

MATERIAL SAFETY DATA SHEET

Page 1 of Total 5
Date of Issue: March 2013
MSDS No. FMC/AFO/2

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: AFFINITY FORCE HERBICIDE

Other Names: Carfentrazone-ethyl.
Use: Agricultural Herbicide.
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 ASCC.
Not classified as a Dangerous Good according to the ADG Code**

Risk Phrase:
R65 Harmful: may cause lung damage if swallowed

Safety Phrases:
S2 Keep out of reach of children.
S24 Avoid contact with skin.
S25 Avoid contact with eyes.
S37 Wear Suitable gloves.
S39 Wear eye/face protection

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:	CAS NUMBER	PROPORTION (% w/w)
CHEMICAL		
Carfentrazone-ethyl	81777-89-1	24%
Aromatic hydrocarbon	84742-94-5	24%
Other ingredients determined to be non-hazardous		Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: If swallowed, rinse mouth with water and give 1 or 2 glasses of water to drink. If any discomfort persists seek medical advice. Do NOT induce vomiting.

Eye: Hold eyes open, flood gently with water. If discomfort persists see a doctor.

Skin: If on skin wash with plenty of soap and water. Remove contaminated clothing. If irritation occurs and persists see a doctor.

Inhaled: Remove patient to fresh air. If breathing discomfort occurs, obtain medical attention.

SECTION 4 FIRST AID MEASURES (Continued)

Advice to Doctors: Carfentrazone-ethyl has generally low acute toxicity. It is slightly irritating to the eyes and skin. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care. This product contains aromatic hydrocarbons that can produce severe pneumonitis or fatal pulmonary oedema if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

SECTION 5 | FIRE FIGHTING MEASURES

Extinguishing media: Foam, CO₂ or dry chemical. Soft stream water fog if no alternatives. Contain all runoff.

Hazards from combustion products: On burning will emit toxic fumes of carbon monoxide, carbon dioxide, oxides of nitrogen, etc.

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 | ACCIDENTIAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Vacuum or shovel spilled material into an approved container and dispose of as listed below.

Material and methods for containment and cleanup procedures: To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

Dispose of waste as indicated below or according to Australian Standard 2507 - Storage & Handling of Pesticides. Wear protective clothing such as full body cover barrier suit, eg. a rubber rain suit. Keep out unprotected persons and animals.

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. Avoid skin and eye contact. When opening the container and preparing spray wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow length PVC gloves and face shield or goggles. When using the prepared spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length PVC gloves. 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 room or place away from children, animals, food, feed stuffs, seed and fertilizers.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:

No exposure standard has been established by ASCC for this product.

Biological Limit Values:

No biological limit allocated.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)**Engineering controls:**

Use in well ventilated area only. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

Personal Protective equipment (PPE):

Work Clothing: Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length PVC gloves, head covering and impervious footwear.

Eye Protection: Wear chemical protective goggles or face shield.

Respiratory Protection: If inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards).

Gloves: Wear chemical protective gloves made of materials such as nitrile, Viton® brand or PVC when handling this product. Inspect regularly for leaks. Wash the outside of gloves with soap and water prior to removal.

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:	Uniform milky solution.
Odour:	Slight aromatic odour
Boiling point:	No data.
Freezing point:	No data.
Specific Gravity:	1.07 ± 0.2 g/mL.
pH:	3 - 5.5.
Solubility in Water:	Product emulsifies in water.
Flammability:	Combustible liquid.
Corrosive hazard:	Non corrosive; compatible with stainless steel containers & polyethylene used in spray tanks and parts.
Flashpoint (°C) :	> 104°C.
Flammability Limits (%):	Not established.
Poisons Schedule:	Not a scheduled poison.

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable for at least 2 years when stored at ambient temperatures out of direct sunlight, in the original container.

Conditions to avoid: Avoid exposure to heat.

Incompatible materials: Can react with oxidising agents and acid catalysts.

