

# Glufosinate-ammonium: sc-235254



## MATERIAL SAFETY DATA SHEET

The Power to Question

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Glufosinate-ammonium

**Product Number:** sc-235254

**Supplier:** Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, CA 95060  
800.457.3801 or 831.457.3800

**Emergency:** ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255 (1-800-CHEMCALL) or call +613 9573 3112

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### OSHA Hazards

Toxic by inhalation, Harmful by ingestion.

#### GHS Classification

Acute toxicity, Oral (Category 4)

Acute toxicity, Inhalation (Category 4)

Acute toxicity, Dermal (Category 5)

Reproductive toxicity (Category 2)

Specific target organ toxicity – repeated exposure (Category 2)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word            Warning

#### Hazard statement(s)

H302 + H332 Harmful if swallowed or if inhaled

H313 May be harmful in contact with skin.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statement(s)

P281 Use personal protective equipment as required.

#### HMIS Classification

**Health hazard:** 3

**Flammability:** 1

**Physical hazards:** 0

#### NFPA Rating

**Health hazard:** 2

**Fire:** 1

**Reactivity Hazard:** 0

#### Potential Health Effects

**Inhalation** Toxic if inhaled. May cause respiratory tract irritation.

**Skin** Harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Ingestion** Harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms:** 2-Amino-4-(hydroxymethylphosphinyl)butyric acidammonium salt DL-Phosphinothricin

**Formula:** C<sub>5</sub>H<sub>11</sub>NO<sub>4</sub>P·NH<sub>4</sub>

**Molecular Weight:** 198.16

<i>CAS-No.</i>	<i>EC-No.</i>	<i>Index-No.</i>	<i>Concentration</i>
<b>Glufosinate-ammonium</b> 77182-82-2	278-636-5	015-155-00-X	-

### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions – carbon oxides, nitrogen oxides (NO<sub>x</sub>), oxides of phosphorus

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

#### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Store at 4 °C.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

#### Personal protective equipment

### Respiratory protection

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).

### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solid	pH	no data available
Melting point/freezing point	215 °C (419 °F)	Boiling point	no data available
Flash point	> 100 °C (> 212 °F)	Ignition temperature	no data available
Auto-ignition temperature	no data available	Evaporation rate	no data available
Lower explosion limit	no data available	Upper explosion limit	no data available
Vapor pressure	no data available	Density	no data available
Relative vapor density	no data available	Water solubility	no data available
Odor	no data available	Odor Threshold	no data available
Partition coefficient: n-octanol/water	no data available		

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions – carbon oxides, nitrogen oxides (NO<sub>x</sub>), oxides of phosphorus

### Other decomposition products

no data available

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Oral LD50** LD50 Oral – rat – 1,620 mg/kg

**Inhalation LC50** LC50 Inhalation – rat – 4 h – 1,260 mg/m<sup>3</sup>

**Dermal LD50** LD50 Dermal – rat – > 2,000 mg/kg

**Other information on acute toxicity** no data available

**Skin corrosion/irritation**

Skin – rabbit – No skin irritation

**Serious eye damage/eye irritation**

Eyes – rabbit – No eye irritation

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

Reproductive toxicity – rat – Oral

Maternal Effects: Other effects.

no data available

**Teratogenicity**

Suspected human reproductive toxicant

**Specific target organ toxicity – single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity – repeated exposure (Globally Harmonized System)**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

no data available

**Potential health effects**

**Inhalation** Toxic if inhaled. May cause respiratory tract irritation.

**Ingestion** Harmful if swallowed.

**Skin** Harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**

no data available

**Additional Information**

RTECS: EK7713600

**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish LC50 – *Oncorhynchus mykiss* (rainbow trout) – 710 mg/l – 96 h

Toxicity to daphnia and other aquatic EC50 – *Daphnia magna* (Water flea) – 560 mg/l – 48 h invertebrates

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### DOT (US)

Not dangerous goods

#### IMDG

Not dangerous goods

#### IATA

Not dangerous goods

### 15. REGULATORY INFORMATION

#### OSHA Hazards

Toxic by inhalation, Harmful by ingestion.

#### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 313 Components

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.

#### SARA 311/312 Hazards

Acute Health Hazard

#### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know Components

Glufosinate ammonium

CAS-No. 77182-82-2

#### New Jersey Right To Know Components

Glufosinate ammonium

CAS-No. 77182-82-2

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 16. OTHER INFORMATION

*The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.*

7/16/2013