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Safety Data Sheet

Liberty Ultra Herbicide - Powered by Glu-L Technology

Revision date : 2024/10/29

Version: 2.0

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(30837088/SDS_CPA_US/EN)

1. Identification

Product identifier used on the label

Liberty Ultra Herbicide - Powered by Glu-L Technology

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, herbicide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Agricultural Solutions US LLC
2 TW Alexander Drive
Research Triangle Park, NC 27713
USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 1059619

Registration number: EPA Registration number: 7969-500

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation

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Repr.	1B (fertility)	Reproductive toxicity
Repr.	2 (unborn child)	Reproductive toxicity
STOT RE	2	Specific target organ toxicity — repeated exposure
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H360	May damage fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing and eye protection or face protection.
P260	Do not breathe dust/gas/mist/vapours.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P391	Collect spillage.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

L-Glufosinate-ammonium 88% TC

CAS Number: 73777-50-1

Content (W/W): 18.69 %

Synonym: No data available.

Alcohols, C12-14, ethoxylated, sulfates, sodium salts (> 1 < 2.5 mol EO)

CAS Number: 68891-38-3

Content (W/W): >= 20.0 - < 25.0%

Synonym: Poly(oxy-1,2-ethanediyl), α -sulfo- ω -hydroxy-, C12-14-alkyl ethers, sodium salts

D-Glucopyranose, oligomers, decyl octyl glycosides

CAS Number: 68515-73-1

Content (W/W): >= 7.0 - < 10.0%

Synonym: No data available.

1-methoxypropan-2-ol

CAS Number: 107-98-2

Content (W/W): >= 5.0 - < 7.0%

Synonym: 1-Methoxy-2-propanol; Propylene glycol monomethyl ether

Sodium Hydroxide

CAS Number: 1310-73-2

Content (W/W): > 0.0 - < 0.2%

Synonym: Sodium hydroxide; Caustic soda

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

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If swallowed:

Do not induce vomiting. Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

vomiting, diarrhea, abdominal cramps, tremors, hypotension (low blood pressure), weakness, unconsciousness, coma, convulsions, respiratory arrest, nausea, tachycardia, Symptoms may be delayed for several hours.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote. Administer activated charcoal. If necessary, give oxygen. Monitor respiratory, cardiac and central nervous system. Medical monitoring for at least 24-48 hours.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, ammonia oxides, Phosphorus compounds

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

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Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Protect contents from the effects of light. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

Protect from temperatures below: 0 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

1-methoxypropan-2-ol	ACGIH, US:	TWA value 50 ppm ;
	ACGIH, US:	STEL value 100 ppm ;

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Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Remove contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid
Odour:	ammonia-like
Odour threshold:	Not determined since harmful by inhalation.
Colour:	reddish
pH value:	approx. 6.5 - 8.5 (20 °C) (undiluted)
Melting point:	approx. 0 °C Information applies to the solvent.
Boiling point:	approx. 100 °C Information applies to the solvent.
Flash point:	No flash point - Measurement made up to pilot light extinguishes.
Flammability:	not applicable

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Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	400 °C
Vapour pressure:	approx. 23.4 hPa (20 °C) Information based on the main component/s.
Density:	approx. 1.13 g/cm3 (20 °C)
Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures
Thermal decomposition:	140 °C, 90 kJ/kg 320 °C, 40 kJ/kg Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.
Viscosity, dynamic:	approx. 130 mPa.s (20 °C)
Viscosity, kinematic:	approx. 43 mm2/s (40 °C)
Solubility in water:	completely soluble
Evaporation rate:	not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

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

Oxidizing properties:

not fire-propagating

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

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

Conditions to avoid

See SDS section 7 - Handling and storage.

Incompatible materials

strong acids, strong bases, strong oxidizing agents

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Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: ammonia

Thermal decomposition:

140 °C, 3 K/min

320 °C, 3 K/min

Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after short-term inhalation. Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50

Species: rat (female)

Value: > 2,000 mg/kg (OECD Guideline 423)

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 2.083 mg/l (OECD Guideline 403)

Exposure time: 4 h

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 402)

No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.

Skin

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Species: rabbit
Result: Irritant.
Method: OECD Guideline 404

Eye

Species: rabbit
Result: irreversible damage
Method: OECD Guideline 405

Sensitization

Assessment of sensitization: No sensitizing effect.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse
Result: Non-sensitizing.
Method: OECD Guideline 429

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: L-Glufosinate-ammonium 88% TC

Assessment of repeated dose toxicity: Repeated exposure may affect certain organs.

Information on: 1-methoxypropan-2-ol

Assessment of repeated dose toxicity: May affect the liver as indicated in animal studies. The substance may cause damage to the kidney after repeated inhalation. Effect found in rodents only. The relevance to humans is questionable.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: L-Glufosinate-ammonium 88% TC

Assessment of reproduction toxicity: Causes impairment of fertility in laboratory animals.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

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Information on: L-Glufosinate-ammonium 88% TC

Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

Other Information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from the properties of the individual components.

Toxicity to fish

Information on: L-Glufosinate-ammonium 88% TC

LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss

Aquatic invertebrates

Information on: L-Glufosinate-ammonium 88% TC

LC50 (48 h) > 100 mg/l, Daphnia magna

Aquatic plants

Information on: L-Glufosinate-ammonium 88% TC

EC50 (72 h) 37.7 mg/l (other), algae

EC50 (96 h) 0.049 mg/l (growth rate), Anabaena flos-aquae

No observed effect concentration (96 h) 0.0063 mg/l (other), Anabaena flos-aquae

Persistence and degradability

Assessment biodegradation and elimination (H2O)

The product has not been tested. The statement has been derived from the properties of the individual components.

Assessment biodegradation and elimination (H2O)

Information on: L-Glufosinate-ammonium 88% TC

Biodegradable.

Bioaccumulative potential

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Assessment bioaccumulation potential

The product has not been tested. The statement has been derived from the properties of the individual components.

Assessment bioaccumulation potential

Information on: L-Glufosinate-ammonium 88% TC

Does not accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Alcohols, C12-14, ethoxylated, sulfates, sodium salts (> 1 < 2.5 mol EO)

The substance will not evaporate into the atmosphere from the water surface.

Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Study scientifically not justified.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class: 9

Packing group: III

ID number: UN 3082

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Hazard label: 9, EHSM
Marine pollutant: YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains GLUFOSINATE-L-AMMONIUM)

Air transport

IATA/ICAO
Hazard class: 9
Packing group: III
ID number: UN 3082
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains GLUFOSINATE-L-AMMONIUM)

Further information

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

CERCLA RQ

100 LBS

CAS Number

107-98-2

Chemical name

1-methoxypropan-2-ol

State regulations

State RTK

NJ

PA

CAS Number

107-98-2

107-98-2

25265-71-8

Chemical name

1-methoxypropan-2-ol

1-methoxypropan-2-ol

dipropylene glycol

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including METHANOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Labeling requirements under FIFRA

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This chemical is a pesticide product regulated by the 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, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:

KEEP OUT OF REACH OF CHILDREN.

Hazards to humans and domestic animals.

HARMFUL IF SWALLOWED.

Harmful if absorbed through skin.

HARMFUL IF INHALED.

Avoid contact with the skin, eyes and clothing.

Avoid inhalation of dusts.

Wash thoroughly with soap and water after handling and before eating, drinking and using tobacco.

Remove contaminated clothing and wash before reuse.

16. Other Information

SDS Prepared by:

BASF Agricultural Solutions US NA Product Regulations

SDS Prepared on: 2024/10/29

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET