ipomoea purpurea</i>
Moss species	<i>Bryum</i> spp.
Mulberry Weed	<i>Fatua villosa</i>
Nightshade	
Black	<i>Solanum nigrum</i>
Eastern Black	<i>Solanum elaeagnifolium</i>
Panicum	
Fall	<i>Panicum dichotomiflorum</i>
Texas	<i>Panicum texanum</i>
Parsley-Piert	<i>Alchemilla arvensis</i>
Pearlwort, Birdseye	<i>Sagina procumbens</i>
Pennycress, Field	<i>Thlaspi arvense</i>
Phyllanthus,	
Longstalk	<i>Phyllanthus tenellus</i>
Pigweed	
Prostrate	<i>Amaranthus blitoides</i>
Redroot	<i>Amaranthus retroflexus</i>
Smooth	<i>Amaranthus hybridus</i>
Tumble	<i>Amaranthus albus</i>
Pineapple-weed	<i>Matricaria matricarioides</i>
Plantain	
Broadleaf	<i>Plantago major</i>
Buckhorn	<i>Plantago lanceolata</i>
Puncturevine	<i>Tribulus terrestris</i>
Purslane, Common	<i>Portulaca oleracea</i>

(continued)

*Will provide some postemergent control of liverwort which will be enhanced at higher temperatures and light levels.

Table 4. WEEDS CONTROLLED (continued)

COMMON NAME	SCIENTIFIC NAME
Pusley, Florida	<i>Richardia scabra</i>
Ragweed	
Common	<i>Ambrosia artemisiifolia</i>
Giant	<i>Ambrosia trifida</i>
Redmaids	<i>Calandrinia ciliata</i>
Rocket, Yellow	<i>Barbarea vulgaris</i>
Senna, Coffee	<i>Cassia occidentalis</i>
Sesbania, Hemp	<i>Sesbania exaltata</i>
Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>
Signalgrass	<i>Brachiaria platyphylla</i>
Smartweed,	
Pennsylvania	<i>Polygonum pennsylvanicum</i>
Sowthistle, Annual	<i>Sonchus oleraceus</i>
Spurge	
Prostrate	<i>Euphorbia humistrata</i>
Spotted	<i>Euphorbia maculata</i>
Starbur, Bristly	<i>Acanthospermum hispidum</i>
Thickhead	<i>Crassocephalum crepidioides</i>
Thistle	
Canada	<i>Cirsium arvense</i>
Russian	<i>Salsola iberica</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Waterhemp	
Common	<i>Amaranthus rudis</i>
Tall	<i>Amaranthus tuberculatus</i>
Woodsorrel,	
Common Yellow	<i>Oxalis stricta</i>

SENSITIVE ORNAMENTAL SPECIES

Injury has been reported after application of *BroadStar* Herbicide to the plants listed in Table 5, especially when applied to small, recently transplanted liners. In some cases, only specific cultivars are listed because injury has not been reported on other cultivars of this species (See Tables 6-8). It is recommended that *BroadStar* Herbicide not be applied to these plant species or cultivars.

Table 5. SENSITIVE SPECIES

COMMON NAME	SCIENTIFIC NAME
Butterfly Bush	<i>Buddleia davidii</i>
Clethra,	
Summersweet	<i>Clethra alnifolia</i>
Deutzia, Slender	<i>Deutzia gracilis</i> "Nikko"
Holly, Winterberry	<i>Ilex verticillata</i>
Hydrangea	<i>Hydrangea</i> spp.
Nandina	<i>Nandina domestica</i> "Firepower"
Plumbago, Cape	<i>Plumbago auriculata</i>
Spirea, Japanese	<i>Spiraea japonica</i>
Wax Myrtle,	
Southern (seedling)	<i>Myrica cerifera</i>

TOLERANT ORNAMENTAL SPECIES

Injury other than temporary leaf spotting has not been observed on species listed in Tables 6-8 when *BroadStar* Herbicide was applied at the labeled rate to established plants with a well developed root system. Some species listed as tolerant in Tables 6-8 may be injured if *BroadStar* Herbicide is applied before transplanted liners have established a well developed root system (See general Restrictions and Limitations section in this label for complete details). *BroadStar* Herbicide has not been applied to all cultivars of listed species, or under all environmental conditions and cultural practices under which these species could be grown. Therefore, before beginning commercial scale application of *BroadStar* Herbicide to plants labeled as tolerant, the user should first confirm the product's safety on a small number of plants grown under standard growing conditions.

Table 6. TREES INCLUDING CHRISTMAS TREES

COMMON NAME	SCIENTIFIC NAME
Arborvitae	
American	<i>Thuja occidentalis</i>
Giant	<i>Thuja plicata</i>
Oriental	<i>Thuja orientalis</i>
Ash	
Green	<i>Fraxinus pennsylvanica</i>
White	<i>Fraxinus americana</i>
Birch	<i>Betula</i> spp.
Cedar, Deodora	<i>Cedrus deodora</i>
Crabapple, Flowering	<i>Malus</i> spp.
Cottonwood	<i>Populus deltoids</i>
Cypress	
Italian	<i>Cupressus sempervirens</i>
Templehoff	<i>Chamaecyparis obtusa</i>
Dogwood, Florida	<i>Cornus florida</i>
Elm, Chinese	<i>Ulmus parvifolia</i>
Eucalyptus	
Mealy	<i>Eucalyptus cinerea</i>
Red Gum	<i>Eucalyptus camaldulensis</i>
Ficus	<i>Ficus benamina</i>
Fir	
Balsam	<i>Abies balsamea</i>
Douglas	<i>Pseudotsuga menzesii</i>
Fraser	<i>Abies fraseri</i>
Grand	<i>Abies grandis</i>
Korean	<i>Abies koreana</i>
Noble	<i>Abies procera</i>
Ginkgo	<i>Ginkgo biloba</i>
Hemlock	
Eastern	<i>Tsuga canadensis</i>
Mountain	<i>Tsuga mertensiana</i>
Western	<i>Tsuga heterophylla</i>
Lilac, Hungarian	<i>Syringa josikaea</i>
Magnolia, Lily	<i>Magnolia lilliflora</i>

