江 苏 快 达 农 化 股 份 有 限 公 司
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MATERIAL SAFETY DATA SHEET OF

GLUFOSINATE AMMONIUM 150 G/L SL

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name: GLUFOSINATE AMMONIUM 150 G/L SL

Company：Jiangsu Kuaida Agrochemical Co.,Ltd.

No.2, Jianshe Road, Matang Town, Rudong, Jiangsu, China

Technical Phone: 86 513 84415508

Emergency Phone: 86 513 84415538

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2.COMPOSITION/INFORMATION ON INGREDIENTS

Other ingredients determined not to be hazardous

INGREDIENT	CAS NO	PROPORTION(g/l, w/v)
Glufosinate ammonium	77182-82-2	150 g/l
Other ingredients	--	Up to 1L

3. HAZARDS INDENTIFICATION

Classification according to EU Directives 67/548/EEC or 1999/45/EC

R-Phrases: R36 Xi Irritant Irritating to eyes

Hazardous components that must be listed on the label:

Glufosinate-ammonium

Symbol Xi

Safety Phrases:

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

S60: This material and its container must be disposed of as hazardous waste

Other hazards: None known

4. FIRST AID MEASURES

General advice

If poisoning occurs, move patient away from danger area. Place patient in stable position on his side. Immediately remove and dispose of contaminated clothing. Immediately contact a doctor or Poisons Information Centre, follow the advice given, and show this Material Safety Data Sheet.

Inhalation: If inhaled, remove to fresh air, keep warm and at rest. Seek medical advice if inhaled in large quantities.

Skin contact: Carefully remove contaminated clothing and footwear. Wash affected areas with soap and water. Seek medical advice if concerned.

Eye contact: Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.

Ingestion: Wash out mouth with water. DO NOT induce vomiting. Seek immediate medical advice.

First aid facilities: Provide eyewash and safety shower facilities in the workplace.

Medical attention: Glufosinate-ammonium is a glutamine synthetase inhibitor and can interfere with neurotransmitter function.

Treatment: Emergency measures: Symptomatic treatment and administration of antidotes, decontamination. If ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by administration of charcoal and sodium sulphate solution. Anticonvulsant therapy: Phenobarbital-sodium, 1 mg/kg intramuscularly or subcutaneously until maximum 5 mg/kg daily; when necessary, 10 mg diazepam slowly intravenously. Repeat as necessary until fully sedated. Elimination by dialysis (forced alkaline diuresis) and/or haemoperfusion. It is essential that this be done soon after ingestion to be effective. If a large amount has been ingested, keep under medical supervision for at least 48 hours. Recovery is normally spontaneous.Oxygen or artificial respiration if needed. Keep respiratory tract clear.

Contraindication: Atropine.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water fog, fine water spray, foam, sand, carbon dioxide.

Hazards from combustion products: Irritant and toxic fumes may contain oxides of carbon and nitrogen, hydrogen chloride, sulphur dioxide and others.

Advice for firefighters: Firefighters should wear full protective gear, including self-contained apparatus. Keep unnecessary people away. Use water spray to cool containers.

Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control

water or other extinguishing agent and spillage safely later.

6. ACCIDENT RELEASE MEASURES

Personal precautions: Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove any sources of ignition.When dealing with spills do not eat, drink or smoke, and wear protective clothing and equipment as described in Section 8 -EXPOSURE CONTROLS AND PERSONAL PROTECTION. Keep people and animals away.

Environmental precautions: Prevent spilled material from entering drains or watercourses. Warn the local water authority if water-courses become Contaminated.

Methods for containment and cleaning up: Contain spill and absorb with earth, sand, clay, or other absorbent material, collect and store in sealed drums for safe disposal. Decontaminate the area and equipment with bleach or hydrated lime. Deal with all spillages immediately.

7. HANDLING AND STORAGE

Safe handling: Ensure adequate ventilation.

Hygiene measures: Avoid contact with skin, eyes and clothing. Avoid breathing vapour or spray.

For product in eyes, wash immediately with water. For product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Safe storage: Store between 5-30oC in the closed original container. Store in a cool, dry, well-ventilated area, Keep away from direct sunlight and sources of ignition. Protect from freezing. Do not store in steel or aluminium containers.

