

## 1: IDENTIFICATION

<b>Chemical Name</b>	azanum; 2-amino-4-[hydroxy(methyl)phosphoryl]butanoate		
<b>Synonyms</b>	Glufosinate Ammonium 13.5% SL	<b>Trade Name</b>	<b>GLYCLEAN POWER</b>
<b>Uses</b>	Herbicides	<b>Molecular Formula</b>	C <sub>5</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P
<b>Manufacturer/ Supplier</b>	Ulink AgriTech Pvt. Ltd. Office Nos. 001 And 002, Ground Floor Wing "A" And Nos. 003 And 004 Ground Floor Wing "B", Nyati Tech Park, Wadgaon Sheri, Pune - 411014, Maharashtra		
<b>Emergency Contact</b>	9503095030	<b>E-mail</b>	<a href="mailto:info@agrostar.in">info@agrostar.in</a>

## 2: COMPOSITION/INFORMATION OF INGREDIENTS

Chemical Name	CAS #	Percent or Content (w/w)
Glufosinate Ammonium	77182-82-2	13.5%
Other Ingredients	-	86.5%

## 3: HAZARD IDENTIFICATION

<b>Physical/Chemical Hazard:</b>	Flammable Liquids Category 4; Acute toxicity - Dermal Category 4; Reproductive toxicity Category 1B; Specific target organ toxicity (STOT) - repeated exposure Category 2		
<b>Human Health Hazard:</b>	H312 Harmful in contact with skin	H360 May damage fertility or the unborn child.	H373 May causes damage to organs through prolonged or repeated exposure.
<b>Environmental Hazard:</b>	H227 Combustible liquid		

## 4: FIRST AID MEASURES

**General:** First aid personnel should pay attention to their own safety and use protective equipment if there is a potential for exposure to product. Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

**Inhalation:** Move patients to fresh air. Keep the patients calm. Allow patients to rest. Immediately seek medical attention.

**Ingestion:** Rinse mouth with water and give plenty of water to drink. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

**Skin Contact:** In case of contact with product, immediately rinse with plenty of water. Remove and isolate contaminated clothing and shoes. Seek medical attention.

**Eye Contact:** Rinse immediately with plenty of water for several minutes with eyes wide open. After 5 minutes remove contact lenses if present and continue rinsing with plenty of water. Continue to rinse with eyelid wide open for at least 15-20 minutes. Seek medical attention if irritation develops.

**Note to physician:** No specific antidote available. Treat symptomatically.

## 5: FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray, foam, dry powder, carbon dioxide

**Unsuitable Extinguishing Media:** Solid water stream as it may scatter and spread fire.

**Specific Hazards:** In case of fire, product may produce dense black smoke containing hazardous products of combustion as it contain combustible organic ingredients and exposure to this smoke may be a hazard to health.

**Hazardous Thermal (de)composition:** May release irritating and toxic gases due to thermal decomposition

**Special Procedures:** Evacuate area and fight fire upwind from a safe distance. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff. Minimize use of water to prevent environmental contamination. Dike and collect water used to fight fire to prevent environmental damage due to runoff. Do not discharge extinguishing water into the drain or water bodies.

**Protection of Fire Fighters:** Do not breathe a fumes. Wear a self contained breathing apparatus. Wear suitable protective gloves and eye/face protection.

## 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Ventilate spillage area. Avoid breathing fume. No open flame, sparks and smoking. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from spill/ fumes.

**Environmental Precaution:** Do not allow runoff to enter drains and public waters. Notify the authorities if product enters.

**Methods for Cleaning-up:** Collect spilled liquid with non-combustible absorbent material and transfer into containers for disposal. Dispose of absorbed material in accordance with regulations. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Avoid solvent. Wear suitable protective equipment.