(continued)

**Table 6. TREES INCLUDING CHRISTMAS TREES
(continued)**

COMMON NAME	SCIENTIFIC NAME
Maple	
Flame	<i>Acer ginnala</i>
Flowering	<i>Abutilon hybridum</i>
Japanese	<i>Acer palmatum</i>
Red	<i>Acer rubrum</i>
Striped	<i>Acer pensylvanicum</i>
Mulberry, White	<i>Morus alba</i>
Oak	
Bear	<i>Quercus ilicifolia</i>
Live	<i>Quercus virginiana</i>
Pin	<i>Quercus palustris</i>
Red	<i>Quercus rubra</i>
Willow	<i>Quercus phellos</i>
Pine	
Eastern White	<i>Pinus strobus</i>
Jack	<i>Pinus banksiana</i>
Lacebark	<i>Pinus bungeana</i>
Loblolly	<i>Pinus taeda</i>
Lodgepole	<i>Pinus contorta</i>
Longleaf	<i>Pinus palustris</i>
Mugo	<i>Pinus mugo</i>
Ponderosa	<i>Pinus ponderosa</i>
Sand	<i>Pinus clausa</i>
Scotch	<i>Pinus sylvestris</i>
Shortleaf	<i>Pinus echinata</i>
Slash	<i>Pinus elliotii</i>
Virginia	<i>Pinus virginiana</i>
Plum, Beach	<i>Prunus maritima</i>
Podocarpus	<i>Podocarpus</i> spp.
Poplar	<i>Populus</i> spp.
Red Cedar, Eastern	<i>Juniperus virginiana</i>
Redbud	<i>Cercis canadensis</i>
Spruce	
Blue	<i>Picea pungens</i>
Dwarf Alberta	<i>Picea glauca conica</i>
Norway	<i>Picea abies</i>
Serbian	<i>Picea omorika</i>
Sitka	<i>Picea sitchensis</i>
Sumac, Staghorn	<i>Rhus typhina</i>
Sweetgum, American	<i>Liquidambar styraciflua</i>
Sycamore	
American	<i>Platanus occidentalis</i>
California	<i>Platanus racemosa</i>
Yew, Japanese	<i>Taxus cuspidata</i>

**Table 7. SHRUBS AND GROUNDCOVERS
COMMON NAME SCIENTIFIC NAME**

Abelia, Glossy	<i>Abelia x grandiflora</i>
Acacia	<i>Acacia</i> spp.
Anise, Purple	<i>Illicium floridanum</i>
Barberry	<i>Berberis</i> spp.
Japanese	<i>Berberis thunbergii</i>
William Penn	<i>Berberis x gladwynensis</i>
Bayberry	<i>Myrica pensylvanica</i>
Bottlebrush	<i>Callistemon</i> spp.
Boxwood, Littleleaf	<i>Buxus microphylla</i>
Camellia	<i>Camellia japonica</i>
Cinquefoil, Shrubby	<i>Potentilla fruticosa</i>
Cotoneaster,	
Bearberry	<i>Cotoneaster dammeri</i>
Crape Myrtle ¹	<i>Lagerstroemia indica</i> spp.
Elaeagnus	<i>Elaeagnus</i> spp.
English Ivy	<i>Hedera helix</i>
Euonymus, Winged ²	<i>Euonymus alatus</i>
Firethorn, Scarlet	<i>Pyracantha coccinea</i>
Forsythia	
Border	<i>Forsythia x intermedia</i>
Weeping	<i>Forsythia suspense</i>
White	<i>Abeliophyllum distichum</i>
Gardenia,	
Cape Jasmine	<i>Gardenia jasminoides</i>
Heath	<i>Erica cinerea</i>
Holly	
Chinese	<i>Ilex cornuta</i>
Inkberry	<i>Ilex glabra</i>
Japanese ²	<i>Ilex crenata</i>
Meserve ²	<i>Ilex x meserveae</i>
Nellie R. Stevens	<i>Ilex x Nellie R. Stevens</i>
Honeysuckle,	
Japanese	<i>Lonicera japonica</i>
Indian Hawthorn	<i>Raphiolepis indica</i>
Juniper	
Creeping	<i>Juniperus horizontalis</i>
Shore	<i>Juniperus conferta</i>
Singleseed	<i>Juniperus squamata</i>
Myoporum	<i>Myoporum parvifolium</i>
Oleander	<i>Nerium</i> spp.
Oregon Grape	<i>Mahonia</i> spp.
Pachysandra	<i>Pachysandra terminalis</i>
Photinia	<i>Photinia x fraseri</i>
Pieris, Japanese	<i>Pieris japonica</i>
Pittosporum, Japanese	<i>Pittosporum tobira</i>
Privet	
Chinese ²	<i>Ligustrum sinense</i>
Japanese	<i>Ligustrum japonicum</i>
Pyracantha	<i>Pyracantha</i> spp.
Rhododendron,	
Catawba	<i>Rhododendron catawbiense</i>

¹ Temporary injury reported at bud break on some cultivars.

