

Barricade 4FL and Cheeta Pro Herbicide Labels



syngenta.

Herbicide

For selective preemergence control of grass and broadleaf weeds in:

- established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries
- container, field-grown, and landscape ornamentals
- established perennial and wildflower plantings
- Christmas tree farms

Active Ingredient:

Prodiamine*	40.7%
Other Ingredients:	59.3%
Total:	100.0%

*CAS No. 29091-21-2

Barricade 4FL contains 4 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-1139 EPA Est. 70815-GA-002 Product of India

Formulated in the USA

SCP 1139A-L10C 0121 4134921 **1 gallon**

Net Contents



Cheetah Herbicide will be referred to as Cheetah throughout the label. Cheetah is a non-selective herbicide that provides control of a broad spectrum of broadleaf weeds and grassy weeds.

Cheetah is registered for use: as a burndown treatment prior to planting or prior to emergence of canola, corn, cotton, sweet corn, soybean and sugar beets; post emergence weed control herbicide to be applied on crops containing the glufosinate-resistant gene; post emergence weed control in cotton when applied with a hooded sprayer in-crop; post emergence weed control in listed tree, olives, vine, and berry crops; applied for potato vine desiccation; as a nonselective postemergent herbicide

ACTIVE INGREDIENT:

Glufosinate-ammonium*	24.5%**
OTHER INGREDIENTS:	75.5%
TOTAL:	100.0%

*CAS Number 77182-82-2

**Equivalent to 2.34 pounds of active ingredient per U.S. gallon.

Shake Well, Agitate or Recirculate Before Use

KEEP OUT OF REACH OF CHILDREN CAUTION

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

SEE INSIDE BOOKLET FOR FIRST AID AND PRECAUTIONARY
STATEMENTS

EPA Reg. No. 71368-112

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

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

GLUFOSINATE GROUP

HERBICIDE

HOT LINE NUMBER

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

NOTE TO PHYSICIAN

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

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300

For Medical Emergencies Only, Call (877) 325-1840





Net Contents
2.5 Gal.
(9.46 L)

Nonrefillable Container



Barricade 4FL and Cheeta Pro Herbicide Data Sheets



BARRICADE 4FL

Version 2.2 Revision Date: 01/13/2022

SDS Number: S1363384383

This version replaces all previous versions.

SECTION 1. IDENTIFICATION

Product name : BARRICADE 4FL

Design code. : A12333G

Product Registration number : 100-1139

Manufacturer or supplier's details

Company name of supplier : Syngenta Crop Protection, LLC

Address : Post Office Box 18300

Greensboro NC 27419

United States of America (USA)

Telephone : 1 800 334 9481 Telefax : 1 336 632 2192

E-mail address : sds.requests@syngenta.com

Emergency telephone : 1 800 888 8372

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

Restrictions on use : General Use Pesticide

SECTION 2. HAZARDS IDENTIFICATION

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

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
prodiamine	29091-21-2	40.7
propane-1,2-diol	57-55-6	>= 1 - < 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES



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General advice Have the product container, label or Safety Data Sheet with

you when calling the emergency number, a poison control

center or physician, or going for treatment.

If inhaled Take the victim into fresh air.

If breathing is irregular or stopped, administer artificial

respiration.

Keep patient warm and at rest.

Call a physician or poison control center immediately.

In case of skin contact Take off all contaminated clothing immediately.

> Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids,

> for at least 15 minutes. Remove contact lenses.

Immediate medical attention is required.

If swallowed If swallowed, seek medical advice immediately and show this

container or label.

Do NOT induce vomiting.

Most important symptoms

and effects, both acute and

delayed

Nonspecific

No symptoms known or expected.

There is no specific antidote available. Notes to physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Extinguishing media - small fires

Use water spray, alcohol-resistant foam, dry chemical or

carbon dioxide.

Extinguishing media - large fires

Alcohol-resistant foam

or

Water spray

Unsuitable extinguishing

Do not use a solid water stream as it may scatter and spread

Specific hazards during fire

fighting

As the product contains combustible organic ingredients, fire will produce dense black smoke containing hazardous

products of combustion (see section 10).

Exposure to decomposition products may be a hazard to

health.

Further information Do not allow run-off from fire fighting to enter drains or water

courses.

Cool closed containers exposed to fire with water spray.

Special protective equipment

for fire-fighters

Wear full protective clothing and self-contained breathing

apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec: :

tive equipment and emer-

gency procedures

Refer to protective measures listed in sections 7 and 8.



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Environmental precautions : Prevent further leakage or spillage if safe to do so.

Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform

respective authorities.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents.

Retain and dispose of contaminated wash water.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : No special protective measures against fire required.

Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

Conditions for safe storage : No special storage conditions required.

Keep containers tightly closed in a dry, cool and well-

ventilated place.

Keep out of the reach of children.

Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
prodiamine	29091-21-2	TWA	4 mg/m3	Syngenta
propane-1,2-diol	57-55-6	TWA	10 mg/m3	US WEEL

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE

CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS

CONSULT THE PRODUCT LABEL.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the

actual risks in use.

Maintain air concentrations below occupational exposure

standards.

Where necessary, seek additional occupational hygiene

advice.



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Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally

required.

When workers are facing concentrations above the exposure

limit they must use appropriate certified respirators.

Hand protection

Remarks : No special protective equipment required. Eye protection : No special protective equipment required. Skin and body protection : No special protective equipment required.

Select skin and body protection based on the physical job

requirements.

Protective measures : The use of technical measures should always have priority

over the use of personal protective equipment. When selecting personal protective equipment, seek

appropriate professional advice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : yellow

Odor : No data available

Odor Threshold : No data available

pH : 6.68

Concentration: 1 % w/v

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : 210.9 °F / 99.4 °C

Method: Pensky-Martens closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : No data available

Relative vapor density : No data available



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Density : 1.17 g/cm3

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.
Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

No dangerous reaction known under conditions of normal use.

Conditions to avoid : No decomposition if used as directed.

Incompatible materials : None known.

Hazardous decomposition : No hazardous decomposition products are known.

products

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion Inhalation Skin contact Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Components:

prodiamine:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg



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Assessment: The substance or mixture has no acute oral tox-

icity

Acute inhalation toxicity : LC50 (Rat, male and female): > 0.256 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Product:

Species : Rabbit

Result : No skin irritation

Components:

prodiamine:

Species : Rabbit

Result : No skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit

Result : No eye irritation

Components:

prodiamine:

Species : Rabbit

Result : No eye irritation

Respiratory or skin sensitization

Product:

Species : Guinea pig

Result : Did not cause sensitization on laboratory animals.

Components:

prodiamine:

Species : Guinea pig

Result : Did not cause sensitization on laboratory animals.



