

Material Safety Data Sheet : Glyphosate Technical

1. Chemical Product and Company Identification

Product Name : Glyphosate Technical
Formula : C₃H₈NO₅P
Molecular Weight : 169.1
Chemical Name : N-Phosphonomethyl glycine
Manufacturer : Sumitomo Chemical India Limited
Corporate Office : 13 / 14 Aradhana Industrial Development Corporation, Near Virwani Industrial Estate, Goregaon (East), Mumbai – 400 063
Emergency Contact Details : +91 22 4252 2200
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2. Composition/Information on Ingredients

Component	CAS No.	% W/W content
Glyphosate	1071-83-6	95 minimum

3. Hazard Identification

Emergency Overview

Appearance and odour : White crystalline powder, mild to odourless

Warning Statements : Keep out of reach of children

Potential Health Effects

Likely Routs of Exposure : Skin contact, Inhalation and Ingestion

Eye Contact : Likely to cause eye irritation

Skin contact : Irritation may occur on prolonged contact

Ingestion : Could be harmful if swallowed

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Inhalation : Could be harmful if inhaled.

Environmental Hazards : The product is an active ingredient used in herbicide formulations and is therefore expected to be harmful to some weeds / plants.

4. First aid measures and Antidote

Emergency and First Aid Procedure –

- If in Eyes** : Immediately flush with plenty of clean water for 15-20 minutes. Remove contact lenses if present after 5 minutes of washing. Get medical attention.
- If on Skin** : Wash with plenty of clean water and soap. Get medical attention if irritation develops
- If Inhaled** : If experiencing any distress/discomfort, immediately remove the affected person to fresh air and obtain medical advice if discomfort does not disappear.
- If Swallowed** : Immediately offer drinking water to the person, if able to swallow. Get medical attention.
- Note to Physician** : Treat symptomatically. May be treated as usual against effects of acids or acid fumes.
- Antidote** : No specific antidote known.

5. Fire Fighting Measures

- Hazardous product of Combustion** : The essential breakdown products are carbon monoxide, carbon dioxide, phosphorus pentoxide and nitrogen oxides.
- Extinguishing Media** : In case of Fire use 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 Measures** : 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.

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6. Accidental Release Measure

Personal Protection : Observe all protection and safety precautions. Depending on the magnitude of the spill, use eye protection, gloves and shoes during cleaning of spill is recommended. For PPE see Section 8 below.

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 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.

7. Handling and 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 dust. 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 tightly closed.

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

Specific Use : The product is meant / approved to be used for manufacture of herbicide formulations.

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8. Exposure Controls/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 may produce dust, 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

9. Physical and Chemical Properties

- Physical State** : Solid
- Appearance** : White crystalline powder
- Odour** : Mild to odourless
- Specific Gravity (Relative density)** : 1.67 +/- 0.02 at 20 °C
- pH value** : 1.86 to 1.90
- Viscosity** : Not applicable
- Vapour Pressure** : 1.2636×10^{-5} Pa
- Melting Point** : >295 °C
- Flash Point** : Not flammable
- Flammable Limits** : Not applicable
- Solubility in Water** : 12.91 ± 0.25 g/l at 30 °C

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10. Stability and Reactivity

- Chemical Stability** : Product is stable under ambient conditions of storage.
- Materials to Avoid** : Does not react with common material.
- Hazardous Decomposition Product** : Refer to section no. 5 above.
- Hazardous Polymerisation** : Not known

11. Toxicological Information

- Health Hazards** : Refer to section no. 3 above
- Acute Toxicity** : The product is practically non-toxic. However, it should be treated with the usual care of handling chemicals.
- Route(s) of Entry**
- Ingestion : LD₅₀, oral, rat: > 2000 mg/kg body weight of female rat
 - Skin : LD₅₀, dermal, rat: > 2000 mg/kg body weight
 - Inhalation : 4 hour LC₅₀, rat: > 5.04 mg/L air.

12. Ecological Information

- Acute Oral Toxicity in Birds** : In bobwhite quail > 3851 mg/kg
- Acute Toxicity in Fish (96 hrs LC₅₀)** : Rainbow trout: 86 mg/L
- Acute Toxicity Honey bees** : Oral & contact LC₅₀ 48 Hrs. > 100 µg/bee

13. Disposal Considerations

- Waste Treatment Methods** : Keep out of drains, sewers, ditches and waterways. Left-over material should be disposed off in a landfill approved for pesticide disposal. Other possible methods of disposal are controlled incineration with flue gas scrubbing.

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- Containers** : Empty containers may retain product residue. Observe all safeguards mentioned in label until container is cleaned and destroyed.
- Triple rinse or pressure rinse the empty containers. Collect rinse water in a tank. Dispose through approved waste disposal service.
- Do not re-use containers.
- Disposal of waste and packaging materials must always be in accordance with all applicable local laws / regulations.

14. Transport Information

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not classified as dangerous goods under the applicable DOT, ICAO/IATA, IMO, TDG

IMDG classification

- Proper Shipping Name** : Environmentally hazardous Substance, Solid, n.o.s. (Glyphosate)
- Class / Division** : 9
- Subsidiary hazard(s)** : -
- UN No.** : 3077
- Packing group** : III
- IMDG Marine pollutant** : No

15. Regulatory Information

- Contains** : Glyphosate (CAS No. 1071-83-6)
- Regulatory Status** : The product is meant for the production of herbicide which should be used for the applications they are registered for, in accordance with an officially approved label.

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16. Other Information

This MSDS is intended for worker and transport safety. It summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

This material should be handled by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

This MSDS is not intended for product users who should refer to the product label for safety precautions applicable to them.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product may vary and situations unforeseen by Sumitomo Chemical India Limited may exist. The user has to check the validity of the information under local circumstances.