² Injury reported following application to newly transplanted liners.

(continued)

Table 7. SHRUBS AND GROUNDCOVERS (continued)

COMMON NAME	SCIENTIFIC NAME
Rose	<i>Rosa</i> spp.
Sweet Flag	<i>Acorus calamus</i>
Sweetspire, Virginia	<i>Itea virginica</i>
Tea Olive	<i>Osmanthus fragrans</i>
Viburnum	
Arrowwood	<i>Viburnum dentatum</i>
Pink Dawn	<i>Viburnum x bodnantense</i>
Sweet ²	<i>Viburnum odoratissimum</i>
Weigela	<i>Weigela florida</i>

² Injury reported following application to newly transplanted liners.

Table 8. NON-BEARING FRUIT AND NUT TREES AND VINES

COMMON NAME	SCIENTIFIC NAME
Apples	<i>Malus</i> spp.
Blueberry,	
Huckleberry	<i>Vaccinium</i> spp.
Bramble	<i>Rubus</i> spp.
Cherry, Sweet	<i>Prunus avium</i>
Citrus Fruits	<i>Citrus</i> spp.
Grapes	<i>Vitis</i> spp.
Olives	<i>Olea</i> spp.
Peach	<i>Prunum persica</i>
Pears	<i>Pyrus communis</i>
Prunes	<i>Prunus</i> spp.
Stone Fruits	<i>Prunus</i> spp.
Tree Nuts	
Walnut	<i>Juglans</i> spp.
Chestnut	<i>Castanea</i> spp.
Pecan	<i>Carya illionoinensis</i>
Pistachio	<i>Pistacia vera</i>
Almond	<i>Prunus dulcis</i>
Filbert	<i>Corylus maxima</i>

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Keep pesticide in original container.

Store in a cool, dry, secure place.

Do not put formulated or dilute spray solution into food or drink containers.

Do not contaminate food or foodstuffs.

Do not store or transport near feed or food.

Do not use or store in or around the home.

For help with any spill, leak, fire or exposure involving this material, call day or night **(800) 892-0099**.

PESTICIDE DISPOSAL

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

CONTAINER DISPOSAL

Nonrefillable outer bag. Do not reuse or refill the outer bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

BroadStar is a trademark and *Products That Work, From People Who Care* is a registered trademark of Valent U.S.A. Corporation

Manufactured for

Valent U.S.A. Corporation

P.O. Box 8025

Walnut Creek CA 94596-8025

Made in U.S.A.

Form 1482-E

EPA Reg. No. 59639-128

EPA Est. 39578-TX-01

Information contained in this booklet is accurate at the time of printing. Since product testing is a continuous process, please read and follow the directions on the product label for the most current directions and precautionary statements.

Always check with your state to verify state registration status or call 800-89-VALENT (898-2536).



For state registration and/or supplemental labels, please call or visit us online.

Products That Work, From People Who Care® | www.valentpro.com | 800-89-VALENT (898-2536)

Always read and follow label instructions.

©2011 Valent U.S.A. Corporation. All rights reserved. Printed in the U.S.A.

Material Safety Data Sheet

Product Name: Gordon's TRIMEC Classic Brand Broadleaf Herbicide

MSDS No.: 881-6

Version No.: 021

EPA Registration No.: 2217-543

1. Basic Information:

Manufacturer: PBI/Gordon Corporation
Address: 1217 West 12th Street
City, State Zip: Kansas City, MO 64101-1407
Information Contact: Environmental, Health, & Safety Dept.
Information Telephone Number: (816)421-4070
Emergency Contact: Chemtrec
Emergency Telephone Number: (800)424-9300

Last Update: 9/27/2001

Chemical State: ☒ Liquid ☐ Gas ☐ Solid
Chemical Type: ☐ Pure ☒ Mixture



2	Health
1	Flammability
0	Reactivity
B	Pers. Protection

2. Ingredients:

☐ Trade Secret (ND = Not Disclosed)

CAS No.	Chemical Name	% Range	EHS	NTP	IARC	SUB Z	SARA 313	OSHA PEL	ACGIH TLV	Other Limits
2008391	Dimethylamine Salt of 2,4-dichlorophenoxyacetic acid (2,4-D)	25.93%	N	N	Y	N	N	NI	NI	NI
2300665	Dimethylamine Salt of 3,6-dichloro-o-anisic acid (Dicamba)	2.76%	N	N	N	N	Y	NI	NI	NI
66423094	Dimethylamine Salt of R(+)-2-(2-Methyl-4-chlorophenoxy) propionic acid (MCPP)	6.93%	N	N	Y	N	N	NI	NI	NI

3. Hazardous Identification:

Hazard Category:

☒ Acute ☒ Chronic ☐ Fire ☐ Pressure ☐ Reactive

Hazardous Identification Information:

The International Agency for Research on Cancer (IARC) lists chlorophenoxy herbicides in its Group 2B (limited evidence for carcinogenicity in humans.) The US EPA has given the chlorophenoxy herbicides 2,4-D, 2,4-DP, MCP, and MCPA a Class D classification (not classifiable as to human carcinogenicity.) More current 2,4-D lifetime feeding studies in rats and mice did not show carcinogenic effects and a recent World Health Organization (WHO) review of 2,4-D toxicology has concluded that 2,4-D is not a carcinogen.

4. First Aid Measures:

Route(s) of Entry:

Skin contact, Inhalation, Ingestion.

Health Hazards (Acute and Chronic):

EYES: Corrosive. Causes irreversible eye damage.

