



# SAFETY DATA SHEET

## Glufosinate Ammonium 200 SL

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Version 2

Product No HRB00994-E

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H-0404 17249\*\*\* 9502239\*\*\* AG-G1-200 SL

### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

## Glufosinate Ammonium 200 SL

Pure substance/mixture

Mixture\*\*\*

#### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Herbicide

Uses advised against

No information available

#### Details of the supplier of the safety data sheet

Supplier Address

ADAMA Agan Ltd  
P.O.B. 262  
ASHDOD Israel

For further information, please contact

Email address

SDS@ADAMA.COM

Emergency Telephone

Emergency Telephone

+972-03-6106666 Subscription no. 36789 (ADAMA Makhteshim Ltd.)

### Section 2: HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 5 - (H313)
Serious eye damage/eye irritation	Category 1 - (H318)
Reproductive toxicity	Category 1B - (H360)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Acute aquatic toxicity	Category 3 - (H402)
Flammable liquids	Category 4 - (H227)

#### Label Elements

#### Hazard pictograms



**Signal word**

Danger

**Hazard Statements**

H302 - Harmful if swallowed  
 H313 - May be harmful in contact with skin  
 H318 - Causes serious eye damage  
 H360 - May damage fertility or the unborn child  
 H373 - May cause damage to organs through prolonged or repeated exposure  
 H402 - Harmful to aquatic life  
 H227 - Combustible liquid

**Precautionary Statements**

P102 - Keep out of reach of children  
 P201 - Obtain special instructions before use  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P243 - Take precautionary measures against static discharge  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P270 - Do not eat, drink or smoke when using this product  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P302 + P352 - IF ON SKIN: Wash with plenty of water/...  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Hazards**

No information available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight-%	CAS No	EC No	GHS Classification	M-Factor
Glufosinate ammonium (ISO)	16 - 20	77182-82-2	278-636-5	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) STOT RE 2 (H373) Repr. 1B (H360Fd) ***	
Sodium laurylmyristylether(2) sulfate	18 - 23	68585-34-2		Skin Irrit. 2 (H315) Eye Dam. 1 (H318) ***	
1-Methoxy-2-propanol	8 - 11	107-98-2	203-539-1	STOT SE 3 (H336) Flam. Liq. 3 (H226)***	

### Section 4: FIRST AID MEASURES

**First aid measures**

**General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!.

**Inhalation**

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call

a physician.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

**Eye contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Immediately consult an ophthalmologist and show this SDS or the label or the packaging.

**Ingestion**

Rinse mouth. Drink plenty of water. Get medical attention.

**Self-protection of the first aider**

Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

None known

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**

Treat symptomatically.

**Section 5: FIRE-FIGHTING MEASURES**

**Extinguishing media**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**

No information available.

**Special hazards arising from the substance or mixture**

No specific hazard known.

**Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

**Reference to other sections**

**Other Information**

See also section 8,13

**Section 7: HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**Specific end use(s)**

**Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**National occupational exposure limits**

Chemical Name	European Union	United Kingdom	France	Spain	Germany
1-Methoxy-2-propanol 107-98-2	S* TWA 100 ppm TWA 375 mg/m <sup>3</sup> STEL 150 ppm STEL 568 mg/m <sup>3</sup>	STEL: 150 ppm STEL: 560 mg/m <sup>3</sup> TWA: 100 ppm TWA: 375 mg/m <sup>3</sup> Skin	TWA: 50 ppm TWA: 188 mg/m <sup>3</sup> STEL: 100 ppm STEL: 375 mg/m <sup>3</sup>	S* STEL: 150 ppm STEL: 568 mg/m <sup>3</sup> TWA: 100 ppm TWA: 375 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 370 mg/m <sup>3</sup> Ceiling / Peak: 200 ppm Ceiling / Peak: 740 mg/m <sup>3</sup>
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
1-Methoxy-2-propanol 107-98-2	TWA: 100 ppm TWA: 375 mg/m <sup>3</sup> STEL: 150 ppm STEL: 568 mg/m <sup>3</sup> Skin	STEL: 150 ppm TWA: 100 ppm	Skin STEL: 563 mg/m <sup>3</sup> TWA: 375 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 370 mg/m <sup>3</sup> STEL: 150 ppm STEL: 560 mg/m <sup>3</sup> Skin	TWA: 50 ppm TWA: 185 mg/m <sup>3</sup> Skin
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
1-Methoxy-2-propanol 107-98-2	Skin STEL 50 ppm STEL 187 mg/m <sup>3</sup> TWA: 50 ppm TWA: 187 mg/m <sup>3</sup> Ceiling 50 ppm Ceiling 187 mg/m <sup>3</sup>	STEL: 200 ppm STEL: 720 mg/m <sup>3</sup> TWA: 100 ppm TWA: 360 mg/m <sup>3</sup>	STEL: 360 mg/m <sup>3</sup> TWA: 180 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 180 mg/m <sup>3</sup> Skin STEL: 75 ppm STEL: 225 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 375 mg/m <sup>3</sup> STEL: 150 ppm STEL: 568 mg/m <sup>3</sup>

**Exposure controls**

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Hand Protection</b>	Gloves made of plastic or rubber.
<b>Body Protection</b>	Gloves made of plastic or rubber, Suitable protective clothing, Suitable protective clothing, Apron.
<b>Respiratory protection</b>	Use only with adequate ventilation.
<b>General Hygiene Considerations</b>	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.
<b>Environmental exposure controls</b>	No information available.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

Physical and Chemical Properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
<b>Physical state</b>	: Liquid		
<b>Color</b>	: green		
<b>Odor</b>	: characteristic		
<b>Odor threshold</b>	: No data available		
<b>pH</b>	: 6.7 - 7.1	CIPAC MT 75	solution (1 %)
<b>Melting point/freezing point °C</b>	: ----		Not Applicable
<b>Boiling point/boiling range °C</b>	: ----		Not Applicable
<b>Flash point °C</b>	: 61 - 62	CIPAC MT 12.3	
<b>Evaporation rate</b>	: Not Applicable		
<b>Flammability (solid, gas)</b>	: Not applicable for liquids		
<b>Upper/lower flammability or explosive limits</b>	: No data available		
<b>Vapor pressure kPa</b>	: ----		Not Applicable
<b>Vapor density</b>	: No data available		
<b>Relative density</b>	: 1.053 - 1.153	CIPAC MT 3.3.2	
<b>Solubility(ies) mg/l</b>	: ----		Not Applicable
<b>Partition Coefficient (n-octanol/water) Log Pow</b>	: ----		See Section 12 for more information
<b>Autoignition temperature °C</b>	: ----		No data available
<b>Decomposition temperature °C</b>	: ----		
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	: 46.5	OECD 114	
<b>Explosive properties</b>	: No data available		
<b>Oxidizing properties</b>	: No data available		
<b>Other Information</b>			
<b>Bulk density g/ml</b>	: ----		
<b>Surface tension mN/m</b>	: ----		No data available

**Section 10: STABILITY AND REACTIVITY**

Reactivity

Not available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks.

**Incompatible Materials**

No information available

**Hazardous Decomposition Products**

None under normal use conditions.

