

## SAFETY DATA SHEET



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Date of Issue: September 2014  
SDS 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 Safe Work Australia.  
Not classified as a Dangerous Good according to the ADG Code.  
Combustible Liquid (C1).**

**GHS Classification:**

Aspiration Hazard - Category 1.  
Flammable Liquids - Category 4.  
Hazard to the aquatic environment - Acute hazard: Category 1.

**Signal Word:** DANGER.

**Hazard Statements:**

H304 May be fatal if swallowed and enters airways.  
H227 Combustible Liquid.  
H400 Very toxic to aquatic life.

**Precautionary statements:**

*Prevention:*

P210 Keep away from heat/sparks/open flames/hot surfaces: - No smoking.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment

*Response:*

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.  
P331 Do NOT induce vomiting.  
P370 + P378 In case of fire: Evacuate area.  
P391 Collect spillage.

*Storage and Disposal:*

P405 Store locked up.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with national regulations.

**Pictograms:**



**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients:**

<b>CHEMICAL</b>	<b>CAS NUMBER</b>	<b>PROPORTION (% w/w)</b>
Carfentrazone-ethyl	128639-02-1	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:** If in eyes, hold eyes open and flush with clean water until chemical is removed. If irritation occurs and persists, obtain medical attention.
- Skin:** If on skin wash with soap and water. Remove contaminated clothing. If irritation occurs and persists see a doctor. Launder contaminated clothing before re-use.
- Inhaled:** Remove patient to fresh air. If breathing discomfort occurs, obtain medical attention.

**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**

**Specific Hazard:** Product is a combustible liquid (C1). Flash point > 104°C.

**Extinguishing media:** Foam, CO<sub>2</sub> 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. Fight fire from maximum distance or protected area. Cool cans using water spray, and use caution when approaching containers. Contain all runoff.

**SECTION 6 ACCIDENTIAL RELEASE MEASURES**

**Emergency procedures:** Isolate and post spill area. Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow-length chemical resistant gloves and goggles or safety glasses. Large spills should be dyked or covered to prevent dispersal. Vacuum or shovel spilled material into an approved container. Dispose of waste as indicated in section 13 or according to Australian Standard 2507 - Storage & Handling of Pesticides. Keep out unprotected persons and animals.

**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.

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 irritate the eyes. Avoid contact with eyes and skin. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length chemical resistant gloves and goggles or safety glasses. If product on skin, immediately wash area with soap and water. If product in eyes, wash out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles 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 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.

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION****National Exposure Standards:**

No exposure standard has been established by Safe Work Australia for this product.

**Biological Limit Values:**

No biological limit allocated.

**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):**

General: When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length chemical resistant gloves and goggles or safety glasses. If product on skin, immediately wash area with soap and water. If product in eyes, wash out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

Personal Hygiene: Will irritate the eyes. 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>	Uniform milky solution.
<b>Odour:</b>	Slight aromatic odour.
<b>Boiling point:</b>	No data.
<b>Freezing point:</b>	No data.
<b>Specific Gravity:</b>	1.0 g/mL.
<b>pH:</b>	3 - 5.5.
<b>Solubility in Water:</b>	Product emulsifies in water.
<b>Flammability:</b>	Combustible liquid (C1).
<b>Corrosive hazard:</b>	Not known to be corrosive.
<b>Flashpoint (°C) :</b>	> 104°C.
<b>Flammability Limits (%):</b>	Not established.
<b>Poisons Schedule:</b>	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 or ignition sources.

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

**Hazardous Decomposition Products:** If involved in a fire, will 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. Signs of toxicity in laboratory animals included tremors, abdominal gripping, mucoid anal discharge, bloody oral discharge, hypothermia, squinting eyes, lacrimation, and pink to orange-brown discoloration of urine.

**Acute**

**Swallowed:** The product has low toxicity; the oral LD<sub>50</sub> 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 LD<sub>50</sub> 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 LC<sub>50</sub> > 6.31 mg/L/4 hour.

**Chronic:** No data available on this formulation. 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 Toxicology:** No data is available on Affinity Force. Toxicity data is on the active constituent, Carfentrazone-ethyl. Carfentrazone-ethyl is toxic to algae (EC<sub>50</sub> = 15 ppb), moderately toxic to fish (LC<sub>50</sub> 1.6 to 2 mg/L) and slightly toxic to aquatic crustacean (LC<sub>50</sub> = > 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 (LD<sub>50</sub> > 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 ( $1.19 \times 10^{-7}$  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. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

**Dangerous to Fish:** Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

**Disposal of empty containers:** Triple pressure rinse containers before disposal. Add rinsings to the spray tank. DO NOT dispose of undiluted chemicals on-site. If recycling replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging 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 regulations. DO NOT burn empty containers or product.

**SECTION 14 TRANSPORT INFORMATION**

**Road & Rail Transport:** Affinity Force 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 special provision AU01).

**Marine and Air Transport:** Affinity Force 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 Carfentrazone).  
Hazchem code •3Z. Hazard Identification Number (HIN) 90.

**SECTION 15 REGULATORY INFORMATION**

Classified as a hazardous substance according to criteria of Safe Work Australia., Xn - Harmful.  
Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is not a scheduled poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 62003.

This product is not classified as a Dangerous Good according to the ADG Code for packs less than 3000 litres (SP AU01) (7<sup>th</sup> Ed).

This product is classified as a Dangerous Good according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA).

*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: 24 September 2014. Valid for 5 years. (Correcting CAS number & updating GHS).

Key to abbreviations and acronyms used in this SDS:

ADG Code:	Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).
Ataxia:	Inability to control the coordinate movements of the muscles.
Bradycardia:	Is a resting heart rate of under 60 beats per minute (adults).
Carcinogen:	An agent which is responsible for the formation of a cancer.
Clonic:	An abnormality in neuromuscular activity characterized by rapidly alternating muscular contraction and relaxation.
Combustible Liquid:	Liquids that ignite with a flash point greater than 60°C.
Flammable Liquid:	Liquids that ignite with a flash point less than 60°C.
Genotoxic:	Capable of causing damage to genetic material, such as DNA.
Haematopoietic:	Pertaining to the formation of blood or blood cells.
Lavage:	The irrigation or washing out of an organ, as of the stomach or bowel.
Mutagen:	An agent capable of producing a mutation.
Oedema:	Accumulation of fluid in tissues.
NOHSC:	National Occupational Health and Safety Commission.
Teratogen:	An agent capable of causing abnormalities in a developing foetus.
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. (2014).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). United nations, 2009.

**SECTION 16 OTHER INFORMATION (Continued)**

This SDS 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 SDS 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 SDS.