SKIN: Moderately irritating to the skin; may be absorbed through the skin.

INHALATION: Moderately irritating to the mucous membranes. Inhalation of sprays may cause burning sensations in the respiratory tract, resulting in coughing.

INGESTION: May cause vomiting, with pain in the chest and abdomen, and diarrhea.

Signs and Symptoms:

Inhalation may cause burning in the chest, with coughing. Prolonged inhalation sometimes causes dizziness. Ingestion usually leads to vomiting. Pain in the chest and abdomen, and diarrhea may follow. Headache, mental confusion, and bizarre behavior are early

First Aid Measures (Continued)

manifestations of severe poisoning, which may progress to unconsciousness.

Medical Conditions Generally Aggravated by Exposure:

Individuals with chronic skin disease or known sensitivity to chlorophenoxy compounds should either avoid using them or take strict precautions to avoid contact. (respirator, gloves, etc.)

Emergency First Aid Procedure:

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF SWALLOWED: Call a doctor or get medical attention. Do not induce vomiting or give anything by mouth to an unconscious person. Drink promptly a large quantity of milk, eggwhites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

IF INHALED: Remove victim to fresh air and apply respiration if indicated.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

Other Health Warnings:

NI

5. Fire Fighting Measures:

Flash Point: 137°F

F.P. Method:

Lower Explosive Limit: NI

Upper Explosive Limit: NI

Fire Extinguishing Media:

Foam, CO2, dry chemical, water. The low flash point of this product is due to a minor component in the mixture. Based on independent laboratory testing of similar products, this product would not sustain combustion as specified in DOT Regulation 49 CFR 173 Appendix H, and, therefore, would not be classified as a combustible liquid.

Material Safety Data Sheet

Product Name: Gordon's TRIMEC Classic Brand Broadleaf Herbicide

MSDS No.: 881-6

Version No.: 021

EPA Registration No.: 2217-543

Fire Fighting Measures (Continued)

Special Fire Fighting Procedures:

Wear positive-pressure breathing apparatus and full protective clothing. Fight fire from maximum distance. Stay up-wind and out of low areas.

Unusual Fire and Explosion:

This product does not ignite readily, but may burn at a very high temperature. The fire may produce irritating or poisonous gases. Runoff from fire control area or dilution water may cause pollution. If surface water is contaminated, contact local authorities.

6. Accidental Release Measures:

Steps to be Taken in Case Material is Released or Spilled:

See Section 8 for Personal Protective Equipment. Do not touch spilled material. Contain and absorb spilled material on Dri-Rite, sand or other non-combustible absorbent. Collect into drums; cover and label for disposal. Flush area with water if possible.

7. Handling and Storage:

Precautions to be Taken:

Do not contaminate water, food, or feed by storage or disposal. STORAGE: Store in original container in a locked storage area. Keep from freezing.

Other Precautions:

Engineering Control Statements:

Containers over 1 gallon and less than 5 gallons: Persons engaged in open pouring of this product must also wear coveralls or a chemical resistant apron.

Containers of 5 gallons or more: Do not open-pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

8. Exposure Controls/Personal Protection:

Ventilation Requirements:

Good local ventilation is recommended; mechanical ventilation may be used if exposure limits may be exceeded.

Personal Protective Equipment:

Clothing Requirement Statement:

When mixing, loading, or applying this product, wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and eye protection. It is recommended that safety glasses include front, brow, and temple protection.

Personal Hygiene Statement:

After using this product, rinse gloves before removing, remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water. Remove saturated clothing as soon as possible and shower.

PROTECTIVE CLOTHING: Wear long sleeves and pants; chemical-resistant gloves and shoes with socks.

EYE PROTECTION: Safety glasses with side shields or safety goggles.

RESPIRATORY PROTECTION: If exposure limits may be exceeded, wear a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

9. Physical and Chemical Properties:

Boiling Point: 212 °F

Melting Point: NI

Evaporation Rate (Butyl Acetate = 1) : <1

Vapor Pressure (mm Hg.): <17 (20 C)

Vapor Density (Air = 1): >1

Specific Gravity (H2O = 1): 1.11700

Solubility in Water: Infinite

Appearance and Odor: Brown liquid with an amine-type odor

Other Information:

pH = 7.5-8.5

Density = 9.30 pounds/gallon

Freezing point <35°F

Percent volatile by volume 62%

10. Stability and Reactivity:

Stability:

Stable.

Incompatibility (Materials to Avoid):

Do not mix with acidic materials, as this will ruin the product.

Decomposition/By-Products:

May produce gases such as HCl, organo chlorides, nitrogen oxides, and carbon monoxide when burning.

Hazardous Polymerization:

Will not occur.

11. Toxicological Information:

Acute dermal LD50 >2010 mg/kg (rabbit)

Oral LD50 >2240 mg/kg (male rats) and >1550 mg/kg (female rats).

12. Ecological Information:

ENVIRONMENTAL HAZARDS:

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater. Do not contaminate domestic or irrigation waters. Do not apply when weather conditions favor drift from target area. When cleaning equipment, do not pour the washwater on the ground; spray or drain over a large area away from wells and other water sources.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D and MCPP have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D and MCPP pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

13. Disposal Considerations:

Material Safety Data Sheet

Product Name: Gordon's TRIMEC Classic Brand Broadleaf Herbicide**MSDS No.:** 881-6**Version No.:** 021**EPA Registration No.:** 2217-543

Disposal Considerations (Continued)

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. 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 DISPOSAL: For Metal Containers - 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. For Plastic Containers - Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities by burning. If burned stay out of smoke.

