

MATERIAL SAFETY DATA SHEET

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Date of Issue: September 2012
MSDS No. FMC/GLY450/1

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FMC Glyder 450 Herbicide

Other Names: Glyphosate, Group M Herbicide, N-(phosphonomethyl)Glycine.
Use: A non-selective, systemic, liquid herbicide.
Company: FMC Crop Protection Pty Ltd.
Address: Unit 26, 8 Metroplex Avenue, Murarrie, Qld 4172
Telephone Number: 07 3908 9222 **Fax Number:** 07 3908 9221
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide).

SECTION 2 HAZARDS IDENTIFICATION

**Classified as Hazardous according to criteria of the Safe Work Australia.
Not classified as a Dangerous Good according to the ADG Code.**

Risk phrases: R36/38 Irritating to the eyes and skin.
Safety Phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink, and animal feeding stuffs.
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

| <i>CHEMICAL</i> | <i>CAS NUMBER</i> | <i>PROPORTION</i> |
|--|-------------------|-------------------|
| Glyphosate as the isopropylamine salt | 38641-94-0 | 450 g/L |
| Other ingredients (including water) determined not to be hazardous | | Balance |

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: If swallowed do NOT induce vomiting. Wash mouth with water. If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 131 126.

Eye: Immediately hold eyes open and gently flood with clean water. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. If irritation persists, seek medical advice.

Skin: Remove contaminated clothing. Wash skin with soap and water to remove chemical. If skin is irritated, seek medical advice.

Inhaled: Remove to fresh air and observe until recovered. If effects persist, seek medical advice.

Advice to Doctor: Treat symptomatically. No specific antidote.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Not flammable. If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material. Contain all runoff.

Extinguishing media: Choose extinguishing media to suit the burning material. If soft stream water fog or fine water spray is used, contain all runoff.

SECTION 5 FIRE FIGHTING MEASURES (Continued)

Hazards from combustion products: There is no risk of an explosion from this product under normal circumstances if involved in a fire. Product is unlikely to decompose until heated to dryness. On further heating will emit toxic fumes. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. As a minimum wear elbow-length PVC gloves and face shield or goggles. Large spills should be dyked or covered to prevent dispersal. Vacuum, shovel or pump spilled material into an approved container and dispose of as listed below. Keep out unprotected persons and animals. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways. This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

Material and methods for containment and cleanup procedures: To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Product will irritate eyes and skin. Avoid contact with eyes and skin. When preparing product for use, wear elbow-length PVC gloves and face shield or goggles. When using controlled droplet applicator wear protective waterproof clothing and impervious footwear. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash contaminated clothing, gloves and face shield or goggles.

Conditions for Safe Storage: Do not store the product in galvanised steel or unlined steel containers, as the product may react to produce hydrogen gas, which in turn could form a highly combustible gas that could explode if ignited by an open flame, or spark, lighted cigarette, etc. DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Not classified as a Dangerous Good. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**National Exposure Standards:**

No Exposure guidelines have not been established for this product by Safe Work Australia.

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in ventilated areas only. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

Personal Protective equipment (PPE):

General: When opening the container, preparing the spray wear a PVC or rubber apron, cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves and face shield. Wash thoroughly before smoking, eating or using toilet facilities. Wash hands after use.

Respiratory Protection: Generally not required. Use of a respirator may be required in certain circumstances. If an inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards).

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------|---|
| Appearance: | Viscous blue liquid. |
| Odour: | Slight amine odour. |
| Solubility in Water: | soluble in water. |
| Specific Gravity: | 1.2 |
| pH Value: | No data available. |
| Vapour Pressure: | No data available. |
| Flash Point: | Not flammable. |
| Flammability: | Non flammable. |
| Poisons Schedule: | This product is a schedule 5 (S5) poison. |
| Corrosive hazard: | Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic lined containers or spray tanks since a highly flammable gas may be formed. Do not mix or store the product or spray solutions in galvanized steel or unlined steel (except stainless steel). |

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Do not store for prolonged periods in direct sunlight. Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic lined containers or spray tanks since a highly flammable gas may be formed. Do not mix or store the product or spray solutions in galvanized steel or unlined steel (except stainless steel).

Incompatible materials: As above.

Hazardous decomposition products: This product is likely to decompose only after heating to dryness, followed by further strong heating. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke.

Hazardous reactions: Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime. Such contact may release isopropylamine vapour with a strong fish like odour, which is an irritant, to eyes. Polymerisation is unlikely.

