



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Glyphosate Technical
CAS No : 1071-83-6
Use : Herbicide
Company Info : M/s HPM Chemicals & Fertilizers Ltd
209-210, Anupam Bhawan, Commercial Complex
Azadpur, Delhi-110033
Telephone : (011)-45071800, 899
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Website : www.hpmindia.com
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition	Concentration
Glyphosate a.i.	95.00% min.
Other associates impurities	5.00% max

3. HAZARDS IDENTIFICATION OF PREPARATION

Emergency Overview:

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

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 aspirati on must be evaluated against toxicity when considering emptying the stomach.



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

5. ACCIDENTIAL RELEASE

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.

6. 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

7. HANDLING AND STORAGE

Handling : Use appropriate (impervious) clothing, gloves and closed foot ware to prevent the repeated contact with skin.
Use flash proof and dust resistant goggles to prevent the



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Storage : contact with eyes.
Keep the product in original container tightly closed and correctly labeled. Store in suitable, cool, dry, well ventilated place under lock and key; away from the reach of the children, animals, food and animal feeding stuffs. Store away from the incompatible substances and source of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Technical protective measures : None
Exposure controls limits : Not Established
Respiratory protection : Wear suitable mask
Hand protection : Wear impervious gloves
Eye protection : Wear flash proof and dust resistant goggles.
Skin protection : Wear impervious clothing and closed foot ware.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: White powder.
ODOR: Odourless.
MOLECULAR WEIGHT: 228.2
MOLECULAR FORMULA: $C_6H_{17}N_2O_5P$
BOILING POINT: Decomposes without boiling
MELTING POINT: Occurs in 2 steps, 143-164°C and 189-223 °C
SPECIFIC GRAVITY/ DENSITY: 1.482 (20°C)
VAPOR PRESSURE: 2.1×10^{-3} mPa (25°C)
WATER SOLUBILITY: In water 1050 g/l (25°C, pH 4.3).
pH: Not available.

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.



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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Oral LD₅₀(Rats) - Acute oral LD₅₀ for rats 5600 mg/kg.

Dermal LD₅₀(Rabbits)- LD₅₀ for rabbits >5000 mg/kg.

Inhalation LC₅₀(Rats)- LC₅₀(4 h) for rats >1.3 mg/l air.

Eye Irritation (Rabbits)- Slight eye irritant.

Skin Irritation (Rabbits)- Not irritant.

Sensitization (guinea pigs)- Non-sensitizer

CARCINOGEN STATUS: IARC - Not listed

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

ADDITIONAL DATA: Glyphosate is not known to exhibit reproductive or birth defects.

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 minnow 97, channel catfish 130 mg/l.

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

Daphnia: LC₅₀(48 h) 930 mg/l.

Algae: EC₅₀(72 h) for *Scenedesmus subspicatus* 72.9 mg/l.

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

Bees toxicity: non-toxic: oral/contact 48 h > 100 µg/bee.

Other beneficial spp. No effects on carabid beetle; harmless to slightly harmful to green lacewing, parasite species, mites/spiders and insects, except moderately harmful to *Bembidion lampros*.

13. DISPOSAL CONSIDERATION

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed on site (by use according to the label) or at an approved waste disposal facility. Further information can be obtained from the EPA or the equivalent state and local agencies.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Check with EPA, State, and local authorities for the current regulations applicable to your area for disposal of



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waste containers.

14. TRANSPORT INFORMATION

SHIPPING DESCRIPTION: Not classified as dangerous for transport.

U.N. Number None Allocated.

Hazard Class None Allocated.

Packing Group None Allocated.

15. REGULATORY INFORMATION

Risk Symbols

Xi - Irritant

Risk Phrases

R41 - Risk of serious damage to eyes

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.