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Germ cell mutagenicity

Components:

prodiamine:

Germ cell mutagenicity -

Assessment

: Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

prodiamine:

Carcinogenicity - Assess-

: No evidence of carcinogenicity in animal studies.

ment

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHANo component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

prodiamine:

Reproductive toxicity - As-

sessment

Animal testing did not show any effects on fertility.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 91 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 12 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Raphidocelis subcapitata (freshwater green alga)):

0.113 mg/l

Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)):

0.011 mg/l

End point: Growth rate Exposure time: 72 h



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Components:

prodiamine:

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.829 mg/l

Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): > 0.552 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 0.013 mg/l

Exposure time: 48 h

Remarks: Highest attainable concentration

Toxicity to algae/aquatic

plants

ErC50 (Raphidocelis subcapitata (freshwater green alga)):

0.004 mg/l

Exposure time: 96 h

NOEC (Raphidocelis subcapitata (freshwater green alga)):

0.00045 mg/l

End point: Growth rate Exposure time: 96 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.0047 mg/l

Exposure time: 72 h

NOEC (Navicula pelliculosa (Freshwater diatom)): 0.0027 mg/l

End point: Growth rate Exposure time: 72 h

M-Factor (Acute aquatic tox-

Toxicity to fish (Chronic tox-

icity)

icity)

NOEC (Oncorhynchus mykiss (rainbow trout)): 0.012 mg/l

Exposure time: 87 d Test Type: Early-life Stage

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.0066 mg/l

Exposure time: 21 d

M-Factor (Chronic aquatic

toxicity)

100

100

Persistence and degradability

Components:

prodiamine:

Biodegradability Remarks: No data available

Degradation half life: 3 - 15 d Stability in water

Remarks: Product is not persistent.



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Bioaccumulative potential

Components:

prodiamine:

Bioaccumulation : Remarks: Bioaccumulates

Mobility in soil

Components:

prodiamine:

Distribution among environ-

mental compartments

Remarks: immobile

Stability in soil : Dissipation time: 30 - 113 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

Other adverse effects

Components:

prodiamine:

Results of PBT and vPvB

assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be

lating and toxic (FBT). This substance is not considered

very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with

chemical or used container.

Do not dispose of waste into sewer.

Where possible recycling is preferred to disposal or

incineration.

If recycling is not practicable, dispose of in compliance with

local regulations.

Contaminated packaging : Empty remaining contents.

Triple rinse containers.

Empty containers should be taken to an approved waste

handling site for recycling or disposal.

Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(PRODIAMINE)



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Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(PRODIAMINE)

Class : 9 Packing group : III

Labels : Miscellaneous

Packing instruction (cargo

aircraft)

Packing instruction (passen: 964

ger aircraft)

Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

964

(PRODIAMINE)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Shipment by ground under DOT is non-regulated; however it

may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

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

Harmful if inhaled.

Harmful if swallowed.

Harmful if absorbed through skin.

Avoid breathing vapors.



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Avoid contact with skin, eyes or clothing.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling.

Remove and wash contaminated clothing before re-use.

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

dioxosilane	14808-60-7
1,4-dioxane	123-91-1

Pennsylvania Right To Know

water	7732-18-5
prodiamine	29091-21-2
propane-1,2-diol	57-55-6
orthophosphoric acid	7664-38-2
sodium hydroxide	1310-73-2

Maine Chemicals of High Concern

dioxosilane 14808-60-7

Vermont Chemicals of High Concern

1,4-dioxane 123-91-1

Washington Chemicals of High Concern

1,4-dioxane 123-91-1

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

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

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



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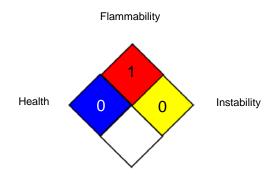
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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Special hazard

HMIS® IV:

HEALTH	1	0
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)

US WEEL / TWA : 8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC -International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quanti-



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tative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 01/13/2022

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

US / Z8

	FIRST AID	
If swallowed	 Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious or convulsing person. 	
If in eyes	 Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. 	
If inhaled	 Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice. 	
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.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.		
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident) Call 1-800-888-8372		

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

May be harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapor. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

Personal Protective Equipment

WPS Uses:

Applicators, mixers, loaders, and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR part 170) - in general, agricultural-plant uses are covered – must wear:

- · Long-sleeved shirt and long pants
- Shoes plus socks

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

Engineering Control Statements

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

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided with all of the PPE specified above for applicators and other handlers, and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- · After handling this product immediately remove PPE, wash yourself thoroughly and change into clean clothing.

Environmental Hazards

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water or rinsate.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. To the extent permitted by applicable law, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND 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 THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and 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. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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 such as butyl rubber >14 mils or natural rubber >14 mils or neoprene rubber >14 mils or nitrile rubber >14 mils
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements of this box apply to uses of this product that are **NOT** within the scope of the Worker Protection Standard for agricultural pesticides (40CFR part 170). The "WPS" applies when this product is used to produce agricultural plants on farms, forest or nurseries. Applicators and handlers should wear long-sleeved shirt, long pants, chemical resistant gloves, shoes with socks and protective eyewear. Thoroughly wash face and hands with soap and water after exposure and before eating or smoking. Launder exposed clothing before reuse. Do not allow reentry to treated areas until dust has settled and the turf grass or soil is dry.

USE INFORMATION

WHERE TO USE

Barricade 4FL is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries
- container, field-grown, and landscape ornamentals
- · established perennial and wildflower plantings
- · Christmas tree farms

HOW BARRICADE 4FL WORKS

Barricade 4FL controls susceptible weeds by preventing growth and development of newly germinated weeds. Weed control is most effective when Barricade 4FL is activated by at least 0.5 inch of rainfall or irrigation or shallow incorporation (1-2 inches) before weed seeds germinate and within 14 days following application.

WEED RESISTANCE MANAGEMENT

PRODIAMINE GROUP 3 HERBICIDE

For resistance management, Barricade 4FL is a Group 3 herbicide. Any weed population may contain or develop plants naturally resistant to Barricade 4FL and other Group 3 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

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

 Rotate the use of Barricade 4FL or other Group 3 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.

continued...

- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information
 related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g.,
 higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological
 (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Syngenta Crop Protection at 1-800-334-9481.

