

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

## 1. Identification

<b>GHS Product Identifier</b>	DIRECTOR™CS
<b>Product Code</b>	00900
<b>Product Type</b>	Herbicide
<b>Company Name</b>	Nufarm NZ
<b>Address</b>	6 Manu Street, Otahuhu Auckland 2024 New Zealand
<b>Telephone/Fax Number</b>	Tel: 0-9-270 4150 Fax: 0-9-270 4159
<b>Emergency phone number</b>	0800 651 911
<b>Email</b>	info@nz.nufarm.com
<b>Recommended use of the chemical and restrictions on use</b>	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.
<b>Other Information</b>	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

<b>Other Information</b>	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

<b>Chemical Characterization</b>	Liquid		
<b>Ingredients</b>	<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

<b>First Aid Measures</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<b>Skin</b>	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.
<b>Eye contact</b>	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.
<b>First Aid Facilities</b>	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
<b>Advice to Doctor</b>	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

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

## 6. Accidental release measures

<b>Spills &amp; Disposal</b>	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.
<b>Personal Protection</b>	For appropriate personal protective equipment (PPE), refer Section 8.
<b>Environmental Precautions</b>	Prevent from entering drains, waterways or sewers.

## 7. Handling and storage

<b>Precautions for Safe Handling</b>	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.
<b>Conditions for safe storage, including any incompatibilities</b>	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.
<b>Other Information</b>	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

<b>Occupational exposure limit values</b>	No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product.
<b>Appropriate engineering controls</b>	Handle in well ventilated areas, generally natural ventilation is adequate. Local exhaust ventilation may be required in confined spaces.
<b>Personal Protective Equipment</b>	When handling wear eye protection, waterproof gloves, boots, hat and cotton overalls.
<b>Hygiene Measures</b>	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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<b>Form</b>	Liquid
<b>Appearance</b>	Brown coloured
<b>Odour</b>	Slightly aromatic
<b>Melting Point</b>	25.0–34.7°C for clomazone.
<b>Solubility in Water</b>	Disperses in water.
<b>Specific Gravity</b>	1.16 g/cm <sup>3</sup> @20°C
<b>pH</b>	8.87 @ 1% aqueous dispersion.
<b>Vapour Pressure</b>	19.2 mPa (25°C) for clomazone.
<b>Partition Coefficient: n-octanol/water</b>	Kow Log P = 2.5 (clomazone)
<b>Flash Point</b>	>93°C
<b>Other Information</b>	(CS) Capsule Suspension

## 10. Stability and reactivity

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

## 11. Toxicological Information

<b>Toxicology Information</b>	No harmful effects are expected if the precautions on the label and this SDS are followed.
<b>Acute Toxicity - Oral</b>	LD50 (rat) >5000 mg/kg for similar formulation. LD50 (female rat)=1369 mg/kg for clomazone.
<b>Acute Toxicity - Dermal</b>	LD50 (rat) >5000 mg/kg for a similar formulation. LD50 (rabbits) >2000 mg/kg for clomazone.
<b>Acute Toxicity - Inhalation</b>	LC50 (rat) (4hr)=4.8mg/L for clomazone.
<b>Skin Sensitisation</b>	Not a skin sensitiser.
<b>Reproductive Toxicity</b>	Studies in laboratory animals did not cause reproductive toxicity.
<b>Chronic Effects</b>	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.
<b>Other Information</b>	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

<b>Persistence and degradability</b>	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.
<b>Bioaccumulative Potential</b>	Not bioaccumulative.
<b>Environmental Protection</b>	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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<b>Acute Toxicity - Fish</b>	LC50 (96hr) for rainbow trout is 19mg/L for clomazone. LC50 (96hr) for bluegill sunfish is 34 mg/l for clomazone.
<b>Acute Toxicity - Daphnia</b>	LC50 (48hr) for daphnia is 5.2 mg/L for clomazone.
<b>Acute Toxicity - Algae</b>	EbC50 for Selenastrum capricornutum is 2.22mg/L for clomazone.
<b>Acute Toxicity - Other Organisms</b>	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

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

### 14. Transport information

<b>Transport Information</b>	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
<b>U.N. Number</b>	3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (clomazone, 360 g/l)
<b>Transport hazard class(es)</b>	9
<b>Hazchem Code</b>	3Z
<b>Packaging Method</b>	-
<b>Packing Group</b>	III
<b>EPG Number</b>	-
<b>IERG Number</b>	47
<b>IMO Marine Pollutant</b>	Yes. Environmentally Hazardous Substance mark required.
<b>IMDG EMS</b>	F-A, S-F
<b>Other Information</b>	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

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

### 16. Other Information

<b>Contact Person/Point</b>	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
<b>Revisions Highlighted</b>	Not applicable. First issue.

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