

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

Winfield Solutions, LLC  
 P.O. Box 64589  
 St. Paul, MN 55164-0589

**EMERGENCY TELEPHONE NUMBERS:**

(800) 424-9300 (CHEMTREC, transportation and spills)  
 Medical Emergency: 1-877-424-7452 (24 hrs)  
 Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (CST)

PRODUCT NAME : **TOTAL 2.3**  
 CHEMICAL NAME : Glufosinate ammonium  
 PRODUCT USE : Herbicide  
 PRODUCT CODE : EPA Reg. No 42750-258-1381

**SECTION 2 - HAZARDS IDENTIFICATION SUMMARY**

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

Dark blue, clear liquid

**HEALTH HAZARDS:** WARNING! May be fatal if absorbed through skin. Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.



**PHYSICAL HAZARDS:** None known.

**ENVIRONMENTAL HAZARDS:** Moderately toxic to fish and aquatic plants. May be toxic to non-target plants.

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

COMPONENT	PERCENTAGE	CAS NUMBER
Glufosinate ammonium	24.5%	77182-82-2
Inert Ingredients	75.5%	n/a

**SECTION 4 - FIRST AID MEASURES**

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

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

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

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

**NOTE TO PHYSICIAN:** If this product is ingested endotracheal intubation and gastric lavage should be performed as soon as possible followed by charcoal and sodium sulfate administration.

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

### **SECTION 5 - FIRE FIGHTING MEASURES**

National Fire Protection Rating (NFPA)

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

**FLASHPOINT:** N/A

**EXTINGUISHING MEDIA:** Use water spray, foam or dry chemical.

**FIRE AND EXPLOSION HAZARD:** May decompose in fire due releasing irritating or toxic gases.

**FIRE FIGHTING INSTRUCTIONS:** Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Foam or dry chemical extinguishing systems recommended to prevent environmental damage due to water runoff. Minimize use of water to prevent environmental contamination. Contact your State Pesticide or Environmental Control Agency, or nearest EPA Regional Office for guidance on disposal.

**FIRE FIGHTING EQUIPMENT:** Self-contained breathing apparatus with full facepiece. Full firefighting turn-out gear (Bunker gear).

### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

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

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

**LARGE SPILL:** Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, scrub the area with detergent and water. Minimize use of water to prevent environmental contamination

### **SECTION 7 - HANDLING AND STORAGE**

KEEP OUT OF REACH OF CHILDREN!

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

**HANDLING:** Use only in a well-ventilated area.

**STORAGE:** Store in original container. Keep away from food, feed and drinking water. 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 for bulk TOTAL 2.3 is below 32° F, the material should not be pumped until its temperature exceeds 32° F. Protect against direct sunlight.

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

COMPONENT	OSHA PEL	ACIGH TLV
Glufosinate ammonium	Not listed	Not listed

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

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYE PROTECTION** - Protective eyewear (goggles face shield or safety glasses).

**CLOTHING** – Coveralls worn over short sleeved shirt and short pants, Chemical resistant footwear plus socks. For overhead exposure wear chemical resistant headgear. Wear a chemical resistant apron when mixing/loading and cleaning equipment.

**GLOVES** – Chemical resistant gloves 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.

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.

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

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**USER SAFETY RECOMMENDATIONS:**

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

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Dark blue clear liquid
<b>Odor:</b>	Slight ammonia like odor
<b>pH:</b>	6.0 – 7.0
<b>Melting Point:</b>	Not applicable
<b>Boiling Point:</b>	No data
<b>Flash Point:</b>	Not applicable
<b>Evaporation Rate:</b>	No data
<b>Flammability:</b>	Not flammable
<b>Flammability Limits:</b>	Not applicable
<b>Vapor Pressure:</b>	<3.1 x 10 <sup>-2</sup> mPa (50°C) (Glufosinate-ammonium)
<b>Vapor Density:</b>	Not applicable
<b>Density:</b>	1.13 – 1.17 g/ml (9.43 – 9.76 lb/gl)*
<b>Solubility:</b>	Emulsifies
<b>Partition Coefficient:</b>	log Pow < 0.1 (pH 7) (22°C) (Glufosinate-ammonium)
<b>Auto-Ignition Temperature:</b>	No data
<b>Decomposition Temperature:</b>	No data
<b>Viscosity:</b>	199.8 cSt (20°C); 72.8 cSt (40°C)

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

**SECTION 10 - STABILITY AND REACTIVITY**

**PRODUCT REACTIVITY:** None known.

**CHEMICAL STABILITY:** Stable, however may decompose if heated.

**HAZARDOUS REACTION/POLYMERIZATION:** Product will not undergo polymerization.

**CONDITIONS TO AVOID:** Avoid temperatures above (115°F, 46°C) and below 25°F (-5°C).

**INCOMPATIBLE MATERIALS:** Strong oxidizers, acids or bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, Nitrogen oxides, phosphorous oxides

**SECTION 11 - TOXICOLOGICAL INFORMATION**

Acute toxicity values from a similar but not identical formulation.

**ACUTE TOXICITY:**

Oral LD <sub>50</sub> (rat)	- > 300 mg/kg
Dermal LD <sub>50</sub> (rat)	- > 750 mg/kg
Inhalation LC <sub>50</sub> (rat)	- > 2.1 mg/L
Eye Irritation (rabbit)	Sever irritant
Skin Irritation (rabbit)	Slight irritant
Sensitization (guinea pig)	Sensitizer

**CARCINOGEN STATUS:**

OSHA	- Not listed
NTP	- Not listed
IARC	- Not listed

**TERATOGENICITY:** Birth defects and reproductive effects shown only at maternally toxic doses

**MUTAGENICITY:** No evidence of mutagenic effects during in vivo or in vitro studies.

**SECTION 12 - ECOLOGICAL INFORMATION**

**ENVIRONMENTAL SUMMARY:** Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. This pesticide is toxic to vascular plants and should be used strictly in accordance with the drift and run off precautions on this label in order to minimize off site exposures.

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

**FATE:** Glufosinate is moderately persistent with a soil half life of 30 - 180 days depending on soil type and weather conditions. It is very mobile in certain soil types with potential to contaminate ground water,

**FISH TOXICITY:**

96 hour LC <sub>50</sub> , Rainbow trout –	> 25 mg/L
96 hour LC <sub>50</sub> , Bluegill –	> 50 mg/L

**AVIAN TOXICITY:**

Oral LD <sub>50</sub> , Bobwhite quail –	> 2,000 mg/Kg
Oral LD <sub>50</sub> , Mallard duck –	Unknown

**BEE:** Unknown

**SECTION 13 - DISPOSAL CONSIDERATIONS**

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

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

**CONTAINER:** Non-refillable containers: Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Refillable containers: Refill this container with glyphosate 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 re-filler.

If the container cannot be refilled, 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.

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

**SECTION 14 - TRANSPORT INFORMATION**

**SHIPPING DESCRIPTION:** Not regulated by DOT  
(Ground transport)

**TRANSPORT HAZARD CLASS:** N/A  
**UN NUMBER:** N/A  
**DOT PACKING GROUP:** PG III

**SECTION 15 - REGULATORY INFORMATION**

**CERCLA REPORTABLE QUANTITY:** Not listed

**SARA TITLE III STATUS:**  
311/312 Hazard Categories – Immediate Health  
313 Toxic Chemicals – None known

**CALIFORNIA PROP 65:** Not listed

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

**SECTION 16 - OTHER INFORMATION**

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

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

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

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

**REVISED DATE:** November 22, 2017

**REFERENCE:**