USE PRECAUTIONS AND RESTRICTIONS

- 1. Do not graze or feed livestock forage cut from areas treated with Barricade 4FL.
- 2. Follow all applicable directions, restrictions, and precautions on the labels of EPA-registered tank-mix partners.
- 3. Do not blend Barricade 4FL onto dry fertilizer or any other granular material.
- 4. Chemigation: Do not apply this product through any type of irrigation system unless instructed otherwise in this label.
- 5. Do not apply aerially.
- 6. Do not apply to golf course putting greens.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Boom

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT - Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Boomless Ground Applications:

• Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

· Take precautions to minimize spray drift

MIXING AND APPLICATION PROCEDURES

MIXING BARRICADE 4FL ALONE

Barricade 4FL must be mixed thoroughly in the spray tank to ensure uniform application. Follow these steps.

- 1. Fill the spray tank ¹/₄ full with clean water only.
- 2. Start agitation and check to ensure it is working properly.
- 3. For tank mixing instructions, refer to the section "Mixing Order for Tank Mixtures."
- 4. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension. If Barricade 4FL was mixed with fertilizer in the spray tank, the fertilizer may aid resuspension of Barricade 4FL if agitation is disrupted. However, it is recommended that the entire tank be used before stopping agitation.
- 5. A spray colorant may be used with Barricade 4FL to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
- 6. Thoroughly clean the sprayer after use by flushing the system with water containing a detergent.
- 7. Refer to the Pesticide Disposal section of this label for waste disposal. Do not allow spray suspension to dry in the tank.

TANK MIXING BARRICADE 4FL

Barricade 4FL may be tank mixed with certain other EPA-registered herbicides to provide a broader spectrum of weed control or to control emerged weeds. Refer to the specific directions for use for tank-mix partners, and refer to the label(s) of the individual tank-mix partner(s) for use rate, application timing, weeds controlled, and specific precautions and/or restrictions. Tank mixes are permitted only in states where the tank-mix partner(s) are registered for the application site and the turf and ornamental species listed. When using Barricade 4FL in a tank mixture with other pesticides, follow restrictions and precautions on the labels of the products used.

Before tank mixing pesticides, test compatibility by mixing the products in a small container first. See the Compatibility Test section.

COMPATIBILITY TEST

Before mixing Barricade 4FL with other pesticides in the spray tank, test for compatibility by mixing all components (carrier and pesticide products) in an appropriate container in proportionate quantities. For example, 1 qt would be 1/100 the volume of a

25 gal/A spray rate. At 1.0 lb/A, the Barricade 4FL rate would be proportional to 6 ml per quart. Add approximately 1 teaspoon to a quart of water. (See following table.)

Amount of Component to Add to One Quart of Spray Carrier (Assuming Carrier Volume of 25 gal/A)

	Rate Per		
Component Formulations	Acre	1,000 sq ft	Level Teaspoons
Barricade 4FL	21.0 oz	0.5 oz	1.0
Dry Tank-Mix Partners	1.0 lb	0.4 oz	1.5
Liquid Tank-Mix Partners	1.0 pt	0.4 oz	0.5

If components do not ball-up or form flakes, sludge, gels, oily films, or layers, then the mixture is compatible. Let the mixture stand for 15 minutes. Incompatibility will usually occur within 5 minutes after mixing. If components are not compatible, use a compatibility agent and rerun the test to determine if the mixture is suitable. If the components are still not compatible, do not tank mix.

MIXING ORDER FOR TANK MIXTURES

Notes: (1) When mixing Barricade 4FL with other components (carrier and partner pesticide products), allow products to completely dissolve between steps. (2) Maintain agitation throughout mixing and application of the mixture.

Add the products to the spray tank in the following order:

- 1. Add products packaged in water-soluble bags first. Agitate the tank mixture. Allow the water-soluble bags to completely dissolve and the products to disperse before adding any other tank-mix partners.
- 2. Then add water-dispersible granules (WDG or WG formulations) and wettable powders (WP formulations). Add wettable powders to the tank as agitation continues. Allow the product to disperse completely before other products are added.
- 3. Add spray adjuvants and spray markers. Read the adjuvant's label first and use only those adjuvants approved for application to turf and ornamentals.
- 4. Add Barricade 4FL, other flowable liquids (FL) or suspension concentrates (SC).
- 5. Add emulsifiable concentrates (EC) last.

APPLICATION

Apply Barricade 4FL in a minimum of 20 gal/A (0.5 gal/1,000 sq ft) of carrier (water and/or fluid fertilizer) using a calibrated, low-pressure sprayer with 50-mesh or coarser screens. A broadcast boom or handheld wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.

SPECIFIC USE DIRECTIONS

ESTABLISHED TURF

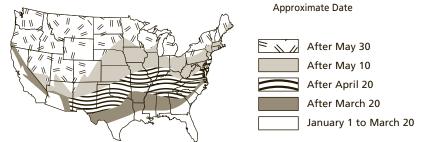
Barricade 4FL is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turfgrasses including:

- Golf courses excluding putting greens
- Lawns
- Sod nurseries

The maximum amount of Barricade 4FL that may be applied per year is given for each turfgrass species in the **Annual Use Rates** section of this label.

For optimum weed control, Barricade 4FL should be activated by at least 0.5 inch of rainfall or irrigation before weed seeds germinate and within 14 days following application. See the map below for approximate crabgrass seed germination dates.

Crabgrass Seed Germination Dates



Use Precautions and Restrictions - Turfgrass: Golf Courses, Lawns, and Sod Nurseries

1. Do not apply Barricade 4FL to areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (*Poa annua*) are desirable species.

- 2. Do not cut (harvest) treated sod before 90 days after application. To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and exposed edges have filled in.
- 3. To avoid turfgrass injury do not apply Barricade 4FL to turf stressed by conditions such as drought, low fertility, or pest damage.
- 4. Disturbing the herbicide barrier with cultural practices such as disking may result in reduced weed control.
- 5. Do not apply Barricade 4FL to golf course putting greens.
- 6. If you consistently mow creeping bentgrass at a height of less than 0.5 inch do not apply Barricade 4FL.

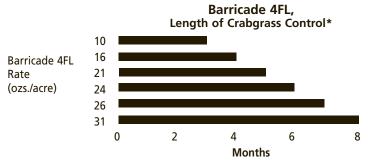
Application Timing And Rate - Turfgrass

Barricade 4FL may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications must be made before target weeds germinate because **Barricade 4FL will not control weeds that have already emerged**.

The amount of Barricade 4FL to apply depends upon:

- 1. the length of residual weed control desired (the higher the application rate, the longer the control),
- 2. the turf species,
- 3. the maximum amount which can be applied to the turf species per calendar year.

(See the next 2 tables.)



^{*}Length of control varies by region. This table is an average.

Annual Use Rates - Turfgrass

Barricade 4FL can be applied to the turfgrass species listed in the following table. **Restriction:** Do not apply more than the highest rate listed for each species in a calendar year.

