

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE AND COMPANY

Company Address: The National Company For Agrochemicals Production

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Tel.: (203) 5440640/1 Fax.: (203) 5411150

Product Name: Glyphosate (Twigasate) 48% SL

CAS RN: 38641-94-0

CUS (Customs union and statistics number): 27280

CN-Code (Combined Nomenclature code): 2931 00 95

Chemical Name: *N*- (phosphonomethyl) glycine

Chemical family: Glycine Derivatives

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

Component	Percentag	Cas Number
Glyphosate	48%	38641-94-0
Surfactant	14%	
Water and minor formulating ingredients	38%	

SECTION 3 - IDENTIFICATION OF HAZARDS

Emergency Overview:

- Cause eye irritation.
- Not expected to produce significant adverse effects if absorbed through skin or inhaled.
- Keep out of reach of children.

SECTION 4- FIRST AID MEASURES

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF SWALLOWED: Do not induce vomiting. Call a physician immediately.

IF IN EYES: Flush eyes with plenty of water for 15 minutes. Call a physician.

NOTE TO PHYSICIAN: This product is not a cholinesterase inhibitor.

In cases of severe acute poisoning, the decision of whether to induce vomiting or not should be made by the attending physician. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be evaluated against toxicity when considering emptying the stomach.

ANTIDOTE: Treat symptomatically based on judgment of the attending physician in response to reactions of the patient.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT (method): None

FIRE AND EXPLOSION HAZARD: Minimize use of water to prevent environmental contamination.

EXTINGUISHING MEDIA: Use carbon dioxide, foam, dry chemical or water spray when fighting fires involving this material.

FIREFIGHTING INSTRUCTIONS: Evacuate area and fight fire from a safe distance.

Approach from upwind to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Explosive vapor could form from ruptured containers. Foam fire extinguishing system is preferred to prevent environmental damage from excessive water run off. If water is used, avoid heavy hose streams. If possible, dike and collect water used to fight fire to prevent minimize run off.

FIREFIGHTING EQUIPMENT: Self-contained breathing apparatus with full face piece.

Wear full firefighting turn-out gear (Bunker gear).

HAZARDOUS COMBUSTION PRODUCTS: CO, Phosphorus oxides and Nitrogen oxides.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clean up spills immediately, using precautions described in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

SMALL SPILL: Absorb spill with inert material such as dry sand, vermiculite or fuller's earth, then place in a chemical waste container. Rinse area with dilute soda ash and place rinsate into chemical waste container.

LARGE SPILL: Same as for small spills; may neutralize with dilute alkaline solutions of soda and ash and place into chemical waste container. Do not allow material to run off into soil, drainage systems, or bodies of water. Notify and consult with proper regulatory authorities.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Use only in a well-ventilated area. Loosen closure cautiously before opening.

Do not reuse this container. Empty containers retain product residue (liquid and/or vapor) and can be dangerous.

STORAGE: KEEP OUT OF REACH OF CHILDREN!

Store away from heat (>100 F) and keep from freezing (<20 F). If product crystallizes, store at 50 to 80 F and agitate to redissolve crystals. Do not use direct heat to warm. Keep away from food, feed and drinking water.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION - Safety glasses.

CLOTHING - Long-sleeved shirt and long pants. Shoes plus socks.

GLOVES - Chemical-resistant such as barrier laminate or viton.

RESPIRATOR - When handled in an area where exposure limits may be exceeded, use a respirator.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's

instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Light amber liquid

ODOR: Sweet.

MOLECULAR WEIGHT: 228.2

MOLECULAR FORMULA: C₆H₁₇N₂O₅P

BOILING POINT: < - 5°C

MELTING POINT: Not applicable

SPECIFIC GRAVITY: 0.95 - 1.1 g/cm³ at 20°C

pH: 5-8

WATER SOLUBILITY: Completely miscible

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Normally stable.

INCOMPATIBILITY WITH OTHER MATERIALS: reacts with galvanized steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, Phosphorus oxides and Nitrogen oxides.

HAZARDOUS POLYMERIZATION: Will not occur in normal conditions of storage.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD₅₀ (rat)- >5,000 mg/Kg

Dermal LD₅₀ (rabbit) - > 5,000 mg/Kg

Inhalation LC₅₀ (rat) - 1.3 mg/L (4 h)

Eye Irritation (rabbit) - Mild irritant

Skin Irritation (rabbit) - Not irritant

Sensitization (guinea pig) - Non-sensitizer

CARCINOGEN STATUS:

IARC - Not listed

MUTAGENIC DATA: No evidence of mutagenic effects during *in vivo* and *in vitro* assays.

ADDITIONAL DATA: Not known to exhibit reproductive or birth defects.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This pesticide is moderately toxic to fish, and practically non toxic to birds, bees and other wildlife. Do not apply directly to water, or to areas where surface water is present. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites.

FISH TOXICITY:

LC₅₀ (96 h) for trout and bluegill sunfish >1000, fathead minnows 97, channel catfish 130 mg/l.

AVIAN TOXICITY: Oral LC₅₀, Bobwhite quail – 5620 mg/Kg (5 day dietary toxicity)

BEE TOXICITY: Non-toxic: Oral/contact 48 h > 100 µg/bee.

WORMS: LC₅₀ (14 d) for *Eisenia foetida* >5000 mg/kg soil.

DAPHNIA: LC₅₀ (48 h) 930 mg/l.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE: Pesticide wastes are toxic and hazardous. Dispose of in accordance with applicable federal, state and local laws and regulations. Do not discharge or pour into soil, drainage system or bodies of water.

CONTAINER: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning (plastic containers). If burned, stay out of smoke.

SECTION 14 - TRANSPORT INFORMATION

Not hazards under the applicable regulations.

DOT SHIPPING DESCRIPTION: Not classified as dangerous for transport.

DOT HAZARD CLASS: None Allocated.

UN NUMBER: None Allocated.

DOT PRIMARY/SUBSIDIARY LABEL: Keep Away From Food

DOT PRIMARY/SUBSIDIARY PLACARD: Keep Away From Food

SECTION 15 - REGULATORY INFORMATION

Risk Symbols

Xi - Irritant

Risk Phrases

R41 - Risk of serious damage to eyes

SECTION 16 - OTHER INFORMATION

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