

Safety Data Sheet

Liberty 200 SN Herbicide

Revision date : 2021/01/07
Version: 3.0

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(30692787/SDS_CPA_CA/EN)

1. Identification

Product identifier used on the label

Liberty 200 SN Herbicide

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 Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

PCP # 25337
Synonyms: Glufosinate Ammonium

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Flam. Liq.	4	Flammable liquids
Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Acute Tox.	4 (dermal)	Acute toxicity
Eye Dam./Irrit.	2B	Serious eye damage/eye irritation

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Repr.	1B (fertility)	Reproductive toxicity
Repr.	1B (unborn child)	Reproductive toxicity
STOT RE	2	Specific target organ toxicity — repeated exposure
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H227	Combustible liquid.
H320	Causes eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H360	May damage fertility. May damage the unborn child.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing and eye protection or face protection.
P260	Do not breathe dust/gas/mist/vapours.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P201	Obtain special instructions before use.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P308 + P311	IF exposed or concerned: 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.
P314	Get medical advice/attention if you feel unwell.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P330	Rinse mouth
P337 + P311	If eye irritation persists: Call a POISON CENTER or physician.
P370 + P378	In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.

Precautionary Statements (Storage):

P405	Store locked up.
P403	Store in a well-ventilated place.

Precautionary Statements (Disposal):

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P501 Dispose of contents and container to hazardous or special waste collection point.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

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

CAS Number: 77182-82-2

Content (W/W): 18.19 %

Synonym: Glufosinate Ammonium

Polyethyleneglycolmonoalkylethersulphate, salts

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 ester, sodium salt

1-methoxypropan-2-ol

CAS Number: 107-98-2

Content (W/W): 5.0 - 10.0%

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

4. First-Aid Measures

Description of first aid measures

General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. In case of intoxication, call a poison control center or physician for treatment advice, taking the packaging or the label of the product.

If inhaled:

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

If on skin:

Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

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

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Section 11., vomiting, diarrhea, abdominal cramps, tremors, hypotony, unconsciousness, coma, convulsions, respiratory disorders, 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.

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
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:

Keep containers cool by spraying with water if exposed to fire. In case of fire and/or explosion do not breathe fumes. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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.

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.

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7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep only in the original container. Keep container tightly closed and dry; store in a cool place. Keep away from heat. Protect from direct sunlight. Protect from frost.

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 TLV TWA value 50 ppm ; STEL value 100 ppm ;

Personal protective equipment

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:

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

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9. Physical and Chemical Properties

Form:	liquid
Odour:	pungent
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	blue
pH value:	approx. 5.5 - 7.5 (100 %(m), 20 °C) (as such)
Melting point:	approx. 0 °C Information applies to the solvent.
Boiling point:	approx. 100 °C Information applies to the solvent.
Flash point:	approx. 65 °C
Flammability:	not applicable
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:	Based on the water content the product does not ignite.
Vapour pressure:	approx. 23 hPa (20 °C) Information applies to the solvent.
Density:	approx. 1.10 g/cm ³ (20 °C)
Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	400 °C No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	not determined
Solubility in water:	miscible
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:

Based on its structural properties the product is not classified as oxidizing.

Chemical stability

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

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Possibility of hazardous reactions

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

Conditions to avoid

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

Incompatible materials

bases

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: ammonia

Thermal decomposition:

400 °C

No decomposition if stored and handled as prescribed/indicated.

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 single ingestion. Of moderate toxicity after short-term skin contact. Of moderate toxicity after short-term inhalation.

Oral

Type of value: LD50

Species: rat (female)

Value: 1,910 mg/kg

Type of value: LD50

Species: rat (male)

Value: 2,170 mg/kg

Inhalation

Type of value: LC50

Species: rat (male)

Value: 3.22 mg/l

Exposure time: 4 h

An aerosol was tested.

Type of value: LC50

Species: rat (female)

Value: 4.31 mg/l

Exposure time: 4 h

An aerosol was tested.

Dermal

Type of value: LD50

Species: rat (female)

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Value: 1,380 mg/kg

Type of value: LD50
Species: rat (male)
Value: 1,400 mg/kg

Assessment other acute effects

Assessment of STOT single:

Based on available Data, the classification criteria are not met.

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

Irritation / corrosion

Assessment of irritating effects: Eye contact causes irritation. Not irritating to the skin.

Skin

Species: rabbit
Result: Slightly irritating.

Eye

Species: rabbit
Result: Irritating.

Sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential.

modified Buehler test

Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

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: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Assessment of repeated dose toxicity: Prolonged or repeated exposure may cause neurological disturbances.

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. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

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

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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.

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Assessment of teratogenicity: The substance did not cause malformations in animal studies; however, toxicity to development was observed at doses that were toxic to the parental animals.

Other Information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Toxicity to fish

LC50 (96 h) 34 mg/l, *Oncorhynchus mykiss*

Aquatic invertebrates

EC50 (48 h) 26.8 mg/l, *Daphnia magna*

Aquatic plants

EC50 (72 h) 36 mg/l, *Desmodemus subspicatus*

Aquatic plants

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
EC50 (96 h) 0.132 mg/l (growth rate), Anabaena cylindrica
No observed effect concentration (96 h) 0.039 mg/l, Anabaena flos-aquae
EC10 (72 h) 0.106 mg/l (growth rate), Anabaena flos-aquae
EC50 (72 h) 46.4 mg/l (growth rate), Pseudokirchneriella subcapitata
No observed effect concentration < 6.25 mg/l, Pseudokirchneriella subcapitata

Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt
EC50 (72 h) 27.7 mg/l (growth rate), Scenedesmus subspicatus
No observed effect concentration (72 h) 0.93 mg/l (growth rate), Scenedesmus subspicatus

Chronic toxicity to fish

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
No observed effect concentration (35 d) 26.2 mg/l, Pimephales promelas

Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt
No observed effect concentration (28 d) 0.14 mg/l, Oncorhynchus mykiss (Flow through.)

Chronic toxicity to aquatic invertebrates

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
No observed effect concentration (21 d) 18 mg/l, Daphnia magna (other, semistatic)
EC50 (28 d) 7.5 mg/l, Mysisidopsis bahia

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Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt
No observed effect concentration (21 d) 0.27 mg/l, Daphnia magna (OECD Guideline 211, Flow through.)

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

Not readily biodegradable (by OECD criteria).

Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt

Readily biodegradable (according to OECD criteria).

Bioaccumulative potential

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: Polyethyleneglycolmonoalkylethersulphate, sodium salt

Does not accumulate in organisms.

Bioaccumulation potential

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

Bioconcentration factor: < 1, Lepomis macrochirus (OECD Guideline 305 E)

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

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

Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt

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

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Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
See product label for disposal and recycling instructions.

Container disposal:
Rinse the container or liner as needed for disposal. Add rinsate to spray tank. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. Consult the product label for additional details.

14. Transport Information

Land transport
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection DSL, CA released / exempt

Chemical DSL, CA released; restriction on quantity / not listed

Labeling requirements under Pest Control Products Act

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

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. These requirements differ from the classification criteria and hazard information required for GHS-

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consistent safety data sheets. The following is the hazard information required on the pest control product label:

CAUTION:

POISON.

Skull and crossbones inside inverted triangle

Skin Irritant

WARNING:

Eye irritant.

KEEP OUT OF REACH OF CHILDREN.

Causes eye irritation.

CAUSES SKIN IRRITATION.

Avoid contact with the skin, eyes and clothing.

Avoid inhalation of mists/vapours.

Wash thoroughly after handling.

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2021/01/07

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