Maximum Application Rate of Barricade Per Calendar Year by Turf Species				
Turf Species	Oz. Product/A	Oz. Product/1,000 sq ft		
Bermudagrass ² Bahiagrass Centipedegrass Kikuyugrass Seashore Paspalum St. Augustinegrass ³ Tall Fescue (including turf-type) Zoysiagrass	21-48 ¹	0.5-1.1		
Buffalograss Kentucky Bluegrass Perennial Ryegrass	10-30 ¹	0.23-0.70		
Fine Fescue	10-24 ¹	0.23-0.55		
Creeping Bentgrass (0.5 inch or more in height ⁴)	10-21 ¹	0.23-0.48		

¹ Barricade 4FL may be applied more than once a year as long as the total amount applied is not greater than the maximum application rate for each turf species. All applications must be made before weed seeds germinate.

² May be used on newly sprigged or plugged bermudagrass at rates not to exceed 17 oz/A (0.39 oz/1,000 sq ft). Newly sprigged or plugged bermudagrass stolon rooting may be temporarily inhibited.

³ Use an initial rate of 16-32 oz/A per application.

⁴ To avoid grass injury, do not apply Barricade 4FL to creeping bentgrass mowed at less than 0.5 inch in height.

Weeds Controlled

When used as directed in this label, Barricade 4FL will control the following weeds:

Barnyardgrass

Bluegrass, Annual (Poa annua)¹

Carpetweed

Chickweed, Common²

Chickweed, Mouseear (from seed)

Crabgrass (Large, Smooth)³ Crowfootgrass Cupgrass, Woolly Foxtails, Annual $Goosegrass ^{5} \\$ Henbit²

Itchgrass Johnsongrass (from seed)

Junalerice

Knotweed²

Kochia

Lambsquarters, Common

Lovegrass

Panicum, (Texas, Fall, Browntop)

Pigweed

Purslane, Common Pusley, Florida Rescuegrass⁴ Shepherdspurse² Signalgrass, Broadleaf Speedwell, Persian Sprangletop Spurge, Prostrate Witchgrass

Woodsorrel, Yellow (from seed)

- ¹ In those areas where *Poa annua* is a winter annual, apply Barricade 4FL (see rate table) in August or September to established, non-overseeded turf before *Poa annua* seeds germinate. These timings are approximate. Consult State Extension Service for more specific timing for your area. Also see the section of this label Poa annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass
- ² To control this weed, apply Barricade 4FL in late summer, fall, or winter before weeds germinate.
- ³ Fall Applications for Spring Crabgrass Control in Cool-Season Grasses: In those areas where the ground freezes in the winter, Barricade 4FL can be applied in the fall at rates of 21-24 oz/A after soil temperatures fall below 50°F, but before the ground freezes. This application will control crabgrass the following spring.
- ⁴ Suppression only.
- ⁵ In many areas a single application of 21-48 oz/A of Barricade 4FL will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, weed control will be most effective by making an initial application of 21-26 oz/A followed by a second application 60-90 days later. Note: Do not exceed the maximum rate for the turf species listed in the Maximum Application Rates Table.

When to Apply Barricade 4FL After Overseeding Turf

Injury to desirable seedlings is likely if Barricade 4FL is applied before the secondary roots of seedlings are in the second inch of soil, not thatch plus soil. To reduce the potential to injure overseeded turf, wait 60 days after seeding or until after the second mowing, whichever is longer, before applying Barricade 4FL.

When to Overseed After Application - All States*

Barricade 4FL will inhibit the development of turfgrass species overseeded too soon after application. Follow rates and intervals in the table below for best overseeding/reseeding results.

*Note: See exceptions for Poa annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass below.

Amount of Barricade 4FL	Interval (Months Before Overseeding)*		
Oz Product/A	North	Transition	South
16	4	4	4
21	5	4	4
24	6	5	5
26		6	6
31		7	7
36			9
42			10
48			12

Poa annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (Arizona, California, Nevada and Texas Only)

Use on golf courses (excluding golf course putting greens), lawns, and sod nurseries when overseeding with perennial rye grass. (Minimum seeding rate of 350 lb/A)

How Much Barricade 4FL and When to Apply

Amount to Apply	When to Apply	Expected Control	Use Precautions and Restrictions
12-21 oz/A	6-8 weeks before ryegrass overseeding second application: 4-8 weeks after overseeding or when perennial ryegrass roots are in the second inch of soil	1 application for 70% or greater control of <i>Poa annua</i> second application may enhance control	 Some seedling mortality and temporary reduction in root growth of new seedlings may occur. To reduce the potential for seedling mortality maintain a moist seedbed with light, frequent irrigation. Make no more than 2 applications per year for this use, and do not exceed a total of 27 oz/A per year. Do not make a second application if any injury to the ryegrass is observed after the first application. Do not make a second application unless the product was first applied before overseeding.

Control of *Poa annua* in Perennial Ryegrass Overseedings (Alabama, Louisiana, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee Only)

Use on golf courses (excluding golf course putting greens) when overseeding with perennial rye grass only (minimum seeding rate of 350 lb/A.)

How Much Barricade 4FL and When to Apply

Amount to Apply	When to Apply	Expected Control	Use Precautions
12-21 oz/A	8-10 weeks before ryegrass overseeding	70% or greater	Some seedling mortality and temporary reduction in root growth of new seedlings may occur. To reduce the potential for seedling mortality maintain a moist seedbed with light, frequent irrigation. To maximize seedling establishment, use lower rate and/or the maximum time interval before overseeding. To maximize <i>Poa annua</i> control, use higher rate and shorter time interval before overseeding.

CONTAINER, FIELD-GROWN, AND LANDSCAPE ORNAMENTAL PLANTINGS (INCLUDING CHRISTMAS TREE FARMS) Application, Timing, and Information

Barricade 4FL:

- 1. Will not control emerged weeds.
- 2. May be applied to newly-transplanted and established ornamentals as a broadcast or over-the-top spray.
- 3. Is most effective when applied to soil free of clods, weeds, and debris such as leaves and mulch.
- 4. Is most effective when the product is activated in the soil before weed seeds germinate and within 14 days after application.
- 5. Is activated when the treated area receives at least 0.5 inch of irrigation or rainfall, or shallow (1 to 2 inches) mechanical incorporation.

Use Precautions

To reduce injury potential:

- 1. Direct application of Barricade 4FL to rapidly growing tissue or buds may injure desirable plants. In the spring when buds are rapidly growing and expanding, over-the-top application of Barricade 4FL may injure new growth of desirable plants, however, these effects are temporary. To reduce the possibility of injury at this time, wait to apply Barricade 4FL over the top of newly emerged vegetation until it has hardened off, unless your experience indicates that the ornamental plant will not be injured by the over-the-top application.
- 2. After application immediately apply overhead irrigation to the foliage to wash Barricade 4FL from plant surfaces onto soil (watering the foliage of plants before application may improve the washing process).

