

Material Safety Data Sheet

Section 01. Identification of the substance/mixture and the company/undertaking

Product Name: Glyphosate IPA 41%SL

Product Code:

Chemical Formula: $C_3H_9N \cdot C_3H_8NO_5P$

Use of the substance/mixture: Herbicide

Company: Hangzhou Ruijiang Chemical Co., Ltd.
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Section 02. Composition/information on ingredients

Components

Material	CAS Number	%
Glyphosate	1071-83-6	41%
Glyphosate, N-(phosphonomethyl) glycine, in the forms of its isopropylamine salt		
Surfactant		12%
Other inert ingredients:		48%

Section 03. Hazards identification

Emergency Overview

APPEARANCE AND ODOR: Clear, viscous amber-colored solution

WARNING STATEMENTS:

Keep out of the reach of children.

WARNING!

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.

HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist

Potential Health Effects

EYE

May cause pain, redness and tearing based on toxicity studies.

SKIN

No more than slightly toxic and no more than slightly irritating based on toxicity studies.

INGESTION

No more than slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Ingestion of similar formulations has been reported to produce gastrointestinal discomfort with irritation of the mouth, nausea, vomiting and diarrhea. Oral ingestion of large quantities of one similar product has been reported to result in hypotension and lung edema.

INHALATION

No more than slightly toxic if inhaled based on toxicity studies.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Section 04. First aid measures

First Aid

- INHALATION** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- SKIN CONTACT** Flush skin with water after contact. Wash contaminated clothing before reuse.
- EYE CONTACT** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
- INGESTION** If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Section 05. Fire-fighting measures

- Flammable Properties** Flash Point: >200 F (>93 °C)
- Extinguishing Media:** Water Spray, Foam, Dry Chemical, CO₂.
- Fire Fighting Instructions** Wear self-contained breathing apparatus. Wear full protective equipment.

Section 06. Accidental release measures

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Spill Clean Up

Small Spills-For a spill less than one gallon on floor or other impervious surface, soak up with towels or other absorbent material and discard in the trash. Clean the spill area with soap and water and rinse the area thoroughly.

Large liquid spills-on the floor or other impervious surface should be contained or diked and

then absorbed with attapulgit, bentonite or other absorbent clays. Collect the contaminated absorbent, place in a metal drum and dispose of in accordance with the instructions provided under Disposal. Thoroughly scrub floor or other impervious surface with a strong industrial detergent and rinse with water.

Large spills that soak into the ground should be dug up, placed in metal drums and disposed of in accordance with instructions provided under Disposal. Contact appropriate state agency when considering a land spreading disposal option.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in accordance with instructions provided under Disposal. Any recovered spilled liquid should be similarly collected and disposed of.

Section 07. Handling and storage

Handling (Personnel)

Do not get in eyes, on skin or clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Wash clothing after use.

Handling (Physical Aspects)

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
Do not contaminate water when disposing of equipment washwaters

Section 08. Exposure controls/personal protection

Personal Protective Equipment

- EYE/FACE PROTECTION:** Wear safety glasses or coverall chemical splash goggles.
- RESPIRATORS:** Where there is potential for airborne exposures in excess of applicable limits, wear as appropriate impervious gloves, apron, pants, and jacket.
- RESPIRATORS:** Wear a NIOSH approved respirator if there is potential for exposure to airborne dusts, mists or vapors.

Exposure Guidelines

Exposure Limits

SUNERIN 480SL

PEL (OSHA):	None Established
TLV (ACGIH):	None established

Section 09. Physical and chemical properties

Physical Data

- Colour: yellowish, clear
- Odor: odorless

Form: liquid
pH: 4.5-6.0
Specific gravity: 1.16

Section 10. Stability and reactivity

Chemical Stability:

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

Spray solutions of this product should be mixed, stored, ore applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined containers.

Do not mix, store or apply this product or spray solutions of the product in galvanized or unlined steel (except stainless steel) containers or spray tanks. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Polymerization

Does not occur. This product can react with caustic (basic) materials to liberate heat. This is not a polymerization but rather a chemical neutralization in an acid base reaction.

Section 11. Toxicological properties

Animal Data

Single exposure (acute) studies indicate:

Oral – practically non-toxic Rat LD50>5000 mg/kg

Dermal – practically non-toxic Rabbit LD50>5000 mg/kg

Inhalation – slightly toxic Rat 4hr LC50 – 2.6 mg/L

Eye irritation – Rabbits 24hr-slight to moderate irritation

Eye irritation was evident at day 14 but cleared by day 21 after exposure in 1 animal

Skin irritation – Rabbits 4hr – essentially non-irritating.

