

1. Identification of Chemical Product and Company

Cheminova Australia Pty Ltd

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Substance:	Carfentrazone-ethyl in a suitable solvent system.
Trade Name:	Punch Herbicide
APVMA No.:	68902
Product Use:	For the control of certain weeds in a range of situations as described on the product label.

2. Hazards Identification

GHS Classification of the substance /mixture	Eye Damage/Irritation: Category 1 Aspiration Hazard: Category 1 Carcinogenicity: Category 2 STOT Single Exposure Category 3 (narcotic).
Signal Word(s)	DANGER
Hazard Statement(s)	May be fatal if swallowed and enters airways. Causes serious eye damage. Suspected of causing cancer. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.
General Precautionary Statement(s)	If medical advice is needed, have product container or label at hand. Keep Out of reach of children. Read label before use.
Pictogram(s)	
Precautionary statement(s) - Prevention	Do not handle until all safety precautions have been read and understood. Wear eye and face protection. Do not breathe spray. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.
Precautionary statement(s) - Response	IF exposed or concerned: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice /attention. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF exposed: Call a POISON CENTER or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Poison Schedule	S5.

3. Composition/Information on Ingredients

Ingredient Name	CAS No.	Proportion
Carfentrazone-ethyl	128639-02-1	240 g/L
Liquid hydrocarbon	64742-94-5	720 g/L
N-Methyl-2-pyrrolidone	872-50-4	20 g/L
Other ingredients (non-hazardous)	-	Balance

4. First Aid Measures

Inhalation	Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice.
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Ingestion	Rinse mouth and then drink plenty of water. If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 131126 (Australia). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
Skin	Remove contaminated clothing and laundry before re-use. Wash affected areas thoroughly with soap and water.
Eye contact	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.
First Aid Facilities	If poisoning occurs, contact a doctor or the Poisons Information Centre 131126 (Australia).
Advice to Doctor	Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

5. Fire Fighting Measures

Suitable extinguishing media	Water, fog, foam, carbon dioxide or dry chemical
Hazards from Combustion Products	If involved in a fire, could emit hydrogen chloride, phosgene and hydrogen fluoride.
Special Protective Equipment for fire fighters	Breathable air apparatus should be worn when fighting a fire in which this product is involved.

6. Accidental Release Measures

Spills & Disposal	Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect in sealed open top containers for disposal. On-site disposal of concentrate is not acceptable.
Environmental Precautions	This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

7. Handling and Storage

Precautions for Safe Handling	Do not spray in high winds. Do not contaminate dams, rivers or streams, or any other water bodies with pesticide or used containers.
Conditions for safe storage, including any incompatibilities	Store in the closed, original container in a dry, well ventilated area as cool as possible, out of direct sunlight. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.
Other Information	Always read the label and any attached leaflet before use.

8. Exposure Controls and Personal Protection

Occupational exposure limit values	The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m ³ ; 15 ppm TWA, as total hydrocarbon. Safe Work Australia has set the following exposure standard for N-methyl pyrrolidone: TLV (TWA) 103 mg/m ³ ; STEL 309.
Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate..
Personal Protective Equipment	When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow-length rubber gloves and face shield or goggles.
Hygiene Measures	After each day's use, wash contaminated clothing and safety equipment.
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.

9. Physical and Chemical Properties

Appearance	Yellow orange liquid
Odour	Solvent odour
Boiling Point	220-290°C (for solvent)
Solubility in Water	Forms an emulsion in water
Specific Gravity	1.074
Vapour Pressure	0.016 mPa@25°C for carfentrazone ethyl
Vapour Density (air=1)	>1 (solvent)
Partition Coefficient, n-octanol/water	Kow Log P is 3.36 for carfentrazone ethyl
Flash Point	88 °C
Flammability	Combustible liquid (GHS). Combustible liquid C1 (AS1940)
Auto-Ignition Temperature	>450 °C

10. Stability and Reactivity

Chemical Stability	Stable under normal conditions. Hydrolyses at pH>7
Possibility of hazardous reactions	Keep away from strong oxidising agents
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. Toxicological Information

Toxicology Information	No harmful effects are expected if the precautions on the label and this MSDS are followed
Acute Toxicity - Oral	LD50 (female rat) >5143 mg/kg for carfentrazone ethyl
Acute Toxicity - Dermal	LD50 (rabbit) >4000 mg/kg for carfentrazone ethyl.
Acute Toxicity - Inhalation	LC50 (rat) (4hr) >5 mg/L
Ingestion	If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or other lung damage.
Inhalation	High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects.
Skin	Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	The concentrate will cause severe irritation and possible damage unless washed off immediately. Possible symptoms include redness, swelling, tearing and pain.
Carcinogenicity	An impurity present in the solvent has been found to cause tumors in laboratory studies. The active ingredient(s), carfentrazone-ethyl is not considered carcinogenic.
Chronic Effects	Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects..
Serious eye damage/irritation	The product is an eye irritant.
Other Information	The Australian Acceptable Daily Intake (ADI) for carfantrazone ethyl for a human is 0.03 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 3 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', Jun. 2012.

12. Ecological Information

Environmental protection	Spray drift can cause damage, read the label for more information.
Other precautions	Do not contaminate dams, waterways or sewers with this product or used containers.
Acute Toxicity-Fish	Non-toxic to fish. LC50 (96hr) for various species is 1.6-43 mg/L (carfentrazone ethyl).
Acute Toxicity-Daphnia	LC50 (96hr) 9.8 mg/L for carfentrazone ethyl.
Acute Toxicity-Algae	EC50 0.012-0.018 mg/L for carfentrazone ethyl.
Acute toxicity-other organisms	Birds: Not toxic to birds. LD50 for bobwhite quail is >1000 mg/kg for carfentrazone ethyl. Bees: Not toxic to bees. LD50 >35 (oral); >100 (contact) µg/bee for carfentrazone ethyl.

13. Disposal Considerations

Product Disposal	On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).
Container Disposal	Do not use this container for any other purpose. Triple or preferably pressure rinse containers before disposal. Dispose of rinsate by adding it to the spray tank. Do not dispose of undiluted chemical on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any drumMUSTER collection or similar container management program site. The cap should not be replaced but may be taken separately. If not recycling, break, crush or puncture and bury empty packaging in a local authority landfill. If no landfill is available, bury the packaging below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

14. Transport Information

Land transport: ADG	Non Dangerous goods for transport by road or rail (ADG Code 7). Exempt from classification as a Dangerous Good in packs less than 3000 kg or L as per ADG7, SP no. AU01. For bulk shipments as Class 9, use UN 3082, Hazchem code 2Z
Sea transport: (IMDG)	Dangerous goods
UN Number	3082
IMO Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, NOS (contains carfentrazone ethyl)
IMO Marine Pollutant	Marine pollutant

15. Regulatory Information

Poisons Schedule	S5
Other Information	This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 68902.

16. Other Information

This Material Safety Data Sheet 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.

WARNING

This product must be used, handled and stored strictly as directed in accordance with the label, packaging and other reference material ("Directions"). To the extent permitted by law Cheminova Australia Pty Ltd and its related companies will have no liability for any injury, loss or damage arising from a failure to follow the Directions.