Ornamental and Christmas Tree Farms - Application Sites and Instructions

Site	Application Instructions
Newly-Transplanted Container or Field Nursery Stock	 Delay application until soil has settled around transplants. Water transplants thoroughly before application. Apply after cuttings form roots and are established. To avoid inhibition of the tissue union, apply before budding/grafting or after buds/grafts have taken.
Established Container, Field Nursery Stock, or Landscape Plants	Apply at any time as a broadcast, over-the-top, or directed spray.
Landscape (or Ornamental) Plantings	Apply as a broadcast, over-the-top, or as a directed spray. Delay applications to newly transplanted ornamentals until soil has settled around transplants.
Bare Ground Application for Container Placement	Apply to soil (including mulch, gravel, wood chips, or other permeable base) upon which containerized ornamentals are placed. After Barricade 4FL is applied, perform shallow cultivation or hand weeding only, to avoid disturbing the herbicide barrier.

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Ornamental and Christmas Tree Farms - Application Sites and Instructions (continued)

Site	Application Instructions
In Shadehouses and Uncovered Polyhouses	 After Barricade 4FL is applied, uncovered polyhouses must remain open for at least 7 days and ornamentals must receive 2 irrigations totaling at least ¹/₂ inch of water before covering.
Ornamental Bulbs and Perennial Wildflower Plantings	Barricade 4FL may be applied to bulbs or perennial wildflower species listed in the section. Apply before or after bulbs emerge but before bulbs bloom and weeds emerge. In wildflowers, a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged.

How Much Barricade 4FL and When to Apply - Ornamentals

Amount to Apply (Broadcast)*	When to Apply	Comments/Instructions
21-48 oz/A	In fall or spring before weeds germinate or after weeds are	Use the higher rate for longer control. Barricade 4FL may be applied more than once per year
<i>or</i> 0.5-1.1 oz/1,000 sq. ft.	removed.	as long as the total amount of product applied does not exceed 48 oz/A per year.

^{*}NOTE: For band application, calculate amount per acre:

Band width in inches x broadcast rate = amount to apply/acre of field

Row width in inches

Equivalent Measurements for Barricade 4FL

oz/A	oz/1,000 sq ft	Approximate Equivalent – Tablespoons/1,000 sq ft
21	0.5	1.0
31	0.7	1.5
42	1.0	2.0
48	1.1	2.25

Tank Mixtures for Use on Container, Field Grown and Landscape Ornamentals

Barricade 4FL may be tank mixed with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Barricade 4FL are for use only in states where the tank-mix partner(s), application site and intended use pattern are registered.

Follow the label directions of the tank-mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank-mix partner in the spray tank, test for compatibility as described on this label.

Tank-Mix Partners for Barricade 4FL on Ornamentals

Product	Precautions/Instructions
Goal® (use on conifers only)	Mix with Barricade 4FL for postemergence control of certain broadleaf weeds including malva and filaree.
Gallery [®] , Princep [®] , Pennant Magnum [®]	See product labels for weed spectrum and tolerant ornamentals.

continued...

Tank Mix Partners for Barricade 4FL on Ornamentals (continued)

Product	Precautions/Instructions
Touchdown Pro®, Roundup® or other glyphosate-based products, Finale®	1. These nonselective tank-mix herbicides control many emerged annual broadleaves and grasses. 2. Take extreme care to prevent tank mixtures with these partner products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation may be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants. 3. Following instructions on the tank-mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.

Tolerant Ornamental Species

Barricade 4FL will not harm most trees, shrubs, vines and flowers. The species listed below in Table 1 are tolerant to Barricade. Barricade 4FL may be used for application, except in CA, to the species in Table 2. Barricade 4FL may be applied over the top of the listed species. The species that are not tolerant to Barricade when grown in containers are indicated.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to Barricade 4FL.

Table 1. Tolerant Ornamental Species - All States

Scientific name	Common name
Abies spp.	Fir species** (Balsam, Fraser, Noble, etc.)
Acer palmatum	Japanese Maple
Acer platanoides	Norway Maple***
Acer saccharum	Sugar maple**
Achillea spp.	Yarrow: King Edward
Actinidia chinensis	Kiwi*
Agapanthus africanus	Lily-of-the-Nile (African Lily)
Agastache rupestris	Sunset Hyssop
Aquilegia spp.	Aquilegia: Red and Gold
Arctostaphylos densiflora	Vine Hill Manzanita
Arctotheca calendula	Cape Weed
Aristida stricta	Wiregrass

Scientific name	Common name
Artemisia spp.	Wormwood; Silver Mound, Castle
Aspidistra elatior	Cast-iron plant
Aucuba japonica	Japanese Aucuba
Begonia spp.	Fibrous Begonia: Hardy Grandis
Berberis gladwynensis	Barberry
Berberis julianae	Wintergreen Barberry
Berberis mentorensis	Mentor Barberry
Berberis thunbergii	Japanese Barberry
Berberis verruculosa	Warty Barberry
Brassica oleracea	Wild Cabbage
Buddleia spp.	Butterfly-Bush, Dwarf Blue; Royal Red
Buxus microphylla	Japanese Boxwood
Callistemon viminalis	Weeping Bottlebrush
Calluna vulgaris	Scotch Heather
Carpobrotus edulis	Hottentot Fig (Ice Plant)
Cassia artemisioides	Feathery Cassia
Ceanothus rigidus	Wild Lilac
Centaurea gymnocarpa	Dusty Miller
Chamaecyparis pisifera	False Cypress
Cleyera japonica	Cleyera
Citrus spp.	Citrus species*
Cornus alernifolia	Pogoda Dogwood
Cornus florida	Flowering Dogwood
Cornus stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
Cotoneaster buxifolius	Cotoneaster
Cotoneaster dammeri	Bearberry Cotoneaster
Cotoneaster glacophylla	Gray-leaf Cotoneaster
Cotoneaster microphyllus	Rockspray Cotoneaster
Crataegus spp.	Hawthorne

Table 1. Tolerant Ornamental Species - All States (continued)