Other Information (Continued)

hazard determination, but is not to be construed as a warranty or representation for which we assume legal responsibility. Additional information may be necessary or desirable depending on particular, exceptional or variable conditions or circumstances of use or storage or because of locally applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information available to you and must make independent determinations of the suitability of the information for your particular circumstances or conditions and of the completeness of the information available from all sources to assure both the proper use of the material described herein and the safety and health of employees.

14. Transport Information:

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

Freight Class: Herbicides, NOI - NMFC Class #50320

Proper Shipping Name:

For package sizes less than 49.46 gallons: product is non-regulated.

For package sizes 49.46 gallons or greater: Environmentally Hazardous Substances, Liquid, N.O.S., 9, UN3082, PGIII, RQ (2,4-D)

If shipped in bulk containers (greater than 119 gallons), this product is a Marine Pollutant.

When shipped as a Hazardous Material, label required is Class 9 (Miscellaneous). Placards required on bulk shipments only.

15. Regulatory Information:

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS: This product is exempt from TSCA Regulation under FIFRA Section 3(2)(B)(ii) when used as a pesticide.

CERCLA REPORTABLE QUANTITY: 385 pounds of the formulation which contains 100 pounds of Dimethylamine 2,4-D

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Hazard, Delayed Health Hazard

SECTION 313 TOXIC CHEMICALS: Dimethylamine dicamba CAS# 2300-66-5

RCRA STATUS: When discarded in its purchased form, this product is a listed RCRA hazardous waste and should be managed as a hazardous waste. (40 CFR 261.20-24)

16. Other Information:

REASON FOR ISSUE: To change from racemic MCPP to the plus optical isomer.

Note: NI means not Indicated.

The information and statements in this Material Safety Data Sheet are believed to accurately reflect the scientific evidence used in making the



TRIMEC CLASSIC BRAND BROADLEAF HERBICIDE

USE THIS PRODUCT ONLY IN ACCORDANCE WITH ITS LABELING AND WITH THE WORKER PROTECTION STANDARD 40 CFR PART 170.

Low-odor formulation!
Outstanding broadleaf weed control.

ACTIVE INGREDIENTS:

Dimethylamine salt of 2,4-dichlorophenoxyacetic acid 25.93%
Dimethylamine salt of (+)-(R)-2-(2-methyl-4-chlorophenoxy)propionic acid 6.93%
Dimethylamine salt of dicamba: 3,6-dichloro-o-anisic acid 2.76%

INERT INGREDIENTS: 64.38%
TOTAL 100.00%

THIS PRODUCT CONTAINS:

1.98 lbs. 2,4-dichlorophenoxyacetic acid equivalent per gallon or 21.54%.
0.53 lb. (+)-(R)-2-(2-methyl-4-chlorophenoxy)propionic acid equivalent per gallon or 5.73%.
0.21 lb. 3,6-dichloro-o-anisic acid equivalent per gallon or 2.29%.

Isomer Specific by AOAC Method.

TRIMEC® is a registered trademark of PBI-GORDON CORPORATION.



KEEP OUT OF REACH OF CHILDREN DANGER – PELIGRO

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



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

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER: Corrosive. Causes irreversible eye damage. Causes skin irritation. Do not get into eyes, on skin or clothing. Harmful if absorbed through skin. Harmful if swallowed or inhaled. Avoid exposure to spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

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

All mixers, loaders, applicators and other handlers must wear*:

- protective eyewear,
- long-sleeved shirt and long pants,
- shoes and socks,
- chemical-resistant gloves and
- chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

*Applicators may choose not to wear protective eyewear with dilution rates greater (higher) than 5:1 or greater (higher) than 5 parts of water to 1 part of product.

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. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

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. If pesticide gets on skin, wash immediately with soap and water.
- 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:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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.
If swallowed:	<ul style="list-style-type: none"> • 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 inhaled:	<ul style="list-style-type: none"> • 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: Probable mucosal damage may contraindicate the use of gastric lavage.

Environmental Hazards

This pesticide is toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. 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. Application around a cistern or well may result in contamination of drinking water or groundwater.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

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

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

(cont. on next page)

Agricultural Use Requirements (cont.)

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard 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 footwear plus socks,
- chemical-resistant gloves made of any water-proof material,
- chemical-resistant headgear for overhead exposure and
- protective eyewear.

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.

Reentry Statement: Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

ORNAMENTAL LAWNS, ORNAMENTAL TURFGRASS AND SOD FARMS:

USE PRECAUTIONS:

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

Do not broadcast apply when air temperatures exceed 85°F; some injury may be expected with spot treatments when air temperatures exceed 85°F. Seed can be sown 3 to 4 weeks after application. After using this product, clean sprayer with soap or detergent and rinse thoroughly before using other pesticides in it.

Other Use Precautions:

Do not use this product on or near desirable plants, including contact of spray on exposed root systems or adventitious shoots within the drip line of desirable trees and shrubs, since injury may result.

Sites:

Trimec® Classic Brand Herbicide is intended to be applied by lawn care operators and landscape personnel for use in ornamental lawns and turf established in institutional, ornamental, and residential/domestic sites. Institutional sites are defined as turf areas around properties or facilities providing a service to public or private organizations including, but not limited to hospitals, nursing homes, schools, museums, libraries, sport facilities, golf courses, and office buildings. Ornamental sites include turfgrass established around residences, parks, streets, retail outlets, cemeteries, industrial and institutional buildings. Finally, residential/domestic sites are defined as areas associated with the household or home life including, but not limited to apartment complexes, condominiums, and patient care areas of nursing homes, mental institutions, hospitals, or convalescent homes.

