

**1. IDENTIFICATION**

Product name: **Glyphogan 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: 1-800-535-5053  
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV
Isopropylamine salt of glyphosate	38641-94-0	41	None established	None established
Surfactant	61791-26-2	8	None established	None established
Water	7732-18-5	51	None established	None established

**3. HAZARDS IDENTIFICATIONS****EMERGENCY OVERVIEW**

WARNING. Keep out of reach of children. 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.

**PHYSICAL PROPERTIES**

Appearance: Amber brown liquid

Odor: Slight

**HAZARDOUS PRODUCTS OF COMBUSTION**

Carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), phosphorous oxides (P<sub>x</sub>O<sub>y</sub>)

**LIKELY ROUTES OF EXPOSURE**

Skin and eye contact.

**SYMPTOMS OF ACUTE EXPOSURE**

Causes temporary eye irritation. Not expected to produce significant adverse effects when recommended instructions are followed. Symptoms of acute exposure include gastro-intestinal irritation, nausea, vomiting, diarrhea, increased fluid in lungs, and decreased blood pressure.

**MEDICAL CONDITIONS LIKELY TO BE AGGRAVATED BY EXPOSURE**

None known.

**4. FIRST AID MEASURES****FIRST AID**

- IF IN EYES:**
- 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.
- IF INHALED:**
- Call a poison control center or doctor for treatment advice.
  - 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.
- IF SWALLOWED:**
- 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 ON SKIN OR CLOTHING:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for 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 1-887-250-9291 for emergency medical treatment information.**

**Note to Physicians:** This product is not a cholinesterase inhibitor. Treatment with atropine and oximes is not indicated.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT:** Not applicable

**FLAMMABLE LIMITS**

LFL: Not applicable

UFL: Not applicable

**AUTOIGNITION TEMPERATURE:** Not applicable

**FLAMMABILITY:** Not applicable

**EXTINGUISHING MEDIA:** Water, dry chemical, carbon dioxide (CO<sub>2</sub>), foam

**UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS**

None.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), phosphorous oxides (P<sub>x</sub>O<sub>y</sub>)

**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:** For small spills, flush spill area with water. Keep wash water out of drains, sewers, ditches and waterways. For large spills, absorb in sand or absorbent material. Dig up contaminated soil. Collect in containers for disposal. Flush residues with small quantities of water. Minimize use of water to prevent environmental runoff. Dispose of in accordance with local, state, and federal regulations.

**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 with compatible materials: stainless steel, aluminum, plastic, fiberglass and glass lining. Do not store with incompatible materials: galvanized steel and unlined mild steel. Keep out of reach of children. Keep away from food, drink and animal feed. Keep only in original container. Partial crystallization may occur on prolonged storage below the minimum storage temperature. If frozen, place in warm room and shake frequently to put back into solution.

**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:** Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks and protective eyewear. Remove clothing immediately if pesticide gets inside. Wash thoroughly and put on clean clothing. Wear chemical resistant gloves if repeated or prolonged contact is expected.

**ENGINEERING CONTROLS:** Have eye wash facilities immediately available at locations where eye contact can occur.

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. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Amber brown liquid

**ODOR:** Slight

**FLASH POINT:** Does not flash.

**pH:** 4.4 – 5.0

**BOILING POINT:** 150° C @ 760 mmHg

**SPECIFIC GRAVITY/DENSITY:** 1.1655 g/mL @ 20° C/15.6° C

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal use and storage conditions.

**CONDITIONS TO AVOID:** None known.

**MATERIALS TO AVOID:** Reacts with bases to liberate heat. Reacts with galvanized steel or unlined mild steel to product hydrogen, a highly flammable gas that could explode.

**HAZARDOUS POLYMERIZATION:** Not known to occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), phosphorous oxides (P<sub>x</sub>O<sub>y</sub>)

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD<sub>50</sub> (Rat): >5,000 mg/kg

Acute Dermal LD<sub>50</sub> (Rat): >5,000 mg/kg

Acute Inhalation LC<sub>50</sub> (Rat): >2.6 mg/L air (4-hours)

Eye Irritation (Rabbit): Moderate irritation

Dermal Irritation (Rabbit): No irritation

Dermal Sensitization (Guinea Pig): Not sensitizing

### REPRODUCTIVE/FERTILITY EFFECTS

None observed.

### CARCINOGENICITY

None observed.

### DEVELOPMENTAL TOXICITY/TERATOGENICITY

None observed.

## 12. ECOLOGICAL INFORMATION

**SUMMARY OF EFFECTS:** Moderately toxic to fish and algae/aquatic plants. Slightly toxic to invertebrates. Practically non-toxic to birds and bees.

MATERIAL SAFETY DATA SHEET

**Glyphogan Herbicide**

Page 4 of 4

**ECO-ACUTE TOXICITY:**

Rainbow Trout 96-hour LC50: 8.2 mg/L  
Bluegill Sunfish 96-hour LC50: 5.8 mg/L  
*Daphnia magna* 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

**ECO-CHRONIC TOXICITY:**

Not available

**13. DISPOSAL CONSIDERATIONS**

Dispose of product as hazardous industrial waste. Recycle if appropriate facilities and equipment are available. Burn in special, controlled high temperature incinerator. Keep out of drains, sewers, ditches and waterways. Follow all local, state and federal regulations.

Triple rinse empty containers. Pour rinse water into spray tank. Store for collection by approved waste disposal service. Dispose as hazardous industrial waste. Do NOT reuse containers. Follow all local, state and federal regulations.

**14. TRANSPORT INFORMATION**

**DOT CLASSIFICATION:** Not regulated

**B/L Freight Classification:** Item: 50320 [Compounds, tree or weed killing (herbicides), NOI, other than poison] Class 60

**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:** Not applicable

**TSCA STATUS:** Not applicable

**16. OTHER INFORMATION**

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

**MSDS issued:** 5-16-2006; Supersedes 08-11-2004

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.