## 7: HANDLING & STORAGE

**Handling:** Do not smoke, drink, or eat during handling. Wash hands and other exposed areas with mild soap and water before and after handling material. Wear protective equipments to avoid contact and/or inhalation with the product. Wash clothing and equipment before reuse. Good personal hygiene procedures must be practiced.

**Specific Conditions:** Good local exhaust ventilation.

**Storage:** Store in dry, cool, well-ventilated area. Keep in original container and tightly closed when not in use. Keep product away from seeds, fertilizer, foods and animal feeds. Keep out of reach of the children

## 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Engineering Measures:** Ensure adequate ventilation and set up emergency exits and the risk-elimination area. Handle in accordance with good industrial hygiene and safety practice.

**General Protection:** Avoid breathing dust, vapours or aerosols. Avoid contact with eyes and skin. While handling the product wear cotton overalls buttoned to the neck and wrist, elbow-length PVC gloves. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

**Personal Protection:** Follow all precautions and instructions on the label. In all other cases the following recommendations would apply.

**Respiratory Protection:** Always use NIOSH/MSHA approved respiratory protection equipment with a universal filter type including particle filter. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

**Skin Protection:** Wear suitable protective clothing, including long sleeved shirt, long pants, gloves, coveralls, and boots to avoid skin contact. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

**Hand Protection:** Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC) or Viton.

**Eye Protection:** Safety goggles, chemical splash goggles or face shield should be used. Safety showers and eyewash should be easily available.

**Others:** Wash clothing before reusing.

## 9: PHYSICAL/CHEMICAL PROPERTIES

<b>Appearance:</b> Liquid	<b>Relative Density[g/cc]:</b> 1.05 - 1.15	<b>Physical State:</b> Liquid	<b>pH:</b> 5-8
<b>Colour:</b> Blue	<b>Odour:</b> Light pungent	<b>Flash Point [°C]:</b> 60.7	<b>Solubility in Water:</b> No data available

## 10: STABILITY & REACTIVITY

**Stability:** Stable under normal circumstances

**Conditions to Avoid:** No decomposition if used as directed

**Hazardous Thermal Decomp. Products:** Toxic and irritant vapours will evolve on combustion and thermal decomposition.

**Material to Avoid:** Acids, bases and oxidising agents

## 11: TOXICOLOGICAL INFORMATION

Rat oral LD50 [mg/kg] : 1620	Rat inhalation LC50 [mg/l/4h] : 1.26	Skin irritation (rabbit): Non-Irritant
Dermal (rat) LD50 [mg/kg]: > 4,000	Skin Sensitization (Guinea Pig): Not a skin sensitizer	Eye irritation (rabbit): Non-Irritant

## 12: ECOLOGICAL INFORMATION

### Ecotoxicity

Pimephales promelas LC50 (96 hrs)[mg/L]: 461	Daphnia magna EC50 (48 hrs)[mg/L]: >100	Anabaena flos aquae EC50 (72hrs)[mg/L]: 0.132
--	---	---

**Bioaccumulative Potential:** No data available

**Persistence, Degradability and Mobility in soil:** No data available

## 13: DISPOSAL CONSIDERATION

**Waste-disposal Procedures:** Dispose of this product only according to the label. Do not contaminate drains, streams, rivers or waterways with the chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

**Contaminated Packaging:** Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14: TRANSPORT INFORMATION

<b>UN No.</b> 3082	<b>Proper Shipping Name:</b> Environmentally Hazardous Substance, Liquid, N.O.S. Glufosinate ammonium
<b>Land Transport (ADR/RID):</b> Class-9, Packing group - III	<b>Air Transport (IATA / ICAO):</b> Class-9, Packing group - III
<b>Sea Transport (IMO) (IMDG):</b> Class-9, Packing group - III, Marine pollutant - Yes	

## 15: REGULATORY INFORMATION

**Hazard symbol:** GHS07, GHS08

**H- statement:** H312, H360, H373, H227

## 16: OTHER INFORMATION

**DISCLAIMER OF LIABILITY** The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

----- END -----