

# MATERIAL SAFETY DATA SHEET

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Date of Issue: October 2012  
MSDS No. FMC/DIFLU+MCPA/1

## SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name: FMC Diflufenican + MCPA Herbicide**

**Other Names:** Diflufenican + MCPA, a Group F and I Herbicide.  
**Use:** Agricultural herbicide for selective control of broadleaf 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.  
Combustible Liquid (C1).**

**Risk phrases:** R20/21/22 Harmful by inhalation, in contact with the skin or if swallowed.  
R36/38 Irritating to eyes and skin.  
R65 Harmful: may cause lung damage if swallowed.

**Safety Phrases:** S13 Keep away from food, drink, and animal feeding stuffs.  
S2 Keep out of reach of children.  
S23 Do not breathe vapour or mists.  
S24/25 Avoid contact with skin and eyes.  
S37/39 Wear suitable 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:

<b>CHEMICAL</b>	<b>CAS NUMBER</b>	<b>PROPORTION</b>
MCPA (present as the 2-ethyl hexyl ester)	29450-45-1	250 g/L
Diflufenican	83164-33-4	25 g/L
N-methyl-2-pyrrolidone	872-50-4	150 g/L
Liquid hydrocarbons	-	325 g/L
Other ingredients (considered non-hazardous)		Balance

## SECTION 4 FIRST AID MEASURES

**Ingestion:** 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. Rinse mouth and then drink plenty of water. Do not give anything by mouth to a semi-conscious or unconscious person. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

**Skin:** Wash affected areas thoroughly with soap and water. Remove contaminated clothing and laundry before re-use.

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

**SECTION 4 FIRST AID MEASURES (Continued)**

**Inhalation:** Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice.

**Advice to Doctor:** Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death (solvent present may cause pulmonary pneumonitis). However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

**SECTION 5 FIRE FIGHTING MEASURES**

**Specific Hazard:** Combustible Liquid (C1). Flash point > 66°C.

**Extinguishing media:** Choose extinguishing media to suit the burning material. Soft stream water fog or fine water spray if no alternatives. 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 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 prescribed protective clothing and equipment. Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). 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.

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. Will damage eyes. Will irritate the skin. Avoid contact with eyes and skin. When opening the container and preparing spray wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length PVC gloves and face shield or goggles. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

**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. 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. 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****Biological Limit Values:**

No biological limit allocated.

**SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)****National Exposure Standards:**

Exposure guidelines have not been established for this product by Safe Work Australia, however the following exposure limits have been established by the manufacturer's of the solvent components of this product:

Atmospheric Contaminant	Exposure Standard (TWA)	STEL
Total hydrocarbon	790 mg/m <sup>3</sup>	-
N-methyl-2-pyrrolidone	103 mg/m <sup>3</sup>	-

TWA = Time-Weight Average.

STEL = Short term Exposure Limit.

**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 and preparing spray wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length PVC gloves and face shield or goggles. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, face shield or goggles and contaminated clothing.

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: Avoid contact with eyes and skin. 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**

<b>Appearance:</b>	Dark brown liquid.
<b>Odour:</b>	Strong solvent/ester like odour.
<b>Solubility in Water:</b>	Emulsifies in water.
<b>Specific Gravity:</b>	1.0
<b>Flash Point:</b>	> 66°C.
<b>Flammability:</b>	Combustible Liquid (C1).
<b>Poison Schedule:</b>	This product is 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. Store away from sources of ignition.

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

**Hazardous decomposition products:** On combustion will emit toxic fumes of oxides of carbon, nitrogen compounds and possibly hydrogen fluoride gas and other compounds of fluorine.

**Hazardous reactions:** No special considerations. Polymerisation will not occur.

**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.

**Acute Toxicology**

**Ingestion:** Harmful if swallowed. Possible symptoms of exposure include: nausea, vomiting and gastrointestinal discomfort and diarrhoea. LD<sub>50</sub> (rat) 1580 mg/kg for similar product.

**SECTION 11 TOXICOLOGICAL INFORMATION (Continued)**

**Skin:** Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis. Symptoms of over exposure may be similar to those described for ingestion. Prolonged and repeated skin contact may result in skin sensitisation. LD<sub>50</sub> (rat) >2,000 mg/kg for similar product.

**Eye:** The concentrate will cause irritation of the eyes.

**Inhalation:** May cause irritation to mucous membranes.

**Chronic Effects:**

Weight loss and damage to liver and kidneys may be expected if exposure is excessive. In long term studies the target organs for MCPA were the liver, kidneys and skin. Diflufenican is not mutagenic, teratogenic or oncogenic. In animal studies, N-methyl-2-pyrrolidone showed a developmental toxic effect in high doses which were maternally toxic..

**SECTION 12 ECOLOGICAL INFORMATION**

**Environmental Toxicology:** No data is available on this product. Product is expected to have moderate toxicity to aquatic organisms LC<sub>50</sub> (96 hr) for rainbow trout is 50 mg/L for MCPA and 50-100 mg/L for diflufenican. LC<sub>50</sub> (48 hr) for daphnia is > 190 mg/L for MCPA and > 10 mg/L for diflufenican. Non toxic to bees. Moderate toxicity to birds LD<sub>50</sub> for bobwhite quail is 270 mg/kg for MCPA and > 2000 mg/kg for diflufenican.

**Environmental Properties:** MCPA and its formulations are rapidly degraded by soil microorganisms and it has low persistence, with a reported field half-life of 14 days to 1 month, depending on soil moisture and soil organic matter. Field half life for Diflufenican is 100-200 days. MCPA readily leaches in most soils, but its mobility decreases with increasing organic matter. MCPA and its formulations show little affinity for soil. It is relatively stable to light breakdown, but can be rapidly broken down by microorganisms.

**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. 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**

It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

**Storage & 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 marine transport).

**Marine and Air Transport:** This product 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 Diflufenican + MCPA). 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 5 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 67558.

Product is not classified as a Dangerous Good according to the ADG Code (7<sup>th</sup> Ed) in packs less than 3000 litres. Ref: ADG7; SP No. AU01.

**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: 16 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*