Also, Trimec® Classic Brand Herbicide provides selective broadleaf control in warm-season and cool-season turfgrass established for commercial sod production.

ORNAMENTAL LAWNS, ORNAMENTAL TURFGRASS AND SOD FARMS ESTABLISHED WITH COOL-SEASON AND WARM-SEASON TURFGRASSES:

Maximum control of weeds in cool-season and warm-season turfgrasses will be obtained from spring or early fall applications when weeds are actively growing. Do not use on carpetgrass, dichondra, nor on lawns or turf where desirable clovers are present.

Avoid spraying during long, excessively dry or hot periods unless adequate irrigation is available. Do not irrigate within 24 hours after application. Do not apply to newly seeded turf until after the second or third mowing. Grass seed can be sown 3 to 4 weeks after application at recommended rates.

General Application:

Cool-Season Grasses, *Common Bermudagrass*, *Bahiagrass*, and *Zoysiagrass* – Apply 3.25 to 4.0 pints of product per acre with spray volumes of 20 to 260 gallons per acre (gpa). Or, apply 1.2 to 1.5 fluid ounces of product in 0.5 to 6 gallons of water per 1,000 square feet. Use the higher application rate with the higher spray volumes. The best time to control clover is in the fall. When making a spring application to control clover, the rate of 4 pints of product per acre is recommended.

Hybrid Bermudagrass – Apply 2.0 to 4.0 pints of product per acre with spray volumes of 20 to 260 gallons per acre (gpa). Or, apply 0.75 to 1.5 fluid ounces of product in 0.5 to 6 gallons of water per 1,000 square feet. Use the higher application rate with the higher spray volumes.

Certain hybrid bermudagrasses vary in tolerance to this product. Contact your local Extension Service Weed Control Specialist for turfgrass tolerance to this product.

Bentgrass, *Centipedegrass*, and *St. Augustinegrass* – On closely mowed bentgrass (putting greens, bowling greens, and show lawns), apply a maximum rate of 1.0 fluid ounce of product per 1,500 square feet with spray volumes of 5.0 gallons per 1,500 square feet. Do not apply when grass is under stress from drought or hot temperatures. Use application equipment that is capable of distributing uniform droplets over the entire area to be sprayed. Slight yellowing of turf will disappear after about one week. Care should be taken to avoid overdosing bentgrasses or injury may result.

Some injury can be expected to turf when used on centipedegrass or *St. Augustinegrass* lawns; spot spray weeds established in centipedegrass and *St. Augustinegrass* to avoid damage that may occur from a broadcast treatment. Do not apply this product to *St. Augustinegrass* during spring green-up which is the transition period between dormancy and active growth. Cultivars of *St. Augustinegrass* vary in tolerance to this product. *Do not apply this product to 'Floritam' St. Augustinegrass.*

Controlled Droplet Applicator (CDA):

Cool-Season Grasses, *Common Bermudagrass*, *Bahiagrass*, and *Zoysiagrass* – Add 2.5 pints of product to the Herbi container and fill with water. Spray contents over 33,000 square feet. Avoid overlapping between spray patterns.

Limitations on broadcast treatments for ornamental turfgrass and sod farms:

The maximum application rate is 4.0 pints of product per acre per application (0.99 lb. 2,4-D ae, 0.27 lb. MCPP-p ae, and 0.11 lb. dicamba ae per acre per application). For ornamental turfgrass, the maximum number of broadcast applications is limited to 2 per year with a minimum of 30 days between applications. For sod farms, the maximum number of broadcast applications is limited to 2 per year with a minimum of 21 days between applications. The maximum seasonal rate is 8.0 pints of product per acre (1.98 lbs. 2,4-D ae, 0.53 lb. MCPP-p ae, and 0.21 lb. dicamba ae per acre).

Limitations on spot treatments for ornamental turfgrass:

Spot treatment is defined as a treatment area no greater than 1,000 sq. ft. per acre. The maximum application rate is 1.5 fl. oz. per 1,000 sq. ft. per application (0.27 lb. MCPP-p acid equivalent per acre) The maximum number of spot treatments is limited to 2 per year with a minimum of 30 days between applications.

Spray Drift Management

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of ground application can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

Use only Medium or coarser spray nozzles according to ASAE (S 572) definition of standard nozzles or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 10 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals,

sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates. Do not apply with a nozzle height greater than 4 feet above the crop canopy. Do not apply by aerial application.

BROADLEAF WEEDS

annual fleabane	field oxeye-daisy	plantain
aster, white heath &	(*creeping oxeye)	poison ivy
white prairie	field pennycress	poison oak
bedstraw	filaree, whitestem &	prostrate knotweed
beggarticks	redstem	(*knotweed)
beggarweed,	Florida pusley	puncturevine
creeping	ground ivy	purple cudweed
bindweed	groundsel	purslane
birdsfoot trefoil	hairy bittercress	ragweed
black medic	hawkweed	redweed
broadleaf plantain	healfall	red sorrel (*sheep
buckhorn plantain	henbit	sorrel)
bull thistle	horsenettle	roundleaf greenbriar
burdock	horseweed	shepherdspurse
burdock, common	innocence	spotted spurge
buttercup, creeping	(Blue-eyed Mary)	spurge
Carolina geranium	jimsonweed	sunflower
carpetweed	kochia	thistle
chickweed, common	lambquarters	velvetleaf
chicory	lawn burweed	(*buttonweed)
cinquefoil	lespedeza, common	Venice mallow
clover	mallow, common	Veronica (*corn
cocklebur	matchweed	speedwell)
compassplant	mouseear chickweed	Virginia buttonweed
curly dock	mustard	Virginia-creeper
dandelion	nettle	western salsify
dayflower	old world diamond	white clover (*Dutch
deadnettle	flower	clover, honeysuckle
dock	Oxalis (*yellow	clover, white trefoil &
dogfennel	woodsorrel &	purplewort)
dovefoot geranium	creeping woodsorrel)	wild carrot
English daisy	parsley-piert	wild garlic
false dandelion	Pennsylvania	wild geranium
(*spotted catsear &	smartweed	wild lettuce
common catsear)	pennywort	wild mustard
field bindweed	(*dollarweed)	wild onion
(*morningglory &	pepperweed	wild strawberry
creeping jenny)	pigweed	yarrow
field madder	pineappleweed	yellow rocket