**Section 11: TOXICOLOGY INFORMATION**

**Information on toxicological effects**

**Acute toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: 1000	Rat	OECD 423	
Dermal LD50 mg/kg	: > 4000	Rat	OECD 402	
Inhalation LC50 mg/l/4h	: > 2.034	Rat	OECD 403	Maximum attainable concentration
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Causes serious eye damage	Rabbit	OECD 405	
Respiratory/skin sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

**Chronic toxicity**

**Germ cell mutagenicity**

**Chemical Name**

Glufosinate ammonium (ISO) : Not available

**Carcinogenicity**

**Chemical Name**

Glufosinate ammonium (ISO) : Not Carcinogenic

**Reproductive toxicity .**

**Chemical Name**

Glufosinate ammonium (ISO) : H360Fd - May damage fertility. Suspected of damaging the unborn child

**STOT - single exposure**

**Chemical Name**

Glufosinate ammonium (ISO) : Not available

**STOT - repeated exposure**

**Chemical Name**

Glufosinate ammonium (ISO) : H373 - May cause damage to organs through prolonged or repeated exposure

**Aspiration hazard**

**Chemical Name**

Glufosinate ammonium (ISO) : Not available

**Section 12: ECOLOGICAL INFORMATION**

**Toxicity**

**Aquatic toxicity**

<b>Acute toxicity</b>	<b>Values</b>	<b>Species</b>	<b>Method</b>	<b>Remarks</b>
<b>Fish 96-hour LC50 mg/l</b>	: 88.39	Zebra Fish	OECD 203	
<b>Crustacea 48-hour EC50 mg/l</b>	: 43.4	Daphnia magna	OECD 202	
<b>Algae 72-hour EC50 mg/l</b>	: 30.71	P. subcapitata	OECD 201	
<b>Other plants EC50 mg/l</b>	: ----			No data available

**Terrestrial Toxicity**

**Birds Oral LD50 mg/kg**

**Chemical Name**

Glufosinate ammonium (ISO) : > 5000 Japanese quail

**Bees Oral LD50 µg/bee**

**Chemical Name**

Glufosinate ammonium (ISO) : > 100 Not toxic to bees

**Persistence and degradability**

**Abiotic Degradation**

**Water DT50 days**

**Chemical Name**

Glufosinate ammonium (ISO) : 2 - 30

**Soil DT50 days**

**Chemical Name**

Glufosinate ammonium (ISO) : 7 - 20 Field

**Biodegradation**

**Chemical Name**

Glufosinate ammonium (ISO) : Not available

**Bioaccumulative potential**

**Partition Coefficient**

**(n-octanol/water) Partition Coefficient (n-octanol/water) Log Pow**

**Chemical Name**

Glufosinate ammonium (ISO) : < 0.1 pH 7, 22 ° C

**Bioconcentration factor (BCF)**

**Chemical Name**

Glufosinate ammonium (ISO) : ---- Not available

**Mobility in soil**

**Adsorption/Desorption**

**Chemical Name**

Glufosinate ammonium (ISO) : 10 - 1230 Koc

**Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB

**Other adverse effects**

No information available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Waste from residues/unused products</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated packaging</b>	Improper disposal or reuse of this container may be dangerous and illegal.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used.

## Section 14: TRANSPORTATION INFORMATION

### IMDG/IMO

<b>UN/ID No *</b>	Not regulated
<b>Proper shipping name</b>	Not regulated ( )
<b>Hazard Class</b>	Not regulated
<b>Packing Group</b>	Not regulated
<b>Marine pollutant</b>	Not regulated
<b>Special precautions for user</b>	

### RID/ADR

<b>UN/ID No *</b>	Not regulated
<b>Proper shipping name</b>	Not regulated ( )
<b>Hazard Class</b>	Not regulated
<b>Packing Group</b>	Not regulated
<b>Environmental hazard</b>	Not regulated
<b>Special precautions for user</b>	

### ICAO/IATA

<b>UN/ID No *</b>	Not regulated
<b>Proper shipping name</b>	Not regulated ( )
<b>Hazard Class</b>	Not regulated
<b>Packing Group</b>	Not regulated
<b>Environmental hazard</b>	Not regulated
<b>Special precautions for user</b>	
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not Applicable

\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

## Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

## Section 16: OTHER INFORMATION

**Revision Note** Changes made to the last version are labeled with this sign \*\*\*.

### **List of Acronyms**

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances



IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

**Disclaimer**

**The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**