

MATERIAL SAFETY DATA SHEET

PRODUCT : Glyphosate 71% SG

PRODUCT DESIGNATION : Herbicide

Section 1. Product & Company Identification

Common Name : Glyphosate
Grade : Formulation
Active Ingredient : Glyphosate
Chemical Name of Active : 2-(phosphonomethylamino)acetic acid
Ingredient (IUPAC)
Chemical Family of A. I. : Herbicide
Molecular Formula of A. I. : C₆ H₁₇N₂ O₅ P
Molecular Mass of A. I. : 169.07 g/mol
Manufacturer & Supplier : **M/s United Chemicals**
Head office:B-371, 1st Floor, Meera Bagh, New Delhi,
Factory:15/1, 15/2, 15/3, Industrial Estate, Vidisha,
(M.P)
Telephone Number : +91-11-25258770

Section 2. Composition / Information on Ingredients

<u>Name of Components</u>	<u>Concentration% w/w</u>
Glyphosate	71.00% w/w
Inert Ingredients	29.00% w/w
TOTAL	100.00% w/w

Section 3. Hazards Identification

Emergency Overview

Appearance and Odour : Colourless to pale yellow clear liquid, Odourless to slight amine like odour **WHO Classification :** None – Unlikely to present acute hazard in normal use

Warning Statements : Keep out of reach of children

Potential Health Effects

Likely Routs of Exposure : Skin contact, Inhalation and Ingestion

Eye Contact : May cause slight eye irritation and redness to eyes

Skin contact : Not irritating to skin.

Ingestion : Harmful if swallowed

Inhalation : Unlikely to cause adverse effect by this route

Environmental Hazards : The product is herbicides and is therefore expected to be harmful to some weeds/plants

Section 4. First Aid Measures

General advice : If poisoning occurs, contact a doctor or Poisons Information Centre.

Inhalation : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.

Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

Eye contact : 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 centre or doctor for treatment advice.

Ingestion : Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control centre. Never give anything by mouth to an unconscious person. Call a poison control centre or doctor for treatment advice.

Notes to physician

Treatment : Treat symptomatically

Section 5. Fire Fighting Measures

Hazardous product of Combustion : The essential breakdown products are carbon monoxide, carbon dioxide, phosphorus pentoxide and nitrogen oxides.

Extinguishing Media : Foam, Dry chemical powder, CO2 type fire extinguisher or Flood with water.

Unusual Fire and Explosion Hazards : The product does not pose any unusual fire hazard. It is advisable for firemen to avoid direct contact.

Fire Fighting Equipment : Evacuate area and fight fire from a safe distance. Approach from upwind to avoid hazardous vapours and decomposition products. Use self-contained breathing apparatus. Used equipments should be thoroughly decontaminated.

Section 6. Accidental Release Measures

Personal Protection : Observe all protection and safety precautions. Depending on the magnitude of the spill, use of eye protection, gloves and boots when cleaning up spills are recommended. For PPE see Section 8

Steps to be taken in case of a spill : It is recommended to have a predetermined plan / SOP for the handling of spills.

Stop the source of the spill immediately, if safe to do so. Contain the spill to prevent any further contamination of soil or water.

Keep all bystanders away. Wear full-length clothing and PVC gloves. Shovel and collect the spilled material / contaminated absorbent and place in suitable containers. Thoroughly scrub the floor or other impervious surfaces with a strong industrial detergent and rinse with water.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal through incineration.

Section 7. Handling & Storage

Precautions in Handling : In an industrial environment, such as while making formulation, filling or packing, it is recommended to avoid physical contact with the product and to have adequate ventilation.

Avoid spillage into the eyes, or contact with bare skin or clothing. Avoid inhaling spray mist. Wash hands, feet, face thoroughly after handling. Remove contaminated clothing immediately.

Precautions in Storage : The product is stable under normal conditions of warehouse storage. Keep container lids tightly closed.

Store in a cool, dry, well- ventilated place away from foodstuffs, animal feed under lock & key.

Specific Use : The product is meant / approved to be used as herbicide.

Section 8. Exposure Control, Personal Protection

Exposure Limit Values : Exposure limits have not been established for glyphosate or any other component of this product. However, exposure limit values defined by local regulations may exist and must be checked / observed.

Personal Protection : When used in a closed / automated system, personal protection equipment may not be required. When closed system is not possible in case of maintenance, repair, sampling etc, systems must be made nonhazardous before opening.

Respiratory Protection : The product is not likely to pose inhalation exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which produces a vapour or mist, workers should put on respiratory protection equipment with a universal filter.

Protective Gloves : Wear appropriate gloves.

Eye Protection : Wear goggles, face shield or safety glasses. It is recommended to have an eye wash fountain available in the work area.

Skin Protection : Wear appropriate protective clothing to prevent direct skin contact.

Section 9. Physical and Chemical Properties

Appearance / state	: Off white granules ,Solid
Colour	: Off white
Odour	: Mild ammonia like odour
Flash point	: Not Applicable
Boiling Point	: Not Applicable
Auto Ignition Temp	: Not flammable
Density	: 0.559 g/mL at 20 °C
Water solubility	: Soluble in water
pH	: 3.62 at 20 °C
Vapour Pressure	: 1.2636 x 10 ⁻⁵ Pa

Section 10. Stability & Reactivity

Chemical Stability : Product is stable at ambient temperature.

Materials to Avoid : Does not react with common material

Hazardous Decomposition Product : Refer to section no. 5

Hazardous Polymerisation : Do not occur

Section 11. Toxicological Information

Acute Oral Toxicity LD₅₀ for rats : >5,000 mg/kg

Acute Dermal Toxicity LD₅₀ Rabbit : >2,000 mg /kg

Acute Inhalation LC₅₀ (4h) for male and female rats : >3.502 mg/l air

Eye Irritation Rabbit moderately eye irritating

Skin Irritant Rabbit : Not irritant to skin

Skin sensitization Guinea pig : Not a skin sensitizer

Section 12. Ecological Information

Toxicity to Bird : LC₅₀(5 d) dietary, Mallard duck : > 4,000 mg/l

Toxicity to fish : LC₅₀(96 h) Rainbow trout: > 30 mg/l

Daphnia magna : EC₅₀ (48h) : 3.8 mg/l

Toxicity to aquatic plants : EC₅₀ (72 h) Selenastrum capricornutum : 1.8-3.6 mg/l

Toxicity to Honey bee : LD₅₀ (48 h) Apis mellifera : > 100 µg/bee

Section 13. Disposal Consideration

Product: Dispose of as hazardous industrial waste. Recycle if appropriate facilities/equipment available. Burn in special, controlled high temperature incinerator. Keep out of drains, sewers, ditches and water ways. Follow all local/regional/national regulations.

Container: Triple rinse empty containers. Pour rinse water into spray tank. Store for collection by approved waste disposal service. Dispose of as hazardous industrial waste. Do NOT re-use containers. Follow all local/regional/national regulations.

Section 14. Transport Information

IMDG Classification

Shipping name : Environmentally hazardous substance, solid, N.O.S.
(glyphosate)

Class : 9

Packing group : III

UN number : 3077

Marine pollutant : Yes

Section 15. Regulatory Information

TSCA Inventory : All components are on the US EPA's TSCA Inventory

SARA Title III Rules : Section 311/312 Hazard Categories Immediate

Section 302 Extremely Hazardous Substances Not applicable.

Section 313 Toxic Chemical(s) Not applicable.

Section 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 in 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 produces formulations(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

Safety Division : UNITED CHEMICALS, SAFETY DIVISION