MATERIAL SAFETY DATA SHEET

Date of Issue: October 2012
MSDS No. FMC/FLUR200/1

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FMC Fluroxypyr 200 Herbicide

Other Names: Fluroxypyr, a Group I Herbicide.
Use: For the control of a wide range of broadleaf weeds crops and other areas.
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.
Combustible Liquid (C1).

Risk Phrases:	R65	Harmful: may cause lung damage if swallowed.
	R66	Repeated exposure may cause skin dryness and cracking.
	R67	Vapours may cause drowsiness and dizziness
Safety Phrases:	S2	Keep out of reach of children.
	S9	Keep container in a well ventilated place.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S46	If swallowed, seek medical advice immediately and show this container or label.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	*CAS NUMBER*	*PROPORTION*
Fluroxypyr-meptyl	81406-37-3	200 g/L
solvent naphtha petroleum, heavy aromatic	64742-94-5	586 g/L
Other ingredients (including water) determined not to be hazardous		Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: Rinse mouth then drink plenty of water. Do not give anything by mouth to a semi-conscious or unconscious person. If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre phone Australia 13 11 26. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

Eye Contact: If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.

Skin: Remove contaminated clothing and wash before re-use. Wash affected areas thoroughly with soap and water. If irritation persists, seek medical advice.

Inhaled: Remove affected person to fresh air until recovered.

Advice to Doctor: Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Combustible Liquid (C1). Flash point 66°C. Sealed, overheated containers may present an explosion hazard. Thermal decomposition and burning will produce toxic by-products.

Extinguishing media: Extinguish fire using carbon dioxide, foam or dry agent. If not available, use waterfog or fine water spray but ensure all runoff is contained.

Hazards from combustion products: May emit toxic fumes of hydrogen chloride, hydrogen fluoride or phosgene if involved in fires or exposed to extreme heat. 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. Wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. Will irritate the eyes and skin. Avoid contact with eyes and skin. 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 in section 13. 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.

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: Ensure containers are kept closed until using product. Sensitive workers should use protective clothing. When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Wash hands after use.

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. This product is classified as a C1 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to state regulations for storage and transport requirements.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:
Exposure guidelines have not been established for this product by safe Work Australia. However, the manufacturer of the solvent has recommended the following occupational exposure limit:

Atmospheric Contaminant	Exposure Standard (TWA)	STEL
Total hydrocarbon	100 mg/m³ (17 ppm)	-

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. 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 and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. After each day's use, wash gloves, face shield or goggles and contaminated clothing. 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).

Personal Hygiene: Will irritate the eyes and skin. Avoid contact with eyes and skin. Sensitive workers should use protective clothing. 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:	Amber liquid.
Odour:	Typical solvent odour.
Boiling Point:	~200ºC (solvent).
Solubility in Water:	Disperses in water.
Specific Gravity:	0.9
Vapour Pressure:	0.02 mPa @ 20ºC (Fluroxypyr).
Volatile Component:	~60%.
Flash Point:	66ºC.
Flammability:	Combustible liquid C1. (AS1940).
Poison 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: Keep away from strong oxidising agents.

Hazardous decomposition products: May emit toxic fumes of hydrogen chloride, hydrogen fluoride or phosgene if involved in fires or exposed to extreme heat.

Hazardous reactions: No special considerations.

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.

Swallowed: Low toxicity. Acute Oral LD_{50} > 2,000 mg/kg. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result.

Eye: The concentrate can cause irritation of the eyes. May cause redness, pain and discomfort. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly.

Skin: May cause skin irritation. The material may accentuate any pre-existing dermatitis condition. Acute dermal LD_{50} > 2,000 mg/kg. Product is not a skin sensitiser.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Inhaled: The material can cause respiratory irritation in some persons. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination. Inhalation hazard is increased at higher temperatures. If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death. LC_{50} (rat) >1.0 mg/L/4hr for fluroxypyr methyl heptyl ester (highest attainable concentration).

Chronic Effects: Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Chronic exposure to lighter hydrocarbons can cause nerve damage, peripheral neuropathy, bone marrow dysfunction and psychiatric disorders as well as damage the liver and kidneys.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: The following information refers to the active ingredient, fluroxypyr meptyl. Low toxicity to upland game birds (Bobwhite quail LD_{50} > 2000 mg/kg). Mallard duck LD_{50} > 2,000 mg/kg. Low toxicity to fish due to the low solubility of fluroxypyr meptyl (~0.9 mg/L). Bees: Oral LD_{50} > 100 mg/bee, Contact LD_{50} > 100 mg/bee. LC_{50} (14 days) for earthworms > 1000 mg/kg. Half life in soils is typically 153 days.
DO NOT contaminate streams, rivers or water courses.

Environmental Properties: The following information refers to the active ingredient, fluroxypyr meptyl. The product is not persistent. Half-life time (t½): < 7 days (fluroxypyr meptyl). Degradation is primarily via: hydrolysis. Water: DT_{50} = 1-3 days.

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 exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For bulk shipments this product is a class 9, UN 3082. (See Ref: ADG7; SP No. AU01).

SECTION 14 TRANSPORT INFORMATION

Marine and Air Transport: FMC Fluroxypyr 200 Herbicide is classified as a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:-
UN 3082. Class 9 (Miscellaneous Dangerous Goods). Packing Group III. Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Fluroxypyr).
Hazchem code ●3Z. Hazard Identification Number (HIN) 90.

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 6 poison.
This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 67635.
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: 12 October 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