Scientific name	Common name
Cupressus sempervirens	Italian Cypress
Delosperma alba	White Trailing Ice Plant
Dendranthemum spp.	Chrysanthemum
Diascia intergerrima	Twinspur
Digitalis spp.	Foxglove
Dodonea viscosa	Hop Bush
Elaeagnus pungens	Silverberry
Euonymus fortunei	Wintercreeper
Euonymus japonica	Japanese Spindle Tree (Evergreen Euonymus)
Euonymus kiautschovicka	Spreading Euonymus
Euonymus macrophylla	Euonymus
Fatsia japonica	Japanese Aralia
Forsythia intermedia	Border Forsythia
Forsythia viridissima	Greenstem Forsythia
Gardenia jasminoides	Gardenia, Cape-Jasmine
Gladiolus spp.	Gladiolus species**
Gypsophila spp.	Baby's Breath
Hedera helix	English Ivy
Hemerocallis spp.	Daylily: Aztec Gold, Stella De Oro, Tender Love
Hibiscus	Rose of Sharon**
Hibiscus Rosa-sinensis	Chinese Hibiscus**
Hosta spp.	Hosta, Plantain Lily (Fragrant)
Ilex cornuta	Chinese Holly**
Ilex crenata	Japanese Holly
Ilex opaca	American Holly
Ilex pernyi	Holly
Ilex vomitoria	Yaupon Holly
Iris spp.	Iris species**
Jasminium nudiflorum	Winter Jasmine
Juniperus chinensis	Chinese Juniper

Scientific name	Common name
Juniperus conferta	Shore Juniper
Juniperus horizontalis	Creeping Juniper
Juglans spp.	Walnut*
Justicia brandegeana	Shrimp Plant
Lagerstromia indica	Crape Myrtle
Lantana spp.	Lantana
Leucanthemum maximum	Shasta Daisy
Ligustrum amurense	Amur Privet
Ligustrum japonicum	Japanese Privet
Ligustrum lucidum	Glossy Privet (Wax-Leaf)
Lilium spp.	Lily: Jazz
Liriope muscari	Big Blue Lillyturf
Liriope spicata	Liriope, Creeping
Lobelia erinus	Lobelia
Lonicera japonica	Japanese Honeysuckle
Lonicera tatarica	Tatarian Honeysuckle
Magnolia spp.	Magnolia species**
Maleophora luteola	Ice Plant
Malus spp.	Crabapple*
Nandina domestica	Heavenly Bamboo
Narcissus spp.	Narcissus species**
Nerium spp.	Oleander
Oenothera fruticosa	Narrow-leaf primrose
Oenothera pallid	Pale Evening Primrose
Olea europaea	Olive*
Ophiopogon japonicus	Mondo Grass**
Origanum libanoticum	Origanum*
Osteospermum fruticosum	Trailing African Daisy
Oxydendrum arboreum	Sourwood
Perovskia atriplicifolia	Russian Sage
Persea americana	Avocado*

Table 1. Tolerant Ornamental Species - All States (continued)

Scientific name	Common name
Photinia fraseri	Frasier's Photinia (Redtip)
Picea spp.	Spruce species*** (Colorado Blue, Norway, etc.)
Pieris compacta	Andromeda
Pieris japonica	Lily-of-the-Valley Shrub
Pinus brutia	Calabrian Pine
Pinus canariensis	Canary Island Pine
Pinus elliottii	Slash Pine
Pinus halepensis	Aleppo Pine
Pinus nigra	Austrian Black Pine
Pinus palustrus	Longleaf Pine
Pinus radiata	Monterey Pine
Pinus strobus	Eastern White Pine
Pinus sylvestris	Scotch Pine
Pinus taeda	Loblolly Pine
Pinus thunbergiana	Japanese Black Pine
Pinus virginiana	Virginia Pine
Pistacia spp.	Pistachio*
Pittosporum rhombifolium	Queensland Pittosporum
Pittosporum tobira	Japanese Pittosporum
Podocarpus macrophyllus	Japanese Yew
Prunus laurocerasus	English Laurel
Prunus spp.	Almond, Apricot, Nectarine,
	Peach, Plum and Prune*
Pseudotsuga menziesii	Douglas Fir***
Pyracantha coccinea	Firethorn Scarlet
Pyracantha fortuneana	Firethorn
Pyracantha koidzumii	Firethorn
Pyrus spp.	Bradford Pear spp.
Quercus borealis	Northern Red Oak

Scientific name	Common name
Quercus rubra	Oak species
Raphiolepsis indica	Indian Hawthorne
Rhamnus smithii	Buckthorn
Rhododendron	'Coral Bells'
(including Azalea)	'Formosa'
	'Hino-crimson'
	'PJM'
	'Roseum Elegans'
Rosa banksiae	Lady Bank's Rose
Rosmarinus officinalis	Rosemary*
Rumohra adiantiformis	Leatherleaf Fern
Ruscus hypophyllum	Butcher's Broom
Salvia daghestanica	Sage*
Santolina virens	
Sedum spp.	Stonecrop
Spirea japonica	Spirea
Syzygium paniculatum	Japanese Boxcherry
Tagetes spp.	Marigold
Trachelospermum jasminoides	Star Jasmine
Taxus cuspidata	Japanese Yew
Taxus media	Yew
Thuja occidentalis	American Arborvitae
Trachelospermum asiatum	Star Jasmine
Tsuga canadensis	Canada Hemlock
Tulipa spp.	Tulip species
Viburnum japonicum	Japanese Viburnum
Viburnum lantana	Wayfaring Tree
Viburnum odoratissimum	Sweet Viburnum
Viburnum plicatum	Japanese Snowball
Viburnum rigidum	Canary Island Viburnum
Viburnum tinus	Laurustinus

Table 1. Tolerant Ornamental Species - All States (continued)

Scientific name	Common name
Viburnum trilobium	Cranberry Bush
Viburnum wrightii	Leatherleaf Viburnum
Vinca major	Vinca
Vinca minor	Dwarf Periwinkle
Viola x wittrockiana	Pansy
Vitis spp.	Grape*
Weigela florida	Old Fashioned Weigela
Yucca aloifolia	Spanish Bayonet
Yucca filamentosa	Yucca, Adam's Needle
Zauschneria californica	California Fushia

^{*}Do not use on food producing trees, vines, or plants.