Hazardous Decomposition Products: If involved in a fire, it may emit fumes containing toxic compounds.

Hazardous Reactions: No special considerations.

SECTION 11 | TOXICOLOGICAL INFORMATION**Potential Health Effects:**

Studies with laboratory animals have shown this product to have low oral, dermal and inhalation toxicity. Symptoms of overexposure to carfentrazone-ethyl shown by laboratory animals include decreased activity, tearing eyes, bleeding from the nose and incoordination.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)**Acute**

Swallowed: The product has low toxicity; the oral LD₅₀ in the rat is > 4000 mg/kg.

Eye: Slightly irritating to the eyes.

Skin: Slightly irritating to the skin. This product has a low dermal toxicity. The dermal LD₅₀ in the rabbit is > 4000 mg/kg. It is non-sensitising to the skin.

Inhaled: This product has low inhalation toxicity. The Acute Inhalation toxicity LC₅₀ > 6.31 mg/L/4 hour

Chronic: In studies with laboratory animals, carfentrazone-ethyl did not cause reproductive toxicity, teratogenicity or carcinogenicity. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosomal aberrations.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Information: No data is available on Affinity Force. Toxicity data is on the active constituent, Carfentrazone-ethyl.

Environmental Toxicology: Carfentrazone-ethyl is toxic to algae (EC₅₀ = 15 ppb), moderately toxic to fish (LC₅₀ 1.6 to 2 mg/L) and slightly toxic to aquatic crustacean (LC₅₀ = > 9.8 mg/L). Carfentrazone-ethyl was shown to cause no effects to earthworms at concentrations up to 820 mg/kg in soil. Carfentrazone-ethyl is slightly toxic to birds (LD₅₀ > 2,250 mg/kg) and low toxicity to bees (no deaths at 200 µg/bee). Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

Environmental Properties: Carfentrazone-ethyl is rapidly degraded in soils under aerobic and anaerobic conditions (half life = 1 to 2 days). Carfentrazone-ethyl rapidly hydrolyses at pH 9 but stable at pH 5. Field studies show that Carfentrazone-ethyl has a low potential for movement in the soil. The Log P of 3.36 and a measured bioconcentration factor of 206 in fish, indicate a low potential for accumulation. The low vapour pressure (1.19 X 10⁻⁷ Torr) indicates that volatility is not a concern.

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 a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Break, crush, puncture and bury empty containers in a local authority landfill. If not available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

SECTION 14 TRANSPORT INFORMATION

Storage & Transport: This product is not classified as a Dangerous Good.

Store in a cool, dry, well ventilated location, away from food, feed. Avoid excess heat. No smoking, eating or drinking should be allowed where material is used or stored. Keep out of the reach of children and animals. Store in original containers only. Wash all exposed skin surfaces prior to smoking, drinking or eating.

SECTION 15 REGULATORY INFORMATION

Classified as a hazardous substance according to criteria of NOHSC Australia. R65 (Xi). Under the Standard for Uniform Scheduling of Drugs and Poisons (SUSDP), this product is not a scheduled poison. This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product is not classified as a Dangerous Good according to the ADG Code (6th Ed).

SECTION 16 OTHER INFORMATION

CONTACT POINT: The Manager, Australasia Pty Ltd., Murarrie, Brisbane Qld. 4172.
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Issue Date: 27 March 2013 (5 year Update)
4 October 2007 (Initial MSDS).

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 and Compensation Council (Formally known as NOHSC (National Occupational Health and Safety Commission).
Genotoxic Capable of causing damage to genetic material, such as DNA.
Oedema Accumulation of fluid in tissues.
PPE Personal protective equipment.
SUSDP Standard for the Uniform Scheduling of Drugs and Poisons.
Teratogen An agent capable of causing abnormalities in a developing foetus.

References

1. "Search Hazardous Substances". HSIS ASCC Australia website. (2007).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.

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.