Slight erythema (redness) clearing in all animals within 24 hours

No skin allergy was observed in guinea pigs following repeated skin exposure.

COMPONENTS

Data from laboratory studies conducted by Monsanto and from the scientific literature on components of Roundup (R) herbicide:

Isopropylamine Salt of Glyphosate

Data from studies with a formulation comprised of 62% isopropylamine salt of glyphosate (MON 0139) indicat the following:

In repeat dosing studies (6-month), dogs fed MON 0139 exhibited slight body weight changes. Following repeated skin exposure (3-week) to MON 0139, skin irritation was the primary effect in rabbits.

Additional toxicity information is available on glyphosate, the active herbicidal ingredient of MON 0139. Following repeated exposure (90-day), to glyphosate in their feed, decreased weight gains were noted at

the highest test level in mice, while no treatment-related effects occurred in rats. Following repeated skin irritation was the primary effect observed in rabbits. No skin allergy was observed in guinea pigs following repeated skin exposure. There was no evidence of effect on the nervous system, including delayed effects in chickens (repeat oral doses) or cholinesterase inhibition in rats (single oral doses).

Reduced body weight gain and effects on liver tissues were observed with long-term (2 year) feeding of glyphosate to mice at high-dose levels. Reduced body weight gain and eye changes were observed at the high-dose level in one long-term (2 year) feeding study with rats, while no treatment-related effects occurred in a second study. No adverse effects were observed in feeding studies with dogs. Glyphosate did not produce tumors in any of these studies. Based on the results from the chronic studies, EPA has classified glyphosate in category E (evidence of non-carcinogenicity for humans). No birth defects were noted in rats and rabbits given glyphosate orally during pregnancy, even at amounts, which produced adverse effects on the mothers. In a 3-generation study conducted at lower dose levels, no effects were seen on the ability of male or female rats to reproduce. Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacteria cells.

Ethoxylated Tallowamine

The surfactant component of DuPont Glyphosate herbicide is reported to cause irritation to the eyes and skin and may contribute to the irritation potential reported for this herbicide. Ingestion may produce gastrointestinal irritaion nausea, vomiting and diarrhea.

Section 12. Ecological information

Eotoxicological Information

DuPont Glyphosate herbicide has been shown to be slightly to moderately toxic in aquatic studies. Dupont Glyphosate herbicide ahs been shown to be practically non-toxic to avian species following subacute dietary exposure.

Rainbow Trout 96-hr LC50	22 mg/L (static)
Rainbow Trout 96-hr LC50	8.2 mg/L (dynamic)
Daphnia Magna 48-hr LC50	37 mg/L (aeration)
Daphnia Magna 48-hr LC50	24 mg/L (w/o aeration)
Bluegill Sunfish 96-hr LC50	5.8 mg/L (dynamic)
Bluegill Sunfish 96-hr LC50	14 mg/L (static)
Gammarus pseudolimnaeus 48-hr EC50	42 mg/L
Fathead minnow 96-hr LC50	9.4 mg/L
Channel catfish 96-hr LC50	16 mg/L
Chinook Salmon 96-hr LC50	20 mg/L
Coho Salmon 96-hr LC50	22 mg/L
Algae S. Capricornutum 72-hr EC50	2.1 mg/L
Bobwhite Qual 8-day LC50	>6300 ppm
Mallard Duck 8-day LC50	>6300 ppm

Section 13. Disposal considerations

Waste Disposal

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not cut or weld on or near this container.

Metal Drums – Do not reuse container. Return container per the Monsanto container, then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed, by state and local authorities, by burning. If burned, stay out of smoke.

Section 14. Transport information

Do not transport with food and feedstuffs.

Shipping description: Chemical goods, Organic liquid. Marine pollutant.

UN class: Not available.

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not hazardous under the applicable DOT, ICAO/IATA, IMO, TDG and Mexican regulations.

Section 15. Regulatory information

TSCA Inventory All components are on the US EPA's TSCA Inventory

OSHA Hazardous Components Surfactant(s)

U.S. Federal Regulations

TSCA Inventory Status: All components in compliance with TSCA Inventory requirements.

EPA Reg. No. 352-607

Section 16. Other information

Additional Information

None