

MATERIAL SAFETY DATA SHEET

Glyphogan™ Plus Herbicide

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1. IDENTIFICATION

Product name: **Glyphogan™ Plus Herbicide**
 Chemical name of active ingredient(s): Glyphosate: N-(phosphonomethyl) glycine
 Manufacturer: Makhteshim Agan of North America, Inc.
 4515 Falls of Neuse Road, Suite 300
 Raleigh, NC 27609
 Phone: 919-256-9300
 For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 800-535-5053
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 877-250-9291

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Isopropylamine salt of glyphosate	38641-94-0	41	NE	NE		

3. HAZARDS IDENTIFICATIONS

PHYSICAL PROPERTIES

Appearance: Light yellow to amber clear liquid
 Odor: Amine-like

EMERGENCY OVERVIEW: CAUTION. Causes moderate eye irritation. Harmful if swallowed or inhaled. Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling.

HAZARDOUS PRODUCTS OF COMBUSTION: Carbon monoxide (CO), nitrogen oxides (NOx), phosphorous oxides (PxOy).

LIKELY ROUTES OF EXPOSURE: Skin and eye contact.

SYMPTOMS OF ACUTE EXPOSURE: May causes temporary eye irritation. Not expected to produce significant adverse effects when recommended instructions are followed.

MEDICAL CONDITIONS LIKELY TO BE AGGRAVATED BY EXPOSURE: None known.

4.FIRST AID MEASURES

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
IF INHALED:	<ul style="list-style-type: none"> Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.

5. FIRE FIGHTING MEASURES

FLASH POINT: > 100°C

FLAMMABLE LIMITS: Not applicable

AUTOIGNITION TEMPERATURE: Not applicable

FLAMMABILITY: Not applicable

EXTINGUISHING MEDIA: Water, dry chemical, carbon dioxide (CO₂), foam

UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide (CO), nitrogen oxides (NO_x), phosphorous oxides (P_xO_y)

FIRE-FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent unauthorized entry to the fire area. Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Small spill: Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal. Large spill: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, scrub the area with detergent and water and neutralize with dilute alkaline solutions of soda ash or lime. Wear appropriate personal protection equipment.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Good industrial practice in housekeeping and personal hygiene should be followed. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Wash hands thoroughly after handling or contact with the product. Thoroughly clean equipment after use. Emptied containers retain vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Follow labeled warnings even after container is empty.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store above 10°F (-12°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room at 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk or bulk container to mix well before using. Keep container closed to prevent spills and contamination.

STORAGE TEMPERATURE (MIN/MAX): Store above 10°F (-12°C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION EQUIPMENT (PPE) ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

INGESTION PROTECTION: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material.

EYE PROTECTION: Wear chemical goggles if there is potential for contact.

RESPIRATORY PROTECTION: No special requirement when used as recommended.

SKIN PROTECTION: If repeated or prolonged contact, wear chemical resistant gloves.

ADDITIONAL PROTECTIVE MEASURES: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

EXPOSURE GUIDELINES: Refer to Section 2.

ENGINEERING CONTROLS: Refer to product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Light yellow to amber clear liquid

ODOR: Amine-like

FLASH POINT: > 100°C

pH: 4.80

SPECIFIC DENSITY: 1.171 g/mL @ 20°

VISCOSITY (Kinematic): 55.955 (20°C); 22.755 (40°C) Centistokes

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal use and storage conditions. May decompose if heated.

CONDITIONS TO AVOID: None known.

MATERIALS TO AVOID: Strong oxidizers or bases, mild and galvanized steel.

HAZARDOUS POLYMERIZATION: Not known to occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide (CO), nitrogen oxides (NO_x), phosphorous oxides (P_xO_y)

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD ₅₀ (Rat):	>5,000 mg/kg
Acute Dermal LD ₅₀ (Rat):	>5,000 mg/kg
Acute Inhalation LC ₅₀ (Rat):	>2.5 mg/L air (4-hours)
Eye Irritation (Rabbit):	Moderately irritating
Skin Irritation (Rabbit):	Mildly irritating
Dermal Sensitization (Guinea Pig):	Not sensitizing

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: 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 cleaning equipment or disposing of equipment washwaters.

ECO-ACUTE TOXICITY: (Glyphosate Technical)

Rainbow Trout 96-hour LC50:	8.2 mg/L
Bluegill Sunfish 96-hour LC50:	5.8 mg/L
<i>Daphnia magna</i> 48-hour EC50:	12.9 mg/L
Green algae 96-hour EC50:	2.6 mg/L
Bobwhite Quail LC50:	>5,620 mg/kg
Mallard Duck LC50:	>5,620 mg/kg
Honey Bee LD50:	>100 µg/bee

13. DISPOSAL CONSIDERATIONS

PESTICIDE 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.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Not regulated

INTERNATIONAL TRANSPORTATION

IMO (vessel): Not regulated

IATA (air): Not regulated

15. REGULATORY INFORMATION

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable
Section 311/312: Acute health hazard (immediate)
Section 313: Not applicable

CA PROPOSITION 65: Not applicable

CERCLA RQ: Not applicable

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

NFPA HAZARD RATINGS	NFPA	
HEALTH:	1	0 MINIMAL
FLAMMABILITY:	1	1 SLIGHT
REACTIVITY:	1	2 MODERATE
		3 HIGH
		4 SEVERE

MSDS DATE: 2-3-09

The information herein is given in good faith, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.