1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: GLYPHOMAX™ XRT Herbicide

COMPANY IDENTIFICATION:
Dow AgroSciences (NZ) Ltd.
Registration Number: 169964
89 Paritutu Road, New Plymouth

Customer Service Toll Free Number:
0800 803 939
(Mon-Fri, 8am-4.30 pm)
www.dowagrosciences.co.nz

Emergency Telephone Numbers:
24-Hour Emergency Contact: +64 6 751 2407
Local Emergency Contact: 0800 844 455

Transport Emergency: Only Dial 111

For medical advice, contact the New Zealand Poisons Information Centre:
0800 POISON (0800 764 766)

Response:
IF ON SKIN wash with plenty of soap and water

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Glyphosate: N-(phosphono- methyl)glycine, Isopropylamine Salt
Balance, Total 46.3%

4. FIRST AID:

Consult the National Poisons Information Centre (0800 POISON (0800 764 766)) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

EYES: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

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

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If not breathing, call emergency personnel or an ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

NOTE TO PHYSICIAN: Maintain adequate ventilation and oxygenation of the patient. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the SDS, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.
5. FIRE FIGHTING MEASURES:

HAZCHEM: 2X

FLASH POINT: Not applicable (when tested, the water vapors extinguished the flame)

FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined

EXTINGUISHING MEDIA: Foam, CO₂, or dry chemical

FIRE & EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Do not touch or walk through spilled material. Wear a face shield or goggles, overalls buttoned to neck and wrist, chemical resistant gloves and footwear. Stop leak when safe to do so. Dam area and prevent entry into waterways, and drains. Small spills/leaks: Absorb with material such as sand, soil or sawdust. Collect spilled product and place in sealable container for disposal. Spill residues may be cleaned using water and detergent. Contain and absorb wash water for disposal. Absorb and collect washings and place in the same sealable container for disposal. Large spills/leaks: Dam the area of and report them to Dow AgroSciences Emergency Services at 0800 844 455.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. Harmful if swallowed. Causes skin irritation and sensitivity. Avoid contact with skin and clothing. After work, remove protective clothing and equipment, wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Clean up spilled material immediately, and wash clothes, equipment and work area after use.

STORAGE: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. This product can be stored in an unheated building. Do not store with food, feedstuffs, fertilizers and seeds. See product label for further handling/storage precautions relative to the end use of this product.

This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 litres or more, either alone or in aggregate with other hazardous substances. See Hazardous substances (Emergency Management) Regulations 25 to 42.

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: None established. No WES, TEL or EEL has been set by ERMA.

ENGINEERING CONTROLS: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: Use a New Zealand Standard approved air purifying respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use a New Zealand Standard approved positive-pressure self-contained breathing apparatus.

SKIN PROTECTION: Use gloves chemically resistant to this material.

EYE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.
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9. PHYSICAL AND CHEMICAL PROPERTIES:

**BOILING POINT:** Not determined
**VAPOUR PRESSURE:** Not determined, (Glyphosate IPA = 2.1 x 10-3 mPa @ 25 °C )
**VAPOUR DENSITY:** Not determined
**SOLUBILITY IN WATER:** Not determined (Glyphosate IPA = 1050g/L @ 25 °C pH 4.3)
**APPEARANCE:** Clear yellow liquid
**ODOUR:** Amine
**pH:** 4.77 (1% w/v solution)
**RELATIVE DENSITY:** 1.207 g/mL

10. STABILITY AND REACTIVITY:

**STABILITY:** (CONDITIONS TO AVOID) Stable under normal storage conditions.

**INCOMPATIBILITY:** (SPECIFIC MATERIALS TO AVOID) None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known.

**HAZARDOUS POLYMERIZATION:** Not known to occur.

11. TOXICOLOGICAL INFORMATION:

**POTENTIAL HEALTH EFFECTS:** This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

**EYE:** May cause moderate eye irritation and/or corneal injury. May cause permanent impairment of vision, even blindness. ERMA has classified as 6.4A

**SKIN:** Brief contact may cause slight skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD₅₀ has not been determined. For a similar material, the LD₅₀ for skin absorption in rats is >5000 mg/kg. Did not cause allergic skin reactions when tested in guinea pigs. ERMA has classified as 6.3A

**INGESTION:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. High oral doses cause central nervous system effects in animals. Single dose oral LD₅₀ has not been determined. For a similar material, the oral LD₅₀ for rats is >5,000 mg/kg.

**INHALATION:** Prolonged excessive exposure may cause adverse effects. May cause respiratory irritation and central nervous system depression. For a similar material, the aerosol LC₅₀ for rats is >5.25 mg/L for 4 hours.

**SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:** For a similar material, in animals, effects have been reported on the following organ: liver.

**CANCER INFORMATION:** A similar material did not cause cancer in laboratory animals.

**TERATOLOGY (BIRTH DEFECTS):** For the active ingredient, available data are inadequate for evaluation of potential to cause birth defects.

**REPRODUCTIVE EFFECTS:** For the active ingredient, available data are inadequate to determine effects on reproduction.

**MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):** For a similar material, in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

**ENVIRONMENTAL FATE:**
Based largely or completely on information for the active ingredient.
- Bioconcentration potential is low (BCF is <100 or Low Pow <3).

**DEGRADATION & PERSISTENCE:**
Based largely or completely on information for the active ingredient.
- Degradation is expected in the soil environment.

**ECOTOXICOLOGY:**
Based largely or completely on information for the active ingredient.
- Material is slightly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 10 and 100 mg/L in the most sensitive species tested). ERMA has classified as 9.1B.

13. DISPOSAL CONSIDERATIONS:

**DISPOSAL METHOD:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your

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SAFETY DATA SHEET

Emergency Phone: 0800 844 455
+ 64 6 751 2407
Dow AgroSciences (N Z) Ltd.
89 Paritutu Road, New Plymouth
Effective Date: 12 March 2012
Product Code: 101197606

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local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

PUBLIC PASSENGER VEHICLE TRANSPORT: To be transported ONLY in the sealed original container.

Maximum volume permitted to be transported in a passenger service vehicle: 1L

DANGEROUS GOODS CLASSIFICATION
UN No: 3082
Class: 9
Packing group: III
SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (GLYPHOSATE)

Suppliers and persons in charge of a workplace have obligations under the requirements of the Hazardous substances (Identification) and (Emergency Management) Regulations (2001) for the transport of this substance.

15. REGULATORY INFORMATION:

ACVMG APPROVAL NUMBER: P7317
ERMA New Zealand Approval Code: HSR000769

16. OTHER INFORMATION:

Glossary
ACGIH: American Conference of Governmental Industrial Hygienists.

BCF: Bioconcentration Factor - a measure for the characterization of the accumulation of a chemical in an organism. It is defined as the concentration of a chemical in an organism (plants, microorganisms, animals) divided by the concentration in a reference compartment (e.g. food, surrounding water).

EC50: median effective concentration. Statistically derived concentration of a substance in an environmental medium expected to produce a certain effect in 50% of test organisms in a given population under a defined set of conditions.

Explosive Limits - The range of concentrations (% by volume in air) of a flammable gas or vapour that can result in an explosion for ignition in a confined space.

EEL: environmental exposure standard set by ERMA

ERMA: The Environmental Risk Management Authority of New Zealand.

Koc - the organic carbon partition coefficient (mL soil water /g organic carbon).

Kow See Pow

LC50 - Lethal Concentration 50%. A concentration of chemical in air or water that will kill 50% of the test organisms.

LD50 - Lethal Dose-50%. The doses of a chemical that will kill 50% of the test animals receiving it.

NIOSH - American national Institute of Occupational Safety and Health, a federal agency which conducts research on occupational safety and health questions and recommends new standards.

OSH: Occupational Safety and Health Service of the Department of Labour, New Zealand

OSHA American Occupational Safety and Health Administration.

PEL - Permissible Exposure Level, a maximum allowable exposure level by law.

pH - Measure of how acidic or alkaline a material is using a 1 - 14 scale. pH 1 is strongly acidic and pH 14 strongly alkaline.

Polymerisation - a chemical reaction in which small molecules (monomers) combine to form much larger molecules (polymers). A hazardous polymerisation reaction is one that occurs at a fast rate and releases large amounts of energy.

Pow - The octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. This parameter is used in many environmental studies to help determine the fate of chemicals in the environment.

STEL - Short-Term Exposure Limit. A term used to indicate the maximum average concentration allowed for a continuous 15 minute exposure period.

TEL Tolerable Exposure Limit set by ERMA

TLV - Threshold Limit Value, an exposure limit set by a competent authority

TWA - Time Weighted Average. The average concentration of a chemical in air over the total exposure time - usually an 8 hour work day.

WES: Work place exposure standard set by ERMA or OSH.

References

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ASNZS 1716 - 1994 Respiratory protective devices.
A guide to Respiratory Protection (published by the Occupational Safety and Health Service with support of NZ Safety Ltd 1999
Guidelines for Personal Protection for Agrichemical Users NZ Safety Limited.
Environmental Risk Management Authority Decision for application HSR000769.

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 0800 803 939 DURING BUSINESS HOURS.

Dow AgroSciences (NZ) Ltd. urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.

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