



# Safety Data Sheet

## MEYCHEM Glufosinate Ammonium Technical

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name**

MEYCHEM Glufosinate Ammonium Technical

**EPA Reg. No.**

80967-19

**Product Use**

For Formulation Use Only

**Common name**

Glufosinate ammonium

**Other names**

Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt

**Company**

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**Emergency numbers**

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

### 2. HAZARDS IDENTIFICATION

**Classification****Classification according to Regulation (EC) No 1272/2008)**

Category 4 Acute Toxicity: Inhalation

Category 4 Acute Toxicity: Oral

Category 4 Acute Toxicity: Skin

Category 1B Toxic to Reproduction. May damage fertility or unborn child

Category 2 Target Organ Systemic Toxicity (repeated exposure)

**Label Elements****Signal word**

DANGER

**Hazard pictograms****Hazard statements**

**GHS Hazard Phrases**

H332: Harmful if inhaled.  
H302: Harmful if swallowed.  
H312: Harmful in contact with skin.  
H360: May damage fertility or the unborn child.  
H373: May cause damage to organs through prolonged or repeated exposure.

**GHS Precaution Phrases**

P261: Avoid breathing (dust/fume/gas/mist/vapor/spray).  
P264: Wash {hands} thoroughly after handling.  
P280: Wear (protective gloves/protective clothing/eye protection/face protection).  
P362+364: Take off contaminated clothing and wash it before reuse.  
P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P281: Use personal protective equipment as required.  
P260: Do not breathe (dust/fume/gas/mist/vapor/spray).

**GHS Response Phrases**

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312: Call a (POISON CENTER/doctor) if you feel unwell.  
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330: Rinse mouth.  
P302+352: IF ON SKIN: Wash with plenty of soap and water.  
P321: Specific treatment (see ... on this label).  
P308+313: IF exposed or concerned: Get medical attention/advice.  
P314: Get medical attention/advice if you feel unwell.

**GHS Storage and Disposal Phrases:**

Please refer to Section 7 for Storage and Section 13 for Disposal information.

**Adverse Human Health Effects and Symptoms**

Harmful if inhaled.  
Harmful if swallowed.  
Harmful in contact with skin.  
Material may be irritating to the mucous membranes and upper respiratory tract.  
May cause damage to organs through prolonged or repeated exposure.  
May cause eye, skin, or respiratory system irritation.  
May damage fertility or the unborn child.

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

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Active ingredient**

Glufosinate ammonium  
Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt

**Composition**

COMPONENT	CAS No.	% by weight (approximate)
Glufosinate ammonium	77182-82-2	98.5
Other Ingredients	--	0.5

**4. FIRST AID MEASURES****General advice**

Remove the affected person from the danger zone to a well-ventilated room or to fresh air and protect from chilling. Do not administer anything by oral route and do not try to make vomit, call a treatment center for poisoning cases or a doctor. Take the label where possible.

**Eye contact**

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

**Skin contact**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothes and clean shoes thoroughly before reuse.

**Inhalation**

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

**Ingestion**

Call 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.

**Note to Physician**

There is no antidote. Treat symptomatically. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Atropine is contraindicated. May be fatal if swallowed and enters airways. If swallowed, gastric lavage using an endotracheal tube may be preferred to vomiting.

**5. FIRE FIGHTING MEASURES****Extinguishing media**

Use dry foam, dry chemical, carbon dioxide, or soft stream water fog only when fighting fires involving this material. Contain all runoff.

**Special hazards**

May emit Toxic and irritating fumes under fire conditions. Normal combustion forms carbon dioxide, water vapor and may produce oxides of carbon, nitrogen, phosphorous, and sulfur. Incomplete combustion can produce carbon monoxide.

**Environmental precautions**

Minimize use of water to prevent environmental contamination. See Section 6.

**Hazardous products of combustion**

Decomposition products may include the following materials: carbon dioxide, carbon, monoxide, nitrogen oxides, sulfur oxides, and halogenated compounds

**Fire-fighting equipment**

Self-contained breathing apparatus with full face-piece. Full firefighting turnout gear (Bunker gear). Equipment should be thoroughly decontaminated after use.

**Fire-fighting guidance**

Evacuate the area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Remove containers from site of fire, if possible. Surrounding containers should be cooled using a fine water spray. All run-off must be contained. Dike and collect fire extinguishing water to prevent environmental damage with excessive water runoff.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

**Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### **Methods for cleaning up**

If spilled on the ground or in a storage area, the affected area should be scraped or swept clean and all material should be placed in an appropriate closed container for disposal. Avoid creating dust. Decontaminate tools and equipment following cleanup. Do not flush to drain. Prevent material from entering public sewer system or any waterway.

**Refer to Section 13 for disposal of spilled material. Use handling recommendations in Section 7 and personal protection recommendations in Section 8.**

## **7. HANDLING AND STORAGE**

### **Handling**

Put on appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing dust. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat. Do not reuse container.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

### **Storage**

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Exposure limits**

No data available.

### **Engineering controls**

Have eye wash facilities immediately available at locations where eye contact can occur. Use only with adequate ventilation. Provide mechanical exhaust ventilation in closed spaces. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### **Eye protection**

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Avoid contact with skin. Wear chemical resistant gloves such as barrier laminate or viton. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Wash hands with soap and water.