Flammability: Not flammable or combustible.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: No exposure limits have been established for Glufosinate ammonium.

Engineering controls: Use only in well-ventilated areas.

Personal protective equipment (PPE):

In normal handling and usage, please refer to the product label. Otherwise the following recommendations apply. If working in a poorly ventilated area or if occupational exposure levels are likely to be exceeded, wear a respirator suitable for organic vapours. Wear CE-marked elbow-length PVC or nitrile gloves. Wear face shield, or goggles conforming to EN 166. Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) under a thin chemical protection suit, and a washable hat. After each day's use, wash

gloves, goggles or face shield, respirator if worn, and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Blue to bluish-green liquid

Odour Slightly pungent

pH 3.0-7.0 (1% solution)

Boiling point 96oC

Flash Point 92°C (Pensky-Martens CC) The product does not sustain combustion

Auto-ignition temperature 475°C

Density Approx. 1.08-1.10

Surface tension ca. 29mN/m at 40oC

Solubility Soluble in water

Explosivity Not explosive

10. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions

Possibility of hazardous reactions: No dangerous reaction expected in normal use. Will not polymerise.

Conditions to avoid: Sources of ignition, extreme heat, direct sunlight.

Incompatible materials: Bases. Store only in original container.

Hazardous decomposition products: Ammonia. In a fire, oxides of carbon, nitrogen, phosphorus and sulphur may be emitted.

11. TOXICOLOGICAL INFORMATION

Acute Oral toxicity LD50 rat: >2000-5000 mg/kg, GHS Category 5

Acute Dermal toxicity LD50 rat: >2000- 5000 mg/kg, GHS Category 5

GHS – Globally Harmonised System of classification

Inhalation toxicity LC50 rat 4 h >1.62 mg/L (technical material)

During intended uses respirable aerosol is not formed.

Skin irritation Non-irritant, rabbit

Eye irritation Moderate irritant, rabbit

Skin sensitisation Non-sensitising, guinea pig, OECD 406, Buehler test

Repeated dose toxicity The technical material caused neuropathological changes in animal studies, well-tolerated in rats and mice, but less so in dog subchronic studies.

Mutagenicity Glufosinate-ammonium was not mutagenic or genotoxic in a series of in vitro and in vivo tests.

Carcinogenicity Not carcinogenic in rats or mice.

Reproduction toxicity Implantation loss occurred in a rat multigeneration study. There were no effects on male fertility.

Developmental toxicity Caused developmental toxicity, an increased incidence of postimplantation losses, only at dose levels toxic to the dams.

12. ECOLOGICAL INFORMATION

Birds Dietary LC_{50} (8 d) for Japanese quail >5000 mg/kg.

Fish LC_{50} (96 h) for rainbow trout 710, carp, bluegill sunfish, golden orfe >1000 mg/l.

Daphnia LC_{50} (48 h) 560–1000 mg/l.

Algae LD_{50} for Scenedesmus subspicatus ≥1000, Selenastrum capricornutum 37 mg/l**.**

Bees Not hazardous to bees; LD_{50} >100 μg/bee.

Worms LD_{50} for earthworms >1000 mg/kg soil.

Other beneficial spp. Not toxic to beneficial arthropods.

Persistence and degradation Glufosinate-ammonium is rapidly degraded in surface levels of soils and in water, and is readily biodegradable.

Bioaccumulative potential Does not accumulate in the fatty tissues of fish or other animals.

Mobility in soil Not very mobile in soil, but is rapidly biodegraded.

13. DISPOSAL CONSIDERATION

Product Dispose of waste product through an official waste contractor. Obtain advice from local waste regulation authority.

Contaminated packaging Triple- or pressure-rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. Recycle, or return to supplier through local schemes if applicable. Break, crush or puncture and then bury empty containers in a local authority landfill site. Do not burn empty containers. Containers must not be reused for any other purpose.

Waste key for unused product 020108 agrochemical waste containing dangerous substances.

14. TRANSPORT INFORMATION

This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

15. REGULATORY INFORMATION

Symbol: Xi Irritant

Risk phrases:

R36 Irritating to eyes

Safety phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

S60 This material and its container must be disposed of as hazardous waste

16. OTHER INFORMATION

This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.

-- END OF MSDS --