**Not for use on container grown plants.

***Use on landscape ornamentals only.

Table 2. Tolerant Ornamental Species/Varieties - All States Except CA

Scientific name	Common name
Abelia grandiflora	Abelia: Sherwood
Agapanthus orientalis	
Akebia quintata	Five-Leaf or Chocolate Vine
Allium cernuum	Lady's Leek, Nodding Onion
Anemone hybrida	Japanese Anemone
Aster spp.	Aster: Bonny Blue, Purple Dome
Aster X frikartii	
Athyrium filix-femina	Lady Fern; Fern Lady
Bergenia cordifolia	
Boltonia asteroides	Snowbank
Bougainvillea spp.	Bougainvillea
Callistemon citrinus	Crimson Bottlebrush

Scientific name	Common name
Campanula carpatica	Tussock Bellflower; (White Clips)
Campis X tagliabuana	Trumpet Creeper, Trumpet Flower;
	Madame Galen
Ceratostigma plumbaginoides	
Chrysanthemum nipponicum	
Coreopsis spp.	Coreopsis (Calliopsis): Early Sunrise, Moonbeam
Crocosmia spp.	Lucifer
Delosperma spp.	Cooperi Pink
Delphinium spp.	Larkspur; Blue Elf
Dianthus deltoides	Dianthus, Maiden Pinks 'Zing'
Dianthus gratianopolitanus	Cheddar Pink
Echinacea purpurea	Coneflower, Purple; Magnus
Forsythia suspensa	Weeping Forsythia
Gaillardia spp.	Gaillardia, Blanket Flower: 'Goblin'
Gaura spp.	Canting
Gentiana dahurica	Gentian Craneshill
Geranium cinereum	G.G.1655
Helianthemum spp.	Sunrose
Heucherella spp.	Coral Bell; Bridget Bloom Mallow: Disco Belle White
Hibiscus spp. Hosta sieboldiana	Hosta, 'Searsucker'
	HOSTA, Searsucker
Houttuynia cordata var. variegata Hydrangea macrophylla	Bigleaf Hydrangea
Inula ensifolia	biglear riyurarigea
Iris ensata	Sword-Leaved Iris; Jodlesong
Iris cinata Iris siberica	Siberian Iris; Cabernet
Juniperus davurica	Parsoni
Lagerstromia indica x fauriei	Crape Myrtle; Tuscarora
Lantana montevidensis	Weeping Lantana
Lavender spp.	Lavender; Munstead
Leontopodium alpinum	Edelweiss

Table 2. Tolerant Ornamental Species/Varieties - All States Except CA (continued)

Scientific name	Common name
Ligustrum sinense	Chinese Privet; Variegata
Liriope muscari var. variegata	Liriope, Variegated
Lobelia cardinalis	Cardinal Flower, Indian Pink
Loropetalum chinense	Burgundy
Lythrum spp.	Loosestrife; Modern Pink
Miscanthus sinensis	Yaku Jima**, Silberfeder**
Oenothera missourensis	Evening Primrose
Osmanthus heterophyllus	Osmanthus (False Holly): Gulf Tide
Paeonia suffruticosa	Tree Peony
Pennisetum setaceum	Fountain Grass (Dwarf)**
Physostegia virginiana	Dragonhead, False; Vivid
Quercus shumardii	Oak, Shumard's Red
Raphiolepsis umbellata	Yedda Hawthorne
Rhododendron	'Delaware Valley White'
(including Azalea)	'Flame Creeper'
	'Girard Crimson'
	'George L. Tabor'
	'Wakeiebisu'
	'White Gumpo'
Rudbeckia spp.	Black-Eyed Susan: Goldstrum
Saxifraga spp.	Saxifrage; Purple Dome
Scabiosa spp.	Pincushion Flower
Sedum cauticola	Stonecrop; Lidakense
Sedum dasyphyllum	Stonecrop
Sedum spurium	Stonecrop; Dragon's Blood
Spiraea bumalda	Spirea: Anthony Waterer
Syzygium paniculatum	Australian Brushcherry
Teucrium spp.	Germander
Thalictrum dipterocarpum	Meadow Rue
Viburnum suspensum	Arrowood Viburnum

^{**}Not for use on container grown plants.

NEW PLANTINGS, REPLANTING AND ROTATIONAL PLANTINGS

Nursery, landscape, or non-cropped land areas treated with Barricade 4FL should be rotated only to ornamental species listed on this label for 1 year following application unless the following test has shown species safety:

Before planting a species not listed on this label, it is recommended that several test strips of an indicator plant such as wheat, sorghum or corn be sown into the treated area. If the indicator plants germinate and grow normally to a height of 12 inches with normal root development, it is safe to plant.

In areas disturbed by new plantings or replanting of labeled species, it may be necessary to retreat exposed soil to maintain satisfactory weed control, but do not apply more than 48 oz/A per year.

STORAGE AND DISPOSAL

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

Pesticide Storage

For minor spills, leaks, or other accidental contamination, follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during clean up and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Pesticide Disposal

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

Container Handling [less than 5 gallons]

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or 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 mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of container in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Handling [Bulk/Mini-bulk]

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. 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 and disposal. Repeat this procedure two more times. Then 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.

Chemigation

Do not apply this product through any type of irrigation system unless instructed otherwise in this label.

Barricade®, Pennant Magnum®, Princep®, TouchdownPro®, the ALLIANCE FRAME

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For non-emergency (e.g., current product information), call Syngenta Crop Protection at 1-800-334-9481.

Manufactured for: Syngenta Crop Protection, LLC P.O. Box 18300 Greensboro, North Carolina 27419-8300

SCP 1139A-L10C 0121 4134921



Barricade 4FL Herbicide

For selective preemergence control of grass and broadleaf weeds in:

- established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries
- container, field-grown, and landscape ornamentals
- established perennial and wildflower plantings
- · Christmas tree farms

Active Ingredient: 59.3%

Other Ingredients:

100.0%

Total: *CAS No. 29091-21-2

Barricade 4FL contains 4 pounds active ingredient per gallon.

EPA Reg. No. 100-1139 EPA Est. 70815-GA-002

Manufactured for:

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Syngenta Crop Protection, LLC P.O. Box 18300 Greensboro, North Carolina 27419-8300 SCP 1139A-L10C 0121

4134921

Net Contents

KEEP OUT OF REACH OF CHILDREN. **CAUTION**

See additional precautionary statements and directions for use inside booklet.

AGRICULTURAL **USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions For Use section for information about this standard.

NON-AGRICULTURAL **USE REQUIREMENTS**

The requirements of this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40CFR part 170). The "WPS" applies when this product is used to produce agricultural plants on farms, forest or nurseries. Applicators and handlers should wear long-sleeved shirt, long pants, chemical resistant gloves, shoes with socks and protective eyewear. Thoroughly wash face and hands with soap and water after exposure and before eating or smoking. Launder exposed clothing before reuse. Do not allow reentry to treated areas until dust has settled and the turf grass or soil is dry.

STORAGE AND DISPOSAL

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

Pesticide Storage: For minor spills, leaks, or other accidental contamination, follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during clean up and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

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

Container Handling: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or 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 mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of container in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Chemigation: Do not apply this product through any type of irrigation system unless instructed



KEEP OUT OF REACH OF CHILDREN. CAUTION

PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals CAUTION

May be harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapor. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

FIRST AID

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

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

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

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.

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

HOT LINE NUMBER: For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident) Call **1-800-888-8372**.

