

MATERIAL SAFETY DATA SHEET

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Date of Issue: March 2013
MSDS No. FMC/HAL520/1

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FMC Haloxyfop 520 Herbicide

Other Names: Haloxyfop, 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: 5 Palmer Place, 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: R22 Harmful if swallowed.
Safety Phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink and other animal foodstuffs.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	CAS NUMBER	PROPORTION
Haloxyfop-R-methyl ester	72619-32-0	520 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 clean water until chemical is removed. If irritation persists, 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. If irritation or symptoms persists more than about 30 minutes, seek medical advice.

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 > 62°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 and carbon monoxide etc 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. Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with the eyes and skin. When preparing 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 6 Poison (S6) 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.

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.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)**Personal Protective equipment (PPE):**

General: When preparing 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. 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:	Dark yellow, water thin liquid.
Odour:	Characteristic odour.
Boiling Point:	No data available.
Solubility in Water:	Emulsifies in water.
Specific Gravity:	~1.1.
Vapour Pressure:	No data available.
Volatile Component:	No data available.
Flash Point:	> 62°C.
Flammability:	Combustible liquid C1. (AS1940).
Poison Schedule:	This product is a schedule 6 (S6) 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. Avoid heat sources - combustible liquid.

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

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

Hazardous reactions: Material is not known to polymerize.

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: This product maybe harmful if swallowed. The estimated Acute Oral LD₅₀ (rat) = 830 mg/kg.

Eye: This product maybe irritating to the eyes.

Skin: This product is non irritating to the skin and is not a sensitiser. The estimated dermal LD₅₀ > 2000 mg/kg.

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

Long Term Exposure:

In animal studies, haloxyfop has shown no evidence of mutagenic effects.

Teratogenic effects: Oral doses of 7.5 mg/kg/day of haloxyfop-methyl given to rats from days 6 to 15 of pregnancy caused delayed bone formation in the offspring.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Carcinogenic effects: Studies show that 0.1 mg/kg/day of haloxyfop-methyl for two years, the highest dose tested, does not cause cancer in rats. Similarly, 0.6 mg/kg/day for two years, the highest dose tested, is not carcinogenic to mice.

Organ toxicity: Doses of 100 mg/kg/day of haloxyfop-methyl caused kidney damage in adult rats. Doses of 0.6 mg/kg/day for 2 years in mice caused reduced body weight gains and increased liver weights in mice. In dogs, 5 mg/kg/day causes a significant decrease in serum cholesterol, as well as a decrease in thyroid weight. Haloxyfop is eliminated from the body in urine and faeces.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No information is available for the product. The following information refers to the active ingredient, haloxyfop-methyl. Haloxyfop-methyl is practically non-toxic to birds. The oral LD₅₀ is greater than 2,150 mg/kg for mallard ducks. The dietary LC₅₀ (8 day) is greater than 5,620 mg/kg for bobwhite quail. Haloxyfop-methyl is practically non-toxic to fish. The LC₅₀, the concentration in water at which half of the test animals died, ranges from 96 to greater than 1000 mg/kg. Haloxyfop-methyl is not toxic to bees. The contact and oral LD₅₀ (48 hours) is 100 micrograms haloxyfop/bee. DO NOT contaminate streams, rivers or water courses.

Environmental Properties: No information is available for the product. The following information refers to the active ingredient, haloxyfop-methyl. The half-life of haloxyfop-methyl in soil is 55-100 days depending on the soil. Leaching is moderate. The half-life of haloxyfop-methyl in water is 33 days for haloxyfop-methyl at pH 5, 5 days at pH 7, and a few hours at pH 9.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills & Disposal: Persons involved in cleanup require complete skin protection - see section 8. In case of spillage, contain and absorb spilled material with absorbent material such as clay, sand or cat litter and dispose of waste as indicated below or in accordance to the Australian Standard 2507- Storage and Handling of Pesticides. 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. "EMPTY" containers may contain liquid and/or vapour residue which can be explosive if exposed to an ignition source at temperatures above 90°C. Such conditions may occur during cutting or welding. DO NOT cut or weld these containers

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: FMC Haloxyfop 520 Herbicide is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail. This product is a Schedule 6 Poison (S6) and must be stored 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.

SECTION 15 REGULATORY INFORMATION

Classified as a hazardous substance according to criteria of the Safe Work Australia. (Xn - harmful). 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. 67928.

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: 15 March 2013. 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. (2013).
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.

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