*Synonyms

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. EPA*, C01-0132C, (W.D. WA). For further information, please refer to EPA Web Site: <http://www.epa.gov/espp>.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container in a locked storage area. Keep from freezing.

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

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. 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.

(cont. on next column)

STORAGE AND DISPOSAL (cont.)

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.

OR

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 of use or 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.**

THE EXCLUSIVE REMEDY OF BUYER AND ALL USERS OF THIS PRODUCT, AND THE EXCLUSIVE LIABILITY OF THE MANUFACTURER, FOR ANY AND ALL LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF OR THE REPAYMENT OF THE PURCHASE PRICE FOR THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO CASE SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. The Manufacturer must be promptly notified in writing of any claims, whether based in contract, tort, negligence, strict liability, or otherwise, to be eligible to receive either remedy stated above.

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.

881/11-2012 AP050812
EPA REG. NO. 2217-543



MANUFACTURED BY
PBI/GORDON CORPORATION
1217 WEST 12TH STREET
KANSAS CITY, MISSOURI 64101
www.pbigordon.com

ATTENTION: This specimen label is provided for informational use only. This pesticide 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 pesticide you are using.

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****Product Name:** ProDeuce Herbicide**EPA Reg. No.:** 228-509**Product Type:** Herbicide**Company Name:** Nufarm Americas Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330**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:**

Not hazardous

HEALTH HAZARDS:

Eye Irritation

Category 2B

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute

Category 2

Hazardous to aquatic environment, chronic

Category 2

SIGNAL WORD

Warning

HAZARD STATEMENTS:

Causes eye irritation. May cause cancer. Toxic to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS**

Wash hands thoroughly after handling. Avoid unintended release to the environment.

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.

Collect spillage.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Glyphosate, N-(phosphonomethyl)glycine, Isopropylamine salt	38641-94-0	40 – 41.3
Prodiamine	29091-21-2	7.1 – 7.9
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Glyphosate IPA; N-(phosphonomethyl) glycine, in the form of its isopropylamine salt.

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

4. FIRST AID MEASURES

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. Get medical attention if irritation occurs and persists.

If Swallowed: 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 symptoms develop, get medical advice.

If Inhaled: Move person to fresh air. If breathing is difficult, administer oxygen. If symptoms develop, get medical advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin with plenty of water for several minutes. If irritation occurs, get medical advice.

Most important symptoms/effects, acute and delayed: Causes eye irritation. May be harmful if swallowed.

Indication of immediate medical attention and special treatment needed, if necessary: Immediate medical attention should not be required.

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: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later. This product reacts with galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

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

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: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other 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:**

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 Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SAFETY DATA SHEET

ProDeuce Herbicide

Solutions of this product should be mixed or stored only in stainless steel, aluminum, fiberglass, plastic and plastic lined containers. DO NOT MIX OR STORE THIS PRODUCT OR SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR TANKS. This product or solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Storage:

STORE ABOVE 10° F (-12° C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68° F (20° C) for several days to redissolve and shake or roll to mix well before using. Do not contaminate water, food, or feed 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. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

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:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Glyphosate, IPA Salt	NE	NE	NE	NE	
Prodiamine	NE	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow liquid
Odor:	Faint
Odor threshold:	No data available
pH:	4.8 (1% dispersion in DIW)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	Not applicable due to aqueous formulation
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:	1.196 g/mL @ 20° C
Solubility(ies):	Miscible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	408.082 cPs @ 20° C; 177.719 cPs @ 40° C

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: This product reacts with aluminum, galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur. This product may react with aluminum, galvanized steel, or unlined steel containers to form hydrogen gas which is highly combustible.

Conditions to Avoid: Excessive heat. Do not store near heat or flame. Do not store in aluminum, galvanized steel, or unlined steel containers.

Incompatible Materials: Strong oxidizing agents: bases and acids. This product reacts with galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Hazardous Decomposition Products: Under fire conditions, may produce gases such as oxides of carbon, nitrogen and phosphorous.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact

Symptoms of Exposure:

Eye: Slightly irritating based on toxicity studies.

Skin: Slightly toxic and non-irritating based on toxicity studies.

Inhalation: Low inhalation toxicity.

Ingestion: Slightly toxic based on toxicity studies. May cause nausea, vomiting, and abdominal pain.

Delayed, immediate and chronic effects of exposure: None reported.

