

Infosafe No™ 3NUUW	Issue Date : August 2015	ISSUED by NUFARMNZ
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 Product Name **DIRECTOR™CS**

1. Identification

GHS Product Identifier	DIRECTOR™CS
Product Code	00900
Product Type	Herbicide
Company Name	Nufarm NZ
Address	6 Manu Street, Otahuhu Auckland 2024 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150 Fax: 0-9-270 4159
Emergency phone number	0800 651 911
Email	info@nz.nufarm.com
Recommended use of the chemical and restrictions on use	A pre-emergence herbicide for use against certain broadleaf and grass weeds in carrots, peas, pumpkin, buttercup squash, potatoes, dwarf green beans, oilseed rape, fodder beet, and certain fodder, seed and vegetable brassicas.
Other Information	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. Hazard Identification

Other Information	9.1B aquatic toxicant , 9.2A soil ecotoxicant ECOTOXIC Toxic to aquatic organisms with long lasting effects. Very toxic to the soil environment. Selective herbicide-very toxic to some plant species.
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3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Clomazone	81777-89-1	36 % w/v
	Calcium chloride	10043-52-4	>6 % w/v
	Sodium nitrate	7631-99-4	>6 % w/v

4. First-aid measures

First Aid Measures	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
Inhalation	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
Ingestion	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.
Skin	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.
Eye contact	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Remove contact lenses if present and easy to do. Seek medical assistance.
First Aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	This product has low oral,dermal and inhalation toxicity. The product is moderately irritating to the eyes and slightly irritating to the skin. Direct contact with eyes may produce corneal damage,especially if not washed out immediately. Inert ingredients contain xylene-range aromatic solvents which may produce a chemical pneumonitis;therefore vomiting is not recommended, and

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lavage requires intubation. Activated charcoal and cathartics will assist gastrointestinal tract evacuation.

5. Fire-fighting measures

Suitable extinguishing media	Foam, carbon dioxide or dry chemicals.
Hazards from Combustion Products	May emit toxic smoke and fumes if involved in fires or exposed to extreme heat.
Special Protective Equipment for fire fighters	Full protective clothing and self-contained breathing apparatus.
Specific Methods	Keep up wind. Do not allow washings to reach sewage or effluent systems. Keep containers cool with water spray.
Hazchem Code	3Z
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: Not applicable

6. Accidental release measures

Spills & Disposal	Wear protective clothing. Clear area of unprotected personnel. Contain spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling	Avoid skin and eye contact and inhalation of spray mist. APPROVED HANDLER: This product must be under the control of an approved handler when applied in a wide dispersive manner; or used by a commercial contractor. TRACKING: Is not required BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants. RECORD KEEPING: Records of use as described in the NZS 8409 Management of Agrichemicals must be kept when using 3L or more of DIRECTOR CS within 24 hours.
Conditions for safe storage, including any incompatibilities	Keep out of reach of children. Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertilisers and seeds. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 100L of DIRECTOR CS require signage, 1000L requires secondary containment and more than 1000L require emergency response plans.
Other Information	Always read the label and any attached leaflet before use. Aggregate Storage Volume Thresholds: When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

8. Exposure controls/personal protection

Occupational exposure limit values	No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product.
Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate. Local exhaust ventilation may be required in confined spaces.
Personal Protective Equipment	When handling wear eye protection, waterproof gloves, boots, hat and cotton overalls.
Hygiene Measures	Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

9. Physical and chemical properties

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Form	Liquid
Appearance	Brown coloured
Odour	Slightly aromatic
Melting Point	25.0-34.7°C for clomazone.
Solubility in Water	Disperses in water.
Specific Gravity	1.16 g/cm ³ @20°C
pH	8.87 @ 1% aqueous dispersion.
Vapour Pressure	19.2 mPa (25°C) for clomazone.
Partition Coefficient: n-octanol/water	Kow Log P = 2.5 (clomazone)
Flash Point	>93°C
Other Information	(CS) Capsule Suspension

10. Stability and reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Conditions to Avoid	Excessive heat and fire.
Hazardous Decomposition Products	Carbon monoxide and/or carbon dioxide, oxides of nitrogen, chlorine and hydrogen chloride.
Hazardous Polymerization	Hazardous polymerisation will not occur.

11. Toxicological Information

Toxicology Information	No harmful effects are expected if the precautions on the label and this SDS are followed.
Acute Toxicity - Oral	LD50 (rat) >5000 mg/kg for similar formulation. LD50 (female rat)=1369 mg/kg for clomazone.
Acute Toxicity - Dermal	LD50 (rat) >5000 mg/kg for a similar formulation. LD50 (rabbits) >2000 mg/kg for clomazone.
Acute Toxicity - Inhalation	LC50 (rat) (4hr)=4.8mg/L for clomazone.
Skin Sensitisation	Not a skin sensitiser.
Reproductive Toxicity	Studies in laboratory animals did not cause reproductive toxicity.
Chronic Effects	Liver enlargement and elevated cholesterol levels have been noted in studies on laboratory animals, where clomazone was ingested in large doses over the life span of the animals. In studies with laboratory animals, clomazone did not cause reproductive or teratogenic effects or carcinogenicity. The toxicity of the product may be attributed to the solvent it contains which may cause central nervous system depression. Additive effects may occur with mixtures of solvents. Some solvents have irritating effects on the eyes and skin.
Other Information	The Australian Acceptable Daily Intake (ADI) for clomazone for a human is 0.1 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 14 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', December 2014).

12. Ecological information

Persistence and degradability	Soil DT50 = 30-135 d for clomazone depending upon soil conditions. Field trials showed that clomazone does not significantly leach beyond top 10 cm of soil and is, therefore, not expected to enter groundwater.
Bioaccumulative Potential	Not bioaccumulative.
Environmental Protection	Do not contaminate streams, rivers or waterways with the chemical or used containers. Do not apply directly onto or into water.

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Acute Toxicity - Fish	LC50 (96hr) for rainbow trout is 19mg/L for clomazone. LC50 (96hr) for bluegill sunfish is 34 mg/l for clomazone.
Acute Toxicity - Daphnia	LC50 (48hr) for daphnia is 5.2 mg/L for clomazone.
Acute Toxicity - Algae	EbC50 for Selenastrum capricornutum is 2.22mg/L for clomazone.
Acute Toxicity - Other Organisms	LD50 for bobwhite quail and mallard ducks is >2510 mg/kg for clomazone. Bees: LD50 >85.29µg/bee (oral), >100µg/bee (contact) for clomazone. Worms: LC50(14d)= 530 mg/kg soil for clomazone.

13. Disposal considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Triple rinse empty container and add rinsate to spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

14. Transport information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
U.N. Number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (clomazone, 360 g/l)
Transport hazard class(es)	9
Hazchem Code	3Z
Packaging Method	-
Packing Group	III
EPG Number	-
IERG Number	47
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
IMDG EMS	F-A, S-F
Other Information	Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

15. Regulatory information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P9222 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR007804 See www.epa.govt.nz for approval controls.
Packaging & Labelling	ECOTOXIC - Keep out of reach of children.
Hazard Rating Systems	NFPA/HMIS: 1-1-1

16. Other Information

Contact Person/Point	IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE 24Hr Tollfree Emergency No: 0800 651 911 24Hr Emergency No: National Poisons Centre Phone: 0800 764 766
Revisions Highlighted	Not applicable. First issue.

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