### **Body Protection**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Wear apron, boots, and full chemical protective suit. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Color/color range	Off-white to white powder
Odor	Odorless to mildly pungent
Physical state	Solid
Melting Point	215°C
Boiling Point	Decomposes before boiling
Flash point	>100°C
Explosive properties	Not explosive
Auto ignition temperature	No data available
Self-accelerating decomposition temperature (SADT)	No data available
Oxidizing properties	No data available
Corrosiveness	Not corrosive
Specific gravity/Density	1.32 g/ml @ 23°C, 1.204 g/ml @ 20°C
Vapor pressure	Estimated to be $3.1 \times 10^{-5}$ Pa at 50°C
pH	No data available
Henry's Law Constant	$KH = 4.48 \times 10^{-9}$ (Pa m <sup>3</sup> /mole) (calculated)
Dissociation Constant	pKa 4.83; $Ka 1.49 \times 10^{-5}$
Solubility	At 20 °C, 1280.326 g/L in water (pH=4.41) 0.083 g/L in acetone, 4.860 g/L in methanol

## 10. STABILITY AND REACTIVITY

### Stability

Stable under recommended storage and handling conditions. Isolate from sources of heat, flames and sparks.

### Reactivity

No data available.

### Possibility of hazardous reactions

No data available.

### Incompatible materials

Strong oxidizing agents, such as chlorates, nitrates, and peroxides, acids, bases, and alkali metals.

### Hazardous decomposition

Hazardous products of combustion include oxides of carbon, nitrogen, phosphorus, and sulfur. Incomplete combustion can produce carbon monoxide.

## 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure: Skin contact, eye contact, inhalation.

### Acute oral toxicity

Rat, LD50: >2,000 mg/kg body weight. FIFRA category III.

### Acute dermal toxicity

Rat, LD50: > 2,000 mg/kg body weight. FIFRA category III.

### Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: > 11.041 mg/L. FIFRA category III.

### Skin irritation

Rabbit: No irritation. FIFRA category IV.

### Eye irritation

Rabbit: No irritation. FIFRA category III.

### Skin sensitization

Guinea pig, Buehler test: No skin sensitization.

### Genotoxicity/mutagenicity

Not genotoxic/mutagenic.

### Carcinogenicity

Not carcinogenic in mice and rats

### Reproductive/Developmental Toxicity/Teratogenicity

Presumed human reproductive toxicant. Maternal effects displayed in rats orally exposed to glufosinate ammonium.

## 12. ECOLOGICAL INFORMATION

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, ocean or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product in sewer systems without previously notifying the sewage treatment plant authority.

### Aquatic toxicity, fish

Rainbow trout (*Oncorhynchus mykiss*): Acute toxicity, 96 hours, LC50 710 mg/L.

Bluegill sunfish (*Lepomis macrochirus*): Acute toxicity, 96 hours, LC50 >1,000 mg/L.

### Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*): Acute toxicity, 48 hours, EC50 668 mg/L.

### Avian toxicity

Bobwhite quail (*Colinus virginianus*): Acute dietary toxicity, LC50 > 5,000 mg/kg.

### Arthropod toxicity

Honey bee (*Apis mellifera*): Contact, 48 hours, LD50 > 100 µg/bee.

### Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*): Acute toxicity, LC50 >1,000 mg/kg soil.

### Aquatic toxicity, algae/aquatic plants

Green algae: Acute toxicity, 5 days, LC50 46.5 mg/L.

### Mobility in soil

Moderate to high mobility (Kf = 0.2 - 3.4)

### Persistence and degradability

Low persistence in most soils.

### Bioaccumulation potential

No data available.

## 13. DISPOSAL CONSIDERATIONS

### Product Wastes

Pesticide wastes are acutely hazardous. Keep out of drains, sewers, ditches and water ways. Recycle if appropriate facilities and equipment are available or burn in an appropriate licensed commercial incinerator. Follow all local, regional, national, and international regulations.

### Container

See the individual container label for disposal information. Emptied containers retain vapor and product residue. Do not reuse or refill containers. Completely empty containers into formulation equipment. Then offer for recycling if available or dispose of empty containers in a sanitary landfill, or by incineration. Follow all local, regional, national, and international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

## 14. TRANSPORT INFORMATION

### UN number

ADR/RID:

IMDG:

IATA: -

### UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

### Transport hazard class(es)

ADR/RID:

IMDG:

IATA: -

### Packaging Group

ADR/RID:

IMDG:

IATA: -

### Environmental Hazards

ADR/RID: No

IMDG: No

IATA: No

### Special precautions for user

Transport in accordance with local, state, and federal regulations

## 15. REGULATORY INFORMATION

### SARA Title III Rules

**Section 311/312 Hazards:** Immediate and Delayed Health Effects, Fire Hazard.

### CERCLA Reportable quantity

1,000 lbs.

### California Prop. 65 Component

This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

### Federal Fungicide, Insecticide, Rodenticide Act (FIFRA)

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 swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear long-sleeved shirt and long pants, socks, shoes, gloves and protective eyewear (safety glasses, goggles, or a face shield). Remove and wash contaminated clothing before reuse.

Acute oral toxicity: FIFRA category III.  
Acute dermal toxicity: FIFRA category III.  
Acute inhalation toxicity: FIFRA category III.  
Skin irritation: FIFRA category IV.  
Eye irritation: FIFRA category III.  
Skin sensitization: No skin sensitization.

## 16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local, regional, national, and international regulations. Please consult supplier if further information is needed. For more information refer to the product label. Please consult MEY Corporation if further information is needed.

	Health	Flammability	Instability	Additional Markings
NFPA	2	0	0	
0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard				

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. In the USA, 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 are 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.

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