

Advantage Crop Protection Ltd.**1. PRODUCT AND COMPANY IDENTIFICATION****Product name** : Glufosinate-ammonium 150 g/l SL**PCP# 33472****Company Identification:**Advantage Crop Protection Ltd.,
601-402 21st Street East,
Saskatoon, Saskatchewan,
Canada.

S7K 0C3

Telephone: 1-888-931-2530

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Product Use: Herbicide**2. HAZARDS IDENTIFICATION****WARNING.:** The product is a blue to bluish-green liquid with a weakly pungent odor. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist.**Primary route(s) of Entry:** Skin absorption and spray mist inhalation.**Effects of overexposure:** No incidents of human overexposure are known. Central nervous system stimulation leading to tremors and convulsions occurs in lethally dosed rats.**Signs and symptoms:** gastrointestinal disturbance, tremors, convulsions, respiratory depression, cardiac arrhythmia, decreased blood pressure, drowsiness and/or loss of consciousness. These symptoms may be delayed by up to 48h after exposure.**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS Number	Concentration (g/l)
Glufosinate-ammonium	77182-82-2	150.0
Inert Ingredients	-	To 1 liter

4. FIRST AID MEASURES**4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

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 water. Take off contaminated clothing and shoes immediately. If symptoms persist, call a physician.

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

If swallowed

Rinse mouth thoroughly with plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

Endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration. Respiratory, Cardiac and Central Nervous Systems should be monitored with particular regard to ECG, electrolyte balance (especially for potassium) and signs of increased intracranial pressure. In the event of a large exposure, dialysis and/or hemoperfusion should be conducted as soon as possible to eliminate the compound from the body. In the event of convulsions, administer Phenobarbital or diazepam. There is no specific antidote. Glufosinate-ammonium does not inhibit cholinesterase; thus atropine and 2-PAM are contraindicated. Recovery is normally spontaneous, usually within 48h.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Foam, Carbon dioxide (CO₂), Dry powder

Extinguishing media which should not be used for safety reasons

High volume water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire the following may be released: Carbon monoxide (CO), Nitrogen oxides (NO_x), Oxides of phosphorus.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Small spill: absorb with an inert absorbent material such as granular clay, saw dust or pet litter. Sweep up carefully while avoiding the formation of a dust cloud. Place in an approved chemical waste container for disposal. Rinse spill area with small amount of soapy water. Contain and absorb the rinsate with inert absorbents and place into the same disposal container. Area can be washed with water to remove the last trace residue. Do not allow water to contaminate water supplies or sewers.

Large spill: Eliminate all ignition sources. Stop leak if you can do so without coming into contact with spilled material. Dike far ahead of liquid spill for later disposal. All equipment used to clean up spill should be grounded. Prevent entry into waterways, sewers, basements or confined areas. Inform appropriate authorities immediately if contamination occurs.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Protect from freezing. Keep away from food, drink and animal feeding stuffs. Temperature tolerance 0 °C to 40 °C

Suitable materials

Coextruded containers with an internal barrier layer made of ethylene vinyl alcohol copolymer (EVOH), Coextruded containers with an internal barrier layer made of polyamide (PA), HDPE (high density polyethylene)

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Components with workplace control parameters

No data available

8.2 Appropriate engineering controls

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

8.3 Personal protective equipment

Eye/face protection

Safety glasses, in case of increased risk, also a face shield

Hand protection

Chemical resistant nitrile rubber gloves

Skin protection

Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|----------------------|--|
| a) Appearance | Blue to bluish-green liquid. |
| b) Odor | Weakly pungent. |
| c) Physical state | Liquid. |
| d) pH | 5.0-7.5 |
| e) Density | Ca. 1.07g/cm ³ at 20°C |
| f) Flammable | Non-flammable |
| g) Explosiveness | Non-explosive |
| h) storage stability | 2 years at least at recommended conditions |

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

2 years at least stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No hazardous reactions when stored and handled according to prescribed instructions.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Strong oxidizing agents, Acids, Bases

10.6 Hazardous decomposition products

Ammonia

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD₅₀: LD₅₀ cut-off value >5000 mg/kg.bw for rats

Dermal LD₅₀: greater than 2000 mg/kg.bw for male and female rats

Inhalation LC₅₀ (4 hour): greater than 5.212 mg/l air for male and female rats

Dermal corrosion/irritation

Non-Irritant to rabbit skin.

Serious eye damage/eye irritation

Non Irritant to rabbit eyes.

Respiratory or skin sensitization

Non sensitization

The following data is based on the active ingredient.

Germ cell mutagenicity

No mutagenic activity was detected in a battery of mutagenicity tests.

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.

Reproductive toxicity

No data available

Neurotoxicity: Does not inhibit acetylcholinesterase activities. No evidence of delayed neurotoxicity was noted in hens. Neurobehavioral effects (e.g., hypersensitivity, tremors, convulsions) related to stimulation of the central nervous system (CNS) were observed in some studies but only at lethal or near lethal dose levels.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No data available

12. ECOLOGICAL INFORMATION (Based on technical grade active ingredient)**12.1 Toxicity**

Acute and prolonged toxicity to fish: LC50: 79mg/l (96h) in bluegill sunfish, 42mg/l (96h) in rainbow trout, 80mg/l (96h) in carp, 560-1000mg/l in freshwater fish & invertebrates.

Acute toxicity to aquatic invertebrates: EC50/LC50: >100mg/l (48h) in daphnia, 7.2-125mg/l in marine and estuarine organisms.

Chronic toxicity to aquatic invertebrates: NOEC: 32mg/l in freshwater invertebrates.

Toxicity other non mammal terr. Species: LD50/LC50: acute oral >2000mg/kg in avian, acute dietary >5000ppm in avian, reproduction 400ppm in avian, contact >600µg/bee in honeybee.

12.2 Persistence and degradability

photolytic half-life: >300 days.

12.3 Bioaccumulative potential

No accumulation.

12.4 Mobility in soil

No data available

12.5 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Do not dispose of waste into sewer. In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

Contaminated packaging

Triple rinse containers. Rinsed packaging may be acceptable for landfill, otherwise incineration will be required in accordance with local regulations. Not completely emptied packagings should be disposed of as hazardous waste. Do not use containers for other products.

14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

14.6 Special precautions for user

No data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of GHS(third revised edition).

Local regulations, if any should be applied to classification and labeling.

16. OTHER INFORMATION

This information is provided in good faith but without express or implied warranty.



Advantage Crop Protection Ltd.

Glufosinate-Ammonium 150g/l SL

Buyer assumes all responsibility for safety and use not in accordance with label instruction.