

# Tenkoz, Inc.

## Safety Data Sheet Autonomy Herbicide

Revision date : 2020/09/28  
Version: 1.0

Page: 1/12

### 1. Identification

#### Product identifier used on the label

## Autonomy 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:  
TENKOZ, INC.  
1725 Windward Concourse  
Alpharetta, GA 30005

#### Emergency telephone number

CHEMTREC: 1-800-424-9300

#### Other means of identification

EPA Registration number: 7969-448-55467  
Synonyms: Glufosinate Ammonium

### 2. Hazards Identification

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

#### Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Sens.	1	Skin sensitization
Repr.	1B (fertility)	Reproductive toxicity
Repr.	1B (unborn child)	Reproductive toxicity

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28

Page: 2/12

Version: 1.0

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:

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H360	May damage fertility. May damage the unborn child.
H302 + H332	Harmful if swallowed or if inhaled
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe dust/gas/mist/vapours.
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.
P272	Contaminated work clothing should not be allowed out of the workplace.
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.
P330	Rinse mouth
P362 + P364	Take off contaminated clothing and wash it before reuse.
P337 + P311	If eye irritation persists: Call a POISON CENTER or physician.

Precautionary Statements (Storage):

P405	Store locked up.
------	------------------

Precautionary Statements (Disposal):

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

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28  
Version: 1.0

Page: 3/12

### 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.

Polyethyleneglycolmonoalkylethersulphate, sodium salt

CAS Number: 68891-38-3

Content (W/W): 15.0 - 20.0%

Synonym: No data available.

1-methoxypropan-2-ol

CAS Number: 107-98-2

Content (W/W): 0.1 - 1.0%

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

D-Glucopyranose, oligomers, decyl octyl glycosides

CAS Number: 68515-73-1

Content (W/W): 5.0 - 10.0%

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.

##### If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. If not breathing, give artificial respiration.

##### If on skin:

Immediately wash thoroughly with soap and water, seek medical attention.

##### If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Remove contact lenses, if present.

##### If swallowed:

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

#### 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., (Further) symptoms and / or effects are not known so far

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28  
Version: 1.0

Page: 4/12

### 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, nitrous gases, sulfur 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

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28

Page: 5/12

Version: 1.0

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:

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 away from heat. Protect from direct sunlight.

Storage stability:

Storage duration: 36 Months

---

## 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

#### 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.

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28

Page: 6/12

Version: 1.0

### 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 - 8 ( 23 °C) (undiluted)
Melting point:	The product has not been tested.
Boiling point:	The product has not been tested.
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. 1.15 g/cm <sup>3</sup> ( 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. 100 - 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.

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28  
Version: 1.0

Page: 7/12

---

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: No hazardous decomposition products if stored and handled as prescribed/indicated.

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 single ingestion. Of moderate toxicity after short-term inhalation. Of low toxicity after short-term skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Oral

Type of value: LD50

Species: rat (female)

Value: > 300 - < 2,000 mg/kg

#### Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 2.1 mg/l

Exposure time: 4 h

An aerosol was tested.

#### Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28

Page: 8/12

Version: 1.0

### 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: Eye contact causes irritation. Not irritating to the skin.

### Skin

Species: rabbit

Result: Slightly irritating.

### Eye

Species: rabbit

Result: Irritant.

### Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

Species: guinea pig

Result: 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.*

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

-----



# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28  
Version: 1.0

Page: 9/12

### 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

*Information on: Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt*  
*LC50 (96 h) 461 mg/l, Pimephales promelas*

*Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt*  
*LC50 (96 h) 7.1 mg/l, Brachydanio rerio (Flow through.)*  
-----

#### Aquatic invertebrates

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

*Information on: Polyethyleneglycolmonoalkylethersulphate, sodium salt*  
*EC50 (48 h) 7.4 mg/l, Daphnia magna (static)*  
-----

#### 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.)*

# Safety Data Sheet

## Auronomy Herbicide

Revision date : 2020/09/28  
Version: 1.0

Page: 10/12

---

### 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, Mysidopsis bahia*

*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*

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28

Page: 11/12

Version: 1.0

*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.*

-----

### 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

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      TSCA, US    released / exempt

Chemical              TSCA, US    blocked / not listed

# Safety Data Sheet

## Autonomy Herbicide

Revision date : 2020/09/28

Page: 12/12

Version: 1.0

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

### State regulations

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

### **Labeling requirements under FIFRA**

This chemical is a pesticide product registered 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:**

Causes substantial but temporary eye injury.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

Prolonged or repeated skin contact may cause sensitization or allergic reactions.

Do not get in eyes, on skin, or on clothing.

## **16. Other Information**

#### **SDS Prepared by:**

TENKOZ, INC.

SDS Prepared on: 2020/09/28

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.  
END OF DATA SHEET