SECTION 11 | TOXICOLOGICAL INFORMATION***Potential Health Effects:***

This product has moderate to high acute oral toxicity. It has low dermal and inhalation toxicity. It is not irritating to the eyes and skin, and is non-sensitizing to the skin. Inhalation of aromatic hydrocarbon vapours may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary oedema.

Acute

Swallowed: Low toxicity. Direct ingestion may produce gastro-intestinal discomfort, nausea, vomiting and diarrhoea. Ingestion of a large quantity of the undiluted product may result in hypotension and pulmonary oedema. Acute Oral LD₅₀ > 10,000 mg/kg.

Eye: The concentrate may cause irritation of the eyes. Prolonged contact with the concentrate may cause damage to the eye.

Skin: This product may be irritating to the skin. Acute dermal LD₅₀ > 5,000 mg/kg.

Inhaled: Inhalation of mists or sprays may produce respiratory irritation.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)**Long Term Exposure:**

Chronic toxicity: Studies of glyphosate lasting up to 2 years, have been conducted with rats, dogs, mice, and rabbits, and with few exceptions no effects were observed. Laboratory studies show that glyphosate produces reproductive changes in test animals very rarely and then only at very high doses (over 150 mg/kg/day). It is unlikely that the compound would produce reproductive effects in humans.

Glyphosate does not appear to be teratogenic, mutagenic or carcinogenic.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: Glyphosate is not harmful to wild birds. The dietary LC₅₀ in both mallards and bobwhite quail is greater than 4500 ppm. Technical glyphosate acid is practically nontoxic to fish and may be slightly toxic to aquatic invertebrates. The reported 96-hour LC₅₀ values for other aquatic species include greater than 10 mg/L in Atlantic oysters, 934 mg/L in fiddler crab, and 281 mg/L in shrimp. The 48-hour LC₅₀ for glyphosate in Daphnia (water flea), an important food source for freshwater fish, is 780 mg/L. Some formulations may be more toxic to fish and aquatic species due to the surfactants used in the formulation. There is a very low potential for the compound to build up in the tissues of aquatic invertebrates or other aquatic organisms. Glyphosate is nontoxic to honeybees. Its oral and dermal LD₅₀ is greater than 0.1 mg/bee. The reported contact LC₅₀ values for earthworms in soil are greater than 5000 ppm.

Environmental Properties: Glyphosate is moderately persistent in soil, with an estimated average half-life of 47 days. Reported field half-lives range from 1 to 174 days. It is strongly adsorbed to most soils, even those with lower organic and clay content. In water, glyphosate is strongly adsorbed to suspended organic and mineral matter and is broken down primarily by microorganisms. Its half-life in pond water ranges from 12 days to 10 weeks. Glyphosate may be translocated throughout the plant, including to the roots. It is extensively metabolized in some plants, while remaining intact in others.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills & Disposal: Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to tank mix. Do not dispose of undiluted chemicals on-site. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: This product is not classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail. Not classified as a Dangerous Good for marine or air transport. It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 15 REGULATORY INFORMATION

Classified as a hazardous substance according to criteria of the Safe Work Australia. (Xi - irritant). Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 5 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 67559.

Product is not classified as a Dangerous Good according to the ADG Code (7th Ed).

Requirements concerning special training:

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16 OTHER INFORMATION

Issue Date: 28 September 2012. Valid for 5 years. (First issue).

Key to abbreviations and acronyms used in this MSDS:

ADG Code: Australian Dangerous Goods Code (for the transport of Dangerous Goods by Road and Rail).

ASCC: Australian Safety & Compensation Council (formally known as the National Occupational Health & Safety Commission (NOHSC)).

Carcinogen: An agent which is responsible for the formation of a cancer.

Genotoxic: Capable of causing damage to genetic material, such as DNA.

Lacrimation: The production, secretion, and shedding of tears.

Lavage: A general term referring to cleaning or rinsing.

NOHSC: National Occupational Health and Safety Commission.

Pneumonitis: A general term that refers to inflammation of lung tissue.

PPE: Personal protective equipment.

Teratogen: An agent capable of causing abnormalities in a developing foetus.

TWA: The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

Safe Work Australia: Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

1. "Search Hazardous Substances". Safe Work Australia Council website. (2012).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) No. 3. Medicines and Poisons Scheduling Secretariat. June 2012.

This MSDS summarises 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.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End of MSDS