



MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: Helosate™ Plus

Manufacturer Name:
Helm Agro US, INC.
8295 Tournament Drive Suite #310
Memphis, TN 38125

Emergency Telephone:
ChemTrec 800-424-9300

Non-emergency Telephone:
901-312-1525

Intended Use: Herbicide

2 HAZARDS IDENTIFICATION

Emergency Overview

Physical State: Liquid

Color: Amber

Odor: Slight odor

DANGER!

Causes severe eye irritation. Harmful if inhaled.

Potential Health Effects

Inhalation: Harmful if inhaled.

Eye Contact: Severely irritating, and may seriously damage eye tissue.

Skin Contact: None known.

Ingestion: None known.

Target Organ(s): | Eye |

OSHA Regulatory Status: This product is hazardous according to OSHA 29CFR 1910.1200.

3 COMPOSITION / INFORMATION ON INGREDIENTS

General Information: This product is toxic to fish and aquatic organisms. This product is intended for use as a technical material in formulations.

Chemical Name	CAS-No.	Concentration*
†Glyphosphate, isopropylamine salt	38641-94-0	41%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

† This chemical is hazardous according to OSHA/WHMIS criteria.

4 FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Get medical attention.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Skin Contact: Wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

Ingestion: First aid is normally not required. However, if greater than 1/2 liter (pint) ingested, seek medical attention. Seek medical advice.

5 FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable Extinguishing Media: Not applicable.

Special Fire Fighting Procedures: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Unusual Fire & Explosion Hazards: None known.

Hazardous Combustion Products: Carbon Oxides, Nitrogen Oxides, Phosphorus Oxides

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate personal protective equipment.

Spill Cleanup Methods: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

7 HANDLING AND STORAGE

Handling: No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the MSDS for additional personal protection advice when handling this product. Observe good industrial hygiene practices.

Storage: Store away from incompatible materials.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust

ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Respiratory Protection: No protection is ordinarily required under normal conditions of use and with adequate ventilation. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Eye Protection: Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Hand Protection: It is a good industrial hygiene practice to minimize skin contact.

Skin Protection: Risk of contact: Use skin protection.

Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental Exposure Controls: Environmental manager must be informed of all major spillages.

9 PHYSICAL AND CHEMICAL PROPERTIES

Color: Amber

Odor: Slight odor

Physical State: Liquid

pH: 4.4 - 5

Freezing Point: -26°C (-14°F)

Boiling Point: 113°C (235°F)

Vapor Pressure: 1.75×10^{-7} mmHg @25°C

Specific Gravity: 1.1655 (20°C)

Solubility in Water: Miscible with water.

Partition Coefficient (n-Octanol/water): $P = 4.5 \times 10^{-4}$

Viscosity: 43 cst @68°F

Percent Volatile: 50 %w

10 STABILITY AND REACTIVITY

Stability: Stable.

Conditions to Avoid: None known.

Incompatible Materials: Contact with galvanized or unlined steel (except stainless steel) may initiate decomposition and generation of hydrogen gas.

Hazardous Decomposition Products: No data available.

11	TOXICOLOGICAL INFORMATION
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Listed Carcinogens: None.

Product Information

Acute Toxicity:

Test Results

Dermal LD50 (Rabbit): 5000 mg/kg

Inhalation LC50 (4 hour(s), Rat): 3.28 mg/l

Oral LD50 (Rat): 5000 mg/kg

Other Acute: Causes severe eye irritation. No additional adverse health effects noted.

Chronic Toxicity: No additional adverse health effects noted.

12	ECOLOGICAL INFORMATION
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Ecotoxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Specified Substance(s)

Chemical Name	Test
Glyphosphate, isopropylamine salt	EC50 (48 hour(s), Daphnia magna): 3.0 mg/l
Glyphosphate, isopropylamine salt	LC50 (96 hour(s), Bluegill Sunfish): 5.6 mg/l
Glyphosphate, isopropylamine salt	LC50 (96 hour(s), Rainbow trout): 2.3 mg/l
Glyphosphate, isopropylamine salt	LC50 (96 hour(s), Fathead Minnow): 8.3 mg/l
Glyphosphate, isopropylamine salt	LC50 (96 hour(s), Ictalurus punctatus): 13 mg/l

Mobility: Dangerous for the environment if discharged into watercourses.

Bioaccumulation Potential: No data available.

Other Adverse Effects: Contains a substance which causes risk of hazardous effects to the environment.

13	DISPOSAL CONSIDERATIONS
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General Information: Dispose of waste and residues in accordance with local authority requirements.

Disposal Methods: No specific disposal method required.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14	TRANSPORT INFORMATION
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DOT Not regulated.

TDG Not regulated.

IATA Not regulated.

IMDG Not regulated.

15	REGULATORY INFORMATION
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Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS Classification: D1B, D2B

Mexican Dangerous Statement: This product is dangerous according to Mexican regulations.

Inventory Status

This product or all components are listed or exempt from listing on the following inventory: DSL, TSCA

US Regulations

CERCLA Hazardous Substance List (40 CFR 302.4): Not regulated.

SARA Title III

Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A): Not regulated.

Section 311/312 (40 CFR 370):

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

Section 313 Toxic Release Inventory (40 CFR 372): Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
Not regulated.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): Not regulated.

Drug Enforcement Act: Not regulated.

TSCA

TSCA Section 4(a) Final Test Rules & Testing Consent Orders: Not regulated.

TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs) (40CFR 721, Subpt. E): Not regulated.

TSCA Section 5(e) PMN-Substance Consent Orders: Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Not regulated.

Massachusetts Right-To-Know List: Not regulated.

Michigan Critical Materials List (Michigan Natural Resources and Environmental Protection Act (Act. 451 of 1994)): Not regulated.

Minnesota Hazardous Substances List: Not regulated.

New Jersey Right-To-Know List: Not regulated.

Pennsylvania Right-To-Know List: Not regulated.

Rhode Island Right-To-Know List: Not regulated.

16	OTHER INFORMATION
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HAZARD RATINGS

	Health Hazard	Fire Hazard	Instability	Special Hazard
NFPA	2	1	0	NONE

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

NFPA Label colored diamond code: Blue - Health; Red - Flammability; Yellow - Instability; White - Special Hazards

	Health Hazard	Flammability	Physical Hazard	Personal Protection
HMIS	2	1	0	--

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

HMIS Label colored bar code: Blue - Health; Red - Flammability; Orange - Physical Hazards; White - Special

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Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.