

1.**PRODUCT AND COMPANY IDENTIFICATION****Product name:**

Advantage Glufosinate-Ammonium 200SN Herbicide

PCP # 32823**Company Identification:**

Advantage Crop Protection Ltd.,
620 4th Avenue East
Regina, Saskatchewan, Canada.

S4N 4Z5

Telephone: 1-888-931-2530

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Product Use: Herbicide**2. HAZARDS IDENTIFICATION****Emergency overview****CAUTION:****POISON. Skin Irritant****WARNING: Eye irritant.****KEEP OUT OF REACH OF CHILDREN.****Irritating to eyes.**

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	200
Inert Ingredients		To 1 liter

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

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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**

Small fires: dry chemical, carbon dioxide.

Large fires: Foam or water. Move containers from fire area if without risk. Cool containers with water from maximum distance.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear.

5.4 Further information

Specific methods of fire-fighting: Keep upwind. Isolate hazard area. Avoid inhalation

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of smoke and fumes. Use water or foam to reduce fumes. Do not touch spilled material. If possible, move containers from area. Extinguish only if flow can be stopped. Use flooding amounts of water as a fog. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors.

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.

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. Store product in a secure storage area. Do not use or store near heat or open flame. Do not contaminate water, food, or feed by storage or disposal.

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

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before breaks and at the end of workday.

8.3 Personal protective equipment**Eye/face protection**

Wear goggles conforming to EN166 (Field of Use 5 or equivalent).

Hand protection

Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness 0,40 mm). Wash when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed. Wash hands always before eating, drinking, smoking or using the toilet.

Skin protection

Wear standard coverall and type 3 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

Respiratory protection

Not required; except in case of aerosol formation.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|-------------------|--------------------------------|
| a) Appearance | Blue to bluish-green liquid. |
| b) Odor | Weakly pungent. |
| c) Physical state | Liquid. |
| d) pH | 5.0-7.5 |
| e) Density | 1.10 g/cm ³ at 20°C |

10. STABILITY AND REACTIVITY**10.1 Reactivity**

10.2 No hazardous reactions if stored and handled as prescribed/indicated.

10.3 Chemical stability

Stable under recommended storage conditions.

10.4 Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated

10.5 Conditions to avoid

Avoid excessive temperatures. Avoid direct sunlight. See MSDS section 7 - Handling and storage.

10.6 Incompatible materials

no data available

10.7 Hazardous decomposition products

no data available

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Oral LD50 (rat): >2000 mg/kg for female rats

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Dermal LD50 (rat): 1900.2mg/kg for female and male rats

Inhalation LC50 (rat-4hrs): >1.16 mg/l (maximum attainable concentration)

Dermal corrosion/irritation

Skin - rabbit - No irritation.

Serious eye damage/eye irritation

Eyes - rabbit - irritation.

Respiratory or skin sensitization

Non- sensitization in guinea pigs

OECD harmonized classification system, August 14, 2001

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.

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12.4 Mobility in soil

no data available

12.5 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Product**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Contaminated packaging

Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Do not contaminate water, food, or feed by disposal.

14. TRANSPORT INFORMATION

According to ADN/ADR/RID/IMDG/IATA not classified as dangerous goods.

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

15. REGULATORY INFORMATION**CANADIAN REGULATIONS:****Hazardous Products Act Information: WHMIS 2015 Classification**

This product is exempt under WHMIS2015.

Pest Control Products (PCP) Act Registration No.: 32823

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act.

(PCPA). These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Read the approved PCPA label prior to using or handling this pest control product.

16. OTHER INFORMATION

This information is provided in good faith but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with label instruction.