Toxicological Data:

Data from laboratory studies on this product are summarized below:

Oral: Rat LD₅₀: >5,000 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.06 mg/l (no mortalities at highest dose tested)

Eye Irritation: Rabbit: Mildly irritating (MMTS=19.7)

Skin Irritation: Rabbit: Slightly irritating (PDII= 1.2)

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to glyphosate may decrease body weight gains and effects to liver. Repeated overexposure to prodiamine may decrease body weight gains and affect the liver and thyroid. The surfactant component of this product is reported to cause irritation to the eyes and skin and may contribute to the irritation potential reported for this product. Ingestion may produce gastrointestinal irritation, nausea, vomiting and diarrhea.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to glyphosate may cause effects to the liver. EPA has given glyphosate a Group E classification (evidence of non-carcinogenicity in humans). Canada PMRA has classified glyphosate as non-carcinogenic. In 2015 IARC classified glyphosate as a probable human carcinogen Group 2A based on limited human evidence and some evidence in animals. In animal studies with prodiamine, benign thyroid tumors were seen in rats, but none were observed in mice.

Reproductive Toxicity: In laboratory animal studies with glyphosate and prodiamine, effects on reproduction have been seen only at doses that produced toxicity to the parent animals. For prodiamine these effects were seen at high doses.

Developmental Toxicity: In animal studies, glyphosate did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. For prodiamine, fetal toxicity has been seen at high dose levels in rats, developmental and maternal toxicity observed at 1g/kg/day.

Genotoxicity: Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells. Animal tests with prodiamine did not demonstrate mutagenic effects.

Assessment Carcinogenicity:

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

	Regulatory Agency Listing As Carcinogen
--	--

SAFETY DATA SHEET**ProDeuce Herbicide**

Component	ACGIH	IARC	NTP	OSHA
Glyphosate, IPA Salt	No	2A	No	No
Prodiamine	No	No	No	No

12. ECOLOGICAL INFORMATION**Ecotoxicity:****Data on Glyphosate Technical:**

96-hour LC ₅₀ Bluegill:	120 mg/l	Bobwhite Quail 8-day Dietary LD ₅₀ :	>4,500 ppm
96-hour LC ₅₀ Rainbow Trout:	786 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>4,500 ppm
48-hour EC ₅₀ Daphnia:	780 mg/l		

Data on Prodiamine

96-hour LC ₅₀ Bluegill Sunfish:	0.55 ppm	Bobwhite Quail 8-day Dietary LC ₅₀ :	>10,000 ppm
96-hour LC ₅₀ Rainbow Trout:	0.83 ppm	Mallard Duck 8-day Dietary LC ₅₀ :	>10,000 ppm
48-hour LC ₅₀ Daphnia magna:	0.66 ppm	Bees LC ₅₀ /EC ₅₀ :	>100 µg/bee

Environmental Fate:

In the environment glyphosate adsorbs strongly to soil and is expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA (aminomethyl phosphonic acid) that is further degraded to carbon dioxide. Glyphosate and AMPA are unlikely to enter ground water due to their strong adsorptive characteristics. Terrestrially-applied glyphosate has the potential to move into surface waters through soil erosion because it may be adsorbed to soil particles suspended in the runoff. Aquatic applications registered for certain formulations may also result in glyphosate entering surface waters. Complete degradation is slow, but dissipation in water is rapid because glyphosate is bound in sediments and has low biological availability to aquatic organisms. These characteristics suggest a low potential for bioconcentration in aquatic organisms and this has been verified by laboratory investigations of glyphosate bioconcentration in numerous marine and freshwater organisms with and without soil. The maximum whole body bioconcentration factors for fish were observed to be less than 1X. Bioconcentration factors for sediment dwelling mollusks and crayfish tended to be slightly higher, but were always less than 10X. In addition, any residues accumulated in organisms were rapidly eliminated.

Prodiamine does not bioaccumulate. Prodiamine is persistent in soil (immobile) and has an average half-life of approximately 120 days. Prodiamine is stable in water (sinks in water after 24 hours).

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Wastes resulting from use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapors and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

COMMERCIAL Container Handling and Disposal:**Nonrefillable Containers 5 Gallons or Less:**

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank 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. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

Nonrefillable containers larger than 5 Gallons:

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, 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. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

SAFETY DATA SHEET

ProDeuce Herbicide

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 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

CONTAINER HANDLING [DISPOSAL]: 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. 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.

RESIDENTIAL Container Handling and Disposal:

Nonrefillable container. Do not reuse or refill this container.

If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.

14. TRANSPORTATION INFORMATION

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

DOT

< 119 gallons per completed package:
Non Regulated

≥ 119 gallons per completed package:
UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Prodiamine), 9, III, Marine pollutant

IMDG

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Prodiamine), 9, III, Marine pollutant

IATA

Non 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: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling.

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

SAFETY DATA SHEET

ProDeuce Herbicide

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: This product contains a component that is known to the State of California to cause cancer.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 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: May 15, 2015

Supersedes: April 14, 2015



www.summithill.org

Summit Hill School District 161

Arbury Hills School ■ Frankfort Square School ■ Indian Trail School
Dr. Julian Rogus School ■ Walker Intermediate School ■ Summit Hill Jr. High

NOTIFICATION TO ALL OCCUPANTS RE: INTEGRATED PEST MANAGEMENT PROGRAM

Notice is given that the following building

<School>

<Address> <City>

State Zip>

Will receive a pesticide application on

<insert date>

in compliance with the Integrated Pest Management Program developed by Summit Hill School District 161 in accordance with the USEPA and the IDPH

The following pesticides will be applied:

<insert product name>

Questions should be directed to:

Jim Jakubowski, Director of Buildings & Grounds
Summit Hill School District 161
20100 S. Spruce Drive
Frankfort, IL 60423