

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE AND THE SUPPLIER

Product name: Glyphosate 540G/L SL
Other name: N-(phosphonomethyl)glycine
Recommended use of the chemical and restrictions on use Herbicide
Supplier name: Shandong Weifang Rainbow Chemical Co., Ltd.
Supplier address: Binhai Economic Development Area, Weifang, Shandong, China
Supplier phone: +86-531-88875222, 88875231
Supplier fax: +86-531-88875232, 88875224
Emergency phone number: +86-531-88875222

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Long-term (chronic) aquatic hazard (Category 2)
Eye irritation (Category 2)

GHS Label elements, including precautionary statements:



Signal word:

Warning

Hazard statement(s):

H411 Toxic to aquatic organisms and has long-term stabilizing effects.

H320 Cause eye irritation.

Precautionary statement(s):

P273 Avoid release to the environment.

P264 Thoroughly cleaned after operation.

Other hazards which do not result in classification:

Not available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration
Glyphosate	1071-83-6	540G/L
Glyphosate as potassium salt	/	663G/L
Other		Up to 1L

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation:

Remove affected person to fresh air until recovered.

Skin contact:

Wash off skin immediately with soap and plenty of water. Remove all contaminated clothing and

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shoes. Seek medical advice if irritation persists. Launder contaminated clothing before re-use.

Eye contact:

Rinse immediately with plenty of water for at least 15 minutes, holding eye open and taking care to rinse under eyelids as well. If irritation persists seek medical attention.

Ingestion:

If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label. Make every effort to prevent vomit from entering the lungs by careful placement of the patient. Do not give anything by mouth to a semi-conscious or unconscious person. Give a glass of water.

Advice on treatment:

Treat symptomatically. No known specific antidote.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

Special hazards arising from the chemical:

Decomposition products are toxic and corrosive. There is little or no chance of an explosion from this product if involved in a fire.

Advice for firefighters

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Further information

Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

Environmental precautions:

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Methods and materials for containment and cleaning up:

Absorb in earth, sand or absorbent material. Dig up heavily contaminated soil. Collect in containers for disposal. Refer to section 7 for types of containers. Flush residues with small quantities of water. Minimise use of water to prevent environmental contamination.

7. HANDLING AND STORAGE

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Precautions for safe handling:

Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a nonabrasive soap and put on clean clothing. Operators should change and wash clothing after use. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry place away from direct sunlight. Store away from food, drink and animal feeding stuffs. Keep only in the original container. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

Personal protective equipment:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

RESPIRATOR:

It is usually safe to use the product without a mask or respirator. If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

CLOTHING:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

GLOVES:

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

EYE PROTECTION: Wear safety goggles or face shield.

EMERGENCY EYEWASH:

Where there is any possibility that an employee's eyes may be exposed to this substance the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color etc.):	liquid
Odor:	Odorless to slight amine-like odor.
Odor threshold:	Not available.
pH:	4.4-5.0
Melting point/freezing point:	<32°F / 0°C

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Initial boiling point and boiling range:	Not available.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability (solid, gas):	Not flammable.
Upper/lower flammability or explosive limits:	Not available.
Vapor pressure:	0.0131 mPa at 20°C
Vapor density:	Not available.
Relative density:	1.37g/ml
Solubility(ies):	Miscible.
Partition coefficient: n-octanol/water:	Lop=-6.28
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.

10. STABILITY AND REACTIVITY

Reactivity:

Reacts with incompatible materials.

Chemical stability:

Stable under normal temperatures and pressures. Glyphosate reacts strongly (possibly violent exothermic reaction) with strong alkalis. Photodecomposition is negligible. Is stable to light and also stable up to 60°C. Product is unlikely to spontaneously polymerise or decompose. Decompose only after heating to dryness followed by further heating. Glyphosate may be photolabile in natural waters, with calcium or other metalions acting as catalysts for the process.

Possibility of hazardous reactions:

No data available

Conditions to avoid:

Heat, flames and other sources of ignition.

Incompatible materials:

Reacts with unlined mild steel or galvanized steel to produce hydrogen.

Hazardous decomposition products:

This product is unlikely to spontaneously decompose.

11. TOXICOLOGICAL INFORMATION

Acute health effects:

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation.

Eye contact: May be an eye irritant. May cause physical irritation to the eyes.

Skin contact: Contact with skin may result in irritation.

Numerical measures of toxicity:

Acute oral LD50: >5000 mg/kg (calculated) in the rat.

Acute dermal LD50: >5000 mg/kg (calculated) in the rat.

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Acute inhalation LC50:	>5.0 mg/l/hour (potassium salt).
Skin irritation	Moderately irritating to rabbit.
Eye irritation	Not irritating to rabbit.
Skin sensitisation	Not sensitizing to skin.

Chronic health effects:

The EPA has stated that there is sufficient evidence to conclude that glyphosate is not carcinogenic in humans.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Birds - Acute LD50 (mg kg ⁻¹)	>2000
Honeybees-Contact acute LD50 (worst case from 24, 48 and 72hour values - µg bee ⁻¹)	>100
Honeybees- Oral acute LD50 (worst case from 24, 48 and 72hour values - µg bee ⁻¹)	104
Fish - Acute 96hour LC50 (mg l ⁻¹)	>100
Daphnia magna - Acute 48hour EC50 (mg l ⁻¹)	>100
Algae - Acute 72hour EC50, growth (mg l ⁻¹)	19.0
Earthworms - Acute 14 day LC50 (mg kg ⁻¹)	>5600

Persistence and degradability:

Average field half-life of glyphosate is 47 days.

Bioaccumulative potential:

Whole fish: BCF: < 1

No significant bioaccumulation is expected.

Mobility in the soil:

Half life: 2 - 174 days

Koc: 884 - 60,000 L/kg

Adsorbs strongly to soil.

Other adverse effects:

Not available.

13. DISPOSAL CONSIDERATIONS

Safe handling of waste residues and disposal methods:

Dispose of discarded product according to local and state health and environmental regulations. Do not reuse container without the permission of company.

14. TRANSPORT INFORMATION

UN number:

3082

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UN proper shipping name:

ENVIRONMENTALY HAZARDOUS SUBSTANCE, LIQUID, N. O. S.

Transport hazard class(es):

9

Packing group, if applicable:

III

Marine pollutant (Yes/No):

Yes.

Special precautions for user:

Not available.

15. REGULATORY INFORMATION

The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.

Regulatory requirements are subject to change and may differ from one location to another, it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and/or local laws.

16. OTHER INFORMATION

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

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