1. Identification

Product identifier used on the label

Noventa 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 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: 870947
Registration number: EPA Registration number: 7969-448
Synonyms: Glufosinate Ammonium

2. Hazards Identification

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

Classification of the product

Eye Dam.	1	Serious eye damage
Repr.	1B (fertility)	Reproductive toxicity
Repr.	2 (unborn child)	Reproductive toxicity

STOT SE	1		Specific target organ toxicity — single exposure
STOT RE	2		Specific target organ toxicity — repeated exposure
Aquatic Acute	2		Hazardous to the aquatic environment - acute
Aquatic Chronic	2		Hazardous to the aquatic environment - chronic
Acute Tox.	4	(Inhalation - mist)	Acute toxicity
Skin Irrit.	2		Skin irritation

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H360	May damage fertility. Suspected of damaging the unborn child.
H370	Causes damage to organs (Nervous system).
H373	May cause damage to organs (Nervous system) through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

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.
P273	Avoid release to the environment.
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.
P270	Do not eat, drink or smoke when using this product.
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.

Precautionary Statements (Disposal):

P501 Dispose of contents/container in accordance with local regulations.

3. Composition / Information on Ingredients

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

Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
CAS Number: 77182-82-2
Content (W/W): 24.5 %
Synonym: No data available.

Alcohols, C10-16, ethoxylated, sulfates, sodium salts (> 1 < 2.5 mol EO)
CAS Number: 68585-34-2
Content (W/W): >= 15.0 - < 20.0%
Synonym: No data available.

D-Glucopyranose, oligomers, decyl octyl glycosides
CAS Number: 68515-73-1
Content (W/W): >= 5.0 - < 10.0%
Synonym: No data available.

1-methoxypropan-2-ol
CAS Number: 107-98-2
Content (W/W): >= 3.0 - < 5.0%
Synonym: 1-Methoxy-2-propanol; Propylene glycol monomethyl ether

(OLIGOMER) Alcohols, C10-16, ethoxylated (> 1 < 2.5 mol EO)
CAS Number: 68002-97-1
Content (W/W): >= 0.3 - < 1.0%
Synonym: No data available.

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.

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.
Hazards: 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. (Further) symptoms and / or effects are not known so far

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, sulfur oxides, nitrogen oxides, phosphorus 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.

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:
Vapours may form ignitable mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

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.

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 ;
Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt	TWA value 0.33 mg/m3 ;	

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. 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.

9. Physical and Chemical Properties

Form:	liquid
Odour:	characteristic
Odour threshold:	Not determined since harmful by inhalation.
Colour:	red
pH value:	approx. 6.6 - 7.8 (100 %(m), 23 °C)
Melting point:	0 °C Information applies to the solvent.
Boiling point:	100 °C Information applies to the solvent.
Flash point:	> 93.3 °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:	The product has not been tested.
Density:	approx. 1.14 g/cm3 (20 °C)
Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	approx. < 300 mPa.s (20 °C)
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.

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

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: ammonia

Thermal decomposition:
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 short-term inhalation. Virtually nontoxic after a single skin contact. Virtually nontoxic after a single ingestion. The product has not been tested. The statement has been derived from the properties of the individual components.

Oral

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Type of value: LD50
Species: rat (female)
Value: > 1,510 mg/kg (Conventional method)

Inhalation

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Type of value: LC50
Species: rat (male)
Value: 1.26 mg/l (Conventional method)
Exposure time: 4 h
Tested as dust aerosol.

Dermal

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Type of value: LD50
Species: rabbit (male/female)
Value: 2,000 mg/kg bw (Conventional method)

Assessment other acute effects
Assessment of STOT single:
A single exposure may have relevant toxic effects on organs.

Target organ: Nervous system
The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: May cause severe damage to the eyes. Skin contact causes irritation. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Alcohols, C10-16, ethoxylated, sulfates, sodium salts (> 1 < 2.5 mol EO)
Assessment of irritating effects: Eye contact causes irritation. Skin contact causes irritation.

Skin

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Species: rabbit
Result: non-irritant

Information on: Alcohols, C10-16, ethoxylated, sulfates, sodium salts (> 1 < 2.5 mol EO)
Species: rabbit
Result: Irritant.
Method: OECD Guideline 404
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Eye

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
Species: rabbit
Result: non-irritant
Method: EPA Guideline

Information on: Alcohols, C10-16, ethoxylated, sulfates, sodium salts (> 1 < 2.5 mol EO)
Species: In vitro assay
Result: Non corrosive.
Method: BCOP
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Sensitization
Assessment of sensitization: No sensitizing effect. 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
Buehler test
Species: guinea pig
Result: Non-sensitizing.

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

Aquatic toxicity
Assessment of aquatic toxicity:
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: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
LC50 (96 h) 461 mg/l, Pimephales promelas

Aquatic invertebrates

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
EC50 (48 h) > 100 mg/l, Daphnia magna

Aquatic plants

Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
EC50 (72 h) 0.132 mg/l (growth rate), Anabaena flos-aquae
No observed effect concentration (72 h) 0.039 mg/l, Anabaena flos-aquae
---

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
---

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)

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).

Bioaccumulative potential

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

Bioaccumulation potential

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

Bioconcentration factor: < 1, Lepomis macrochirus
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: 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.

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

DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this SDS for the RQ for this product.

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	CAS Number	Chemical name
100 LBS	107-98-2	1-methoxypropan-2-ol

State regulations

State RTK	CAS Number	Chemical name
NJ	107-98-2	1-methoxypropan-2-ol
PA	107-98-2	1-methoxypropan-2-ol
	25265-71-8	dipropylene glycol

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

CA Proposition 65: An assessment indicates the product does not pose a significant risk.

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

Labeling requirements under FIFRA

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.
WARNING:
KEEP OUT OF REACH OF CHILDREN.
Hazards to humans and domestic animals.
Causes substantial but temporary eye injury.
HARMFUL IF ABSORBED THROUGH SKIN.
HARMFUL IF SWALLOWED.
Prolonged or repeated skin contact may cause sensitization or allergic reactions.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
Remove contaminated clothing and wash before reuse.

16. Other Information

SDS Prepared by:
BASF Agricultural Solutions US NA Product Regulations
SDS Prepared on: 2024/01/23

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