MATERIAL SAFETY DATA SHEET

Date of Issue: November 2012
MSDS No. FMC/PROPY500/1

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FMC Propyzamide 500 Herbicide

Other Names: Propyzamide, a Group D Herbicide.
Use: Agricultural herbicide for selective control of certain weeds.
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.
	R40	Limited evidence of a carcinogenic effect.
Safety Phrases:	S2	Keep out of reach of children.
	S13	Keep away from food, drink and other animal foodstuffs.
	S23	Do not breathe spray mist.
	S24/25	Avoid contact with skin/eyes.
	S36/37	Wear suitable protective clothing and gloves.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	*CAS NUMBER*	*PROPORTION*
Propyzamide	23950-58-5	500 g/L
Ethylene glycol	107-21-1	1 -10%
Other ingredients (including water) determined not to be hazardous		Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Ingestion: DO NOT induce vomiting. Rinse any residual product from mouth and lips. Give water to drink and seek medical help. If poisoning occurs contact a doctor or Poisons Information Centre - phone 13 11 26.

Eye contact: Flush with running water until product is removed. Seek medical advice if irritation persists.

Skin contact: Remove contaminated clothing. Wash thoroughly under running water using a mild soap. Seek medical advice if irritation, reddening and/or other damage occurs.

Inhalation: Remove victim from exposure - avoid becoming a casualty. Keep at rest until fully recovered. Seek medical advice if effects persist.

Advice to Doctor: Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Not combustible.

Extinguishing media: Extinguish fire using carbon dioxide, foam (alcohol-resistant) or dry agent. If waterspray is used, contain all runoff.

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 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. Wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves. 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.

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.

This product is a herbicide and spills can damage crops, pastures and desirable vegetation. Prevent from entering drains, waterways or sewers. Use earthen bunds or absorbent bunding to prevent spreading of spillage. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Will irritate the eyes and skin. Avoid contact with eyes and skin. When preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves. After use, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

Conditions for Safe Storage: DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers. 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:
Exposure guidelines have not been established for this product by Safe Work Australia. However the following is applicable to one ingredient in this product:

Atmospheric Contaminant	Exposure Standard (TWA)	Exposure Standard (STEL)
Ethylene glycol	60 mg/m³	120 mg/m³

TWA = Time-Weight Average STEL – Short Term Exposure Limit

Biological Limit Values:
No biological limit allocated.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Engineering controls:
Use in ventilated areas only. Use local exhaust at all process locations to keep exposure below the TWA. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

Personal Protective equipment (PPE):
Skin: When preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves. After use, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

Eye protection: Eye/face protection such as a face shield or goggles should be used.

Respiratory Protection: Generally not required. Use of a particulate respirator may be required in certain circumstances to protect from inhalation of spray mist.

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 light brown liquid suspension.
Odour:	Mild odour.
Boiling point:	BP will be that of water.
Freezing point:	Just below 0°C.
Solubility in Water:	Forms a suspension in water.
pH:	Not available.
Specific Gravity:	Approximately 1.1
Flammability:	Non-Combustible liquid, unless dried.
Formulation type:	Suspension concentrate (SC).
Poisons Schedule:	This product is a schedule 5 (S5) poison.

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.

Incompatible materials: Strong acids, strong bases and strong oxidising agents.

Hazardous decomposition products: Product is unlikely to decompose until heated to dryness. On further heating will emit toxic fumes. Carbon dioxide and monoxide, nitrogen oxides, fluorides including hydrofluoric acid may be produced under certain conditions of combustion.

Hazardous reactions: No special considerations. Not likely to polymerise.

SECTION 11 TOXICOLOGICAL INFORMATION

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

Potential Health Effects:

ACUTE EFFECTS

Swallowed: Acute Oral LD_{50} (rat) > 5000 mg/kg - propyzamide. Accidental swallowing of small amounts of this product is not expected to cause injury – low acute oral toxicity.

Eye: Mild irritant. May cause discomfort if contact is prolonged.

Skin: Acute dermal LD_{50} (rat) > 2,000 mg/kg (propyzamide). Slight irritant, not a sensitiser.

Inhaled: Should not cause severe effects if treated promptly. May cause irritation to the respiratory tract.

Acute toxicity:
Exposure to humans most commonly occurs through spray mist or accidental ingestion of product.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Reproductive effects: Regarded as causing developmental toxicity in humans based on strong presumption from studies on rats and rabbits. Possible risk of impaired fertility based on small but significant effects on reproduction in a 2nd generation study of rats.
Teratogenic effects: The evidence suggests Propyzamide is not teratogenic.

Mutagenic effects: The evidence suggests Propyzamide is not mutagenic.

Carcinogenic effects: Propyzamide caused liver tumours in mice after 2 years at doses of 10 mg/kg/day and above. In rats, doses of 50 mg/kg/day and above produced changes in ovary and liver structure and function, as well as thyroid and testicular effects. These data suggest that Propyzamide may have carcinogenic activity at sufficient doses. Worksafe Australia has classified propyzamide in the occupational environment as a Carcinogen Category 3 substance. This means that the substance is not classifiable as to carcinogenicity to humans.

Organ toxicity: Target organs identified in animal studies include the liver, thyroid, and adrenal and pituitary glands.

Fate in humans and animals: Propyzamide is not readily absorbed into the bloodstream from the gastrointestinal tracts of rats and cows. Propyzamide has a low potential for bioaccumulation in animal tissues.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: Propyzamide is practically non-toxic to birds. The oral LD_{50} Japanese quail = 8700 mg/kg, and greater than 14,000 mg/kg in mallard ducks. The 8-day dietary LC_{50} in bobwhite quail and mallard ducks is greater than 10,000 ppm. Propyzamide is practically non-toxic to warm water fish and slightly toxic to cold-water fish. The 96-hour LC_{50} for Propyzamide = 100 mg/L in bluegill sunfish, 72 mg/L in rainbow trout, 350 mg/L in goldfish, 204 mg/L in harlequin fish, and 150 mg/L in guppies. The 48-hour LC_{50} for Daphnia magna, a small freshwater crustacean, is greater than 5.6 mg/L. Propyzamide may be moderately toxic to aquatic invertebrates. Propyzamide is non-toxic to honey bees.

Environmental Properties: Propyzamide is moderately persistent in most soils, with a reported average field half-life of 60 days. It is readily bound, or adsorbed, to most soils. Propyzamide is inactivated by soil organic matter and will not be effective on muck, peat, or other very high-organic content soils. Chemical degradation may be the main route of disappearance from the soil. Photodecomposition at the soil surface can also occur. Soil microorganisms carry out a moderate amount of Propyzamide breakdown. The herbicide is not active against common soil microorganisms. Volatilisation loss may be high under hot, dry conditions.

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 Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Marine and Air Transport: This product is not classified as a Dangerous Good.

SECTION 15 REGULATORY INFORMATION

Classified as a hazardous substance according to criteria of the Safe Work Australia. (Xn - harmful, 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. 68080.
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: 23 November 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 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. 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