



**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Cheetah™ Herbicide  
**EPA Reg. No.:** 71368-112  
**Synonyms:** Glufosinate ammonium  
**Product Type:** Herbicide

**Company Name:** Nufarm Americas Inc.  
 11901 S. Austin Avenue  
 Alsip, IL 60803

**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

**Date of Issue:** July 24, 2014 **Supersedes:** April 30, 2014  
**Sections Revised:** 11, 14

**2. HAZARDS IDENTIFICATION**

**Emergency Overview:**  
**Appearance and Odor:** Amber viscous liquid with ammonium-like odor.  
**Warning Statements:** Keep out of reach of children. WARNING. May be fatal if absorbed through skin. Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist.

**Potential Health Effects:**  
**Likely Routes of Exposure:** Eye, Ingestion, Inhalation, and Skin contact.  
**Eye Contact:** Mildly irritating.  
**Skin Contact:** May cause skin irritation. Skin sensitizer. May be fatal if absorbed through skin.  
**Ingestion:** Harmful if swallowed. Do not take internally.  
**Inhalation:** May cause irritation. Avoid breathing spray mist.  
**Medical Conditions Aggravated by Exposure:** Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

**Potential Environmental Effects:**  
 Do not apply directly to water, or to areas where surface water is present or intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

See Section 12: ECOLOGICAL INFORMATION for more information.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

COMPONENT	CAS NO.	% BY WEIGHT
Glufosinate ammonium	77182-82-2	25.78
Other Ingredients		74.22

**4. FIRST AID MEASURES**

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

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

**If 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.

**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.

**5. FIRE FIGHTING MEASURES**

**Flash Point:** > 212° F (100° C)

**Autoignition Temperature:** Not available

**Flammability Limits:** Not available

**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/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

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

**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

**6. ACCIDENTAL RELEASE MEASURES**

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

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

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

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

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

**7. HANDLING AND STORAGE**

**Handling:**

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 worn over short-sleeved shirt and short pants, chemical resistant footwear plus socks, chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton® ≥ 14 mils. When mixing, loading, or cleaning equipment a chemical resistant apron must be worn. An emergency shower or water supply should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides. Mixers/loaders supporting aerial applications must wear a dust/mist filtering respirator (MSHA/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:**

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Glufosinate ammonium	NE	NE	NE	NE	

NE = Not Established

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance and Odor:</b> Amber viscous liquid with ammonium-like odor.			
<b>Boiling Point:</b>	No data available	<b>Solubility in Water:</b>	Soluble
<b>Density:</b>	9.538 lb/gal	<b>Specific Gravity:</b>	1.14 g/mL @ 20° C
<b>Evaporation Rate:</b>	No data available	<b>Vapor Density:</b>	Not Determined
<b>Freezing Point:</b>	Not Determined	<b>Vapor Pressure:</b>	Not Determined
<b>pH:</b>	7 - 8	<b>Viscosity:</b>	171.3 cSt @ 20° C

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

**10. STABILITY AND REACTIVITY**

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

**Conditions to Avoid:** Excessive heat. Keep away from heat, open flame and sources of ignition.

**Incompatible Materials:** Strong oxidizing agents: bases and acids.

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

**Hazardous Reactions:** Hazardous polymerization will not occur.

**11. TOXICOLOGICAL INFORMATION****Toxicological Data:**

Data from laboratory studies conducted on a similar, but not identical, formulation:

**Oral:** Rat LD<sub>50</sub>: 1,030 mg/kg (female rats)

**Dermal:** Rat LD<sub>50</sub>: > 1,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: > 1.13 mg/l

**Eye Irritation:** Rabbit: Mildly irritating

**Skin Irritation:** Rabbit: Slightly irritating

**Skin Sensitization:** Guinea pigs: Not considered to be sensitizer.

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

**Assessment Carcinogenicity:** None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

Data from studies conducted on glufosinate ammonium technical:

96-hour LC <sub>50</sub> Rainbow trout:	710 mg/L	Bobwhite Quail Oral LD <sub>50</sub>	> 5,000 ppm
48-hour EC <sub>50</sub> Daphnia magna:	560 mg/L	Mallard Duck Oral LD <sub>50</sub>	> 5,000 ppm

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

**Container Handling and Disposal:**

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

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

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

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

**14. TRANSPORTATION INFORMATION**

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

**DOT**

Not Regulated

**IMDG**

Not Regulated

**IATA**

Not Regulated

**15. REGULATORY INFORMATION****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 370.66):**

Immediate, Delayed

**Section 313 Toxic Chemical(s):**

None

**Reportable Quantity (RQ) under U.S. CERCLA:**

None

**RCRA Waste Code:**

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

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** Not Listed

**16. OTHER INFORMATION**

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

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

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