



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO.,LTD

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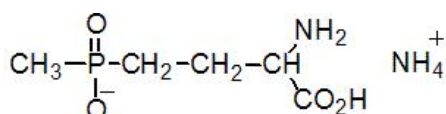
1. Chemical Product Identification

Product Name: Glufosinate-ammonium 95% TC

Molecular Formula: C₅H₁₅N₂O₄P

Molecular Weight: 198.16

Structural Formula:



Chemical Name: Ammonium (2RS)-2-amino-4-(methylphosphinato)butyric acid

Form: Crystalline solid

Color: White

Odor: Slight odor

CAS No.: 77182-82-2

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Glufosinate-ammonium	77182-82-2	95.0
Other ingredients	---	5.0

3. Hazards Identification

Inhalation: Toxic if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Skin: May cause skin irritation. May be harmful if absorbed through the skin.



Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Hazards: Emits toxic fumes under fire conditions.

4. First Aid Measures

Skin: In case of skin contact, flush with copious amounts of water for at least 15 minutes.

Remove contaminated clothing and shoes. Call a physician.

Eyes: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

5. Fire-Fighting Measures

Fire Fighting: Extinguish using Water spray. Carbon dioxide, dry chemical powder, or appropriate foam. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Fire Potential: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

6. Accidental Release Measures

Small spills/leaks: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust.

Ventilate area and wash spill site after material pickup is complete.

7. Handling and Storage

Safe handling advice: avoid contact with skin and eyes. Do not breathe dust. When using do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.

Requirements for storage rooms: keep away from food, drink and animal feeding stuffs.

Keep only in the original container in a cool, well ventilated place.

Additional information: read the label before use.

8. Exposure Controls/Personal Protection



Personal Protection: Compatible chemical-resistant gloves. Chemical safety goggles.

Respirators: Government approved respirator.

Exposure Effects: Properties of this material have not yet been prepared. Any recommendations are of a general nature. Many chemicals cause irritation of the eyes, skin, and respiratory tract. In severe cases respiratory tract irritation can progress to ARDS/acute lung injury which may be delayed in onset for up to 24 to 72 hours in some cases Irritation or burns of the esophagus or gastrointestinal tract are also possible if caustic or irritant chemicals are ingested. ALWAYS contact your local poison control authority or medical professional for assistance.

9. Physical and Chemical Properties

Appearance: white crystalline solid

Melting Point: 215°C

Boiling Point: Not applicable

Vapor Pressure: 0.031mPa at 25°C

Density: 1.32g/cm³

Octanol-water partition coefficient: Log Pow= -4.01 at pH 7 and 20°C

Solubility: In water 1370 g/l (22°C). In acetone 0.16, ethanol 0.65, ethyl acetate 0.14, toluene 0.14, hexane 0.2 (all in g/l, 20°C)

10. Stability and Reactivity

Stability: Stable at normal temperatures and pressures.

Incompatibilities: Strong oxidizing agents.

Decomposition: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

Combustion Products: Fire may produce irritating, corrosive and/or toxic gases.

11. Toxicological Information

Acute oral LD50 for rats: 416 a.i. mg/kg

Acute dermal LD50 for rats: >2000 a.i.mg/kg

Acute inhalation LC50 for rats: 1.26 a.i.mg/L

Skin irritation: Non-irritating

Eye irritation: Non-irritating

Sensitising effects: Non-sensitizing to skin in guinea pigs.



12. Ecological And Ecotoxicological Information

Effect on birds: low toxicity to birds, acute LD50 for Japanese quail is >2000 a.i.mg/kg.

Effect on fish: low toxicity to fish, acute 96 hour LC50 for Rainbow trout is 710 a.i.mg/L.

Effect on aquatic invertebrates: low toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 668 a.i.mg/L.

Effect on algae: low toxicity to algae, acute 72 hour EC50 for Scenedemus subspicatus is 46.5 a.i.mg/L.

Effect on honeybees: low toxicity to honeybees, contact acute 48 hour LD50 is >345 a.i.µg/bee; oral acute 48 hour LD50 is >600 a.i.µg/bee.

Effect on earthworms: low toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is >1000 a.i.mg/kg.

13. Disposal Considerations

Discarded product is not a hazardous waste. Plastic Containers: Triple rinse(or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or alternatives allowed by the local authorities. Paper/Box Container: do not reuse container. Completely empty container into application equipment. Then dispose of empty container in sanitary landfill, or alternatives allowed the local authorities.

14. Transport information

Not Applicable

15. Regulatory Information

Not Applicable

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood



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by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.