Environmental Hazards

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water or rinsate.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

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Manufactured for: Syngenta Crop Protection, LLC P.O. Box 18300 Greensboro, North Carolina 27419-8300

SCP 1139A-L11C 0121 4134920





Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 8/9/2024 Version: 2.0

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cheetah® Pro

EPA Reg. No.: 228-743 **Product Type:** Herbicide

Company Name: Nufarm Americas Inc

11901 S. Austin Avenue

Alsip, IL 60803 1-800-345-3330

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:

Flammable liquid Category 4

HEALTH HAZARDS:

Acute Inhalation Toxicity

Eye Damage / Irritation

Sensitization- Skin

Specific Target Organ Toxicity – Repeat Exposure

Category 2

Category 1

Category 2

ENVIRONMENTAL HAZARDS:

Not hazardous

SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

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







PRECAUTIONARY STATEMENTS

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

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

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

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

Get medical attention if you feel unwell.

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



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

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Glufosinate-ammonium	77182-82-2	23.75 - 25.3
Glycerin	56-81-5	<0.5%
Surfactant blend*	Proprietary*	36 – 38%
Other Ingredients*	Proprietary*	36 – 38%

Synonyms: mixture containing 2-amino-4-(hydroxymethylphosphinyl)butanoic acid monoammonium salt *Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. Values are not product specifications.

4. FIRST AID MEASURES

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

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

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

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

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

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

5. FIRE FIGHTING MEASURES

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

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

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

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

6. ACCIDENTAL RELEASE MEASURES

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

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



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

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

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

7. HANDLING AND STORAGE

Handling:

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

Storage

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

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

Personal Protective Equipment:

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

Skin Protection: To avoid contact with skin wear coveralls worm over short-sleeved shirt and short pants, chemical resistant footwear plus socks, chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils, or viton \geq 14 mils. When mixing, loading, or cleaning equipment a chemical resistant apron must be worn. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If dusts exceed acceptable levels, wear NIOSH approved airpurifying respirator with cartridges/canisters approved for use against pesticides. Mixers/loaders supporting aerial applications must wear a dust/mist filtering respirator (NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	TWA	STEL	TWA	STEL	Unit
Glufosinate-ammonium	NE	NE	NE	NE	
Glycerol (Glycerin Mist)	15 (T) 5 (R)	NE	15	NE	mg/m³
Surfactant Blend	NE	NE	50	100	ppm
Other Ingredients	NE	NE	NE	NE	

T = Total Dust



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R = Respirable Fraction NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Transparent yellow liquid

Odor: Mild sweet

Odor threshold: No data available

pH: 8.0 (1% w/w dispersion in DIW)

No data available Melting point/freezing point: Initial boiling point and boiling range No data available Flash point: 145°F (63°C) Setaflash **Evaporation rate:** No data available Flammability (solid, gas): No data available **Upper/lower flammability or explosive limits:** No data available Vapor pressure: No data available Vapor density: No data available Relative density: 1.085 g/cm³ at 26°C

Solubility(ies):

Partition coefficient: n-octanol/water:

Autoignition temperature:

No data available

No data available

No data available

No data available

Viscosity: 17.5 cps (26°C); 10.4 cps (39°C) capillary method

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

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

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

Possibility of Hazardous Reactions: Will not occur.

Conditions to Avoid: Keep away from heat, sparks and open flame. Minimize dust generate and accumulation.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: May produce gases such as oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact

Symptoms of Exposure:

Eye Contact: Moderately irritating.

Skin Contact: May cause skin irritation. Harmful if absorbed through skin. May cause symptoms similar to

inaestion.

Ingestion: Harmful if swallowed. Ingestion may cause irritation of the digestive tract with stomach pain, heartburn,

nausea, vomiting or diarrhea. **Inhalation:** May cause irritation.

Delayed, immediate and chronic effects of exposure: Skin, eye and/or respiratory irritation.

Toxicological Data:

Data from laboratory studies conducted on this product:

Oral: Rat LD₅₀: 3,129 mg/kg

Dermal: Rat LD₅₀: > 2,000 to < 5,000 mg/kg **Inhalation:** Rat 4-hr LC₅₀: > 0.55 to < 2.15 mg/L

Eye Irritation: Rabbit: Moderately irritating (MMTS=26.7) **Skin Irritation:** Rabbit: Slightly irritating (PDII= 1.3)

Skin Sensitization: Tested positive for sensitization (LLNA).



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Subchronic Toxicity: Glufosinate-ammonium was well tolerated in the rat but less well tolerated in the dog in subchronic studies. Glufosinate-ammonium has demonstrated effects on the central nervous system at high dose levels in standard toxicity studies using laboratory animals.

Reproductive Toxicity: Implantation loss occurred at high dose levels in a rat multigeneration study with glufosinate-ammonium. There were no effects on male fertility.

Developmental Toxicity: Tests in the rat and rabbit indicate that exposure to high dose levels of glufosinate-ammonium may result in embryotoxicity.

Mutagenicity and Genotoxicity: Glufosinate-ammonium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity:

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

Component	Regulatory Agency Listing As Carcinogen					
	ACGIH	IARC	NTP	OSHA		
Glufosinate-ammonium	No	No	No	No		
Glycerin	No	No	No	No		
Surfactant Blend	No	No	No	No		
Other Ingredients	No	No	No	No		

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Glufosinate-Ammonium Technical:

96-hr LC $_{50}$ Rainbow Trout: >320 mg/L Acute LD $_{50}$ Bobwhite Quail > 2000 mg/L 48-hr EC $_{50}$, Daphnia Magna 668 mg/L Acute LD $_{50}$ Mallard Duck > 2000 mg/L 48-hr LD $_{50}$, Honeybees 354 μ g/L

Environmental Fate:

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

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

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

Container Handling and Disposal:

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

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

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

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and

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forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

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

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two

minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

14. TRANSPORTATION INFORMATION

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

DOT:

< 119 gallons per completed package

Not Regulate for transportation.

≥ 119 gallons per completed package

NA1993, Combustible liquid, n.o.s., (Glycerol), Comb liq, III

IMDG

Not Regulated

IATA

Not Regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

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

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

U.S. FEDERAL REGULATIONS

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

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health, Chronic Health

Section 311/312 Hazardous Chemical:

Yes

Section 313 Toxic Chemical(s):

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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.

US - New Jersey RTK - Substances: Listed substance

Surfactant Blend (CAS Proprietary)

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Surfactant Blend (CAS Proprietary)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Surfactant Blend (CAS- Proprietary)

US. Massachusetts RTK - Substance List

Surfactant Blend (CAS- Proprietary).

US. Pennsylvania Worker and Community Right-to-Know Law

Surfactant Blend (CAS Proprietary)

US. Rhode Island RTK

Not regulated.

California Proposition 65: None listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

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

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

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

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