



## SAFETY DATA SHEET MANDATE HERBICIDE

### Section 1: Identification of the Substance and Supplier

**Product name:** MANDATE HERBICIDE  
**Chemical name of active ingredient(s):** Clodinafop-propargyl is a 2-(4-aryloxyphenoxy) propionic acid derivative.  
**Supplier:** ADAMA New Zealand Limited  
Level1/19 Elms Street, Wakatu Estate, Stoke, Nelson, New Zealand  
P.O.Box 1799, Nelson New Zealand.  
**Telephone:** +64 3 543 8275 Fax: +64 3 543 8274  
**Emergency Telephone:** 0800 POISON (0800 764 766)

### Section 2: Hazards Identification

**Hazard Classifications:** 6.1E, 6.3B, 6.4A, 6.5B, 6.8B, 6.9B, 9.1A, 9.2A  
**Most important hazards:**  
**TOXICITY Warning –**  
May cause eye irritation and mild skin irritation.  
May cause sensitisation from prolonged skin contact.  
May cause reproductive/development damage from repeated oral exposure.  
May cause kidney damage from repeated oral exposure at high doses.  
Avoid eye and skin contact and inhalation of the spray mist.  
**ECOTOXICITY**  
Very toxic to aquatic organisms. Avoid contamination of any water supply with product or empty container.  
Very toxic to the soil environment.

### Section 3. Composition/Information on Ingredients

#### Information on hazardous ingredients \*

Common name	CAS No.	%
Clodinafop-propargyl	105512-06-9	21-23
Solvent naphtha	64742-94-5	50-53
Other non hazardous ingredients	secret	to 100

- **Occupational Exposure Limit(s), if available, are listed in section 8**

### Section 4: First-Aid Measures

**First-aid measures:** For advise contact National Poisons Centre on 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 victim to fresh air. If breathing is difficult: artificial respiration. Get medical attention.

**Ingestion:** If swallowed **DO NOT** induce vomiting. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.

**Skin contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical advice.

**Eye contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Take special care if exposed person is wearing contact lenses.

**Notes to a physician:** There is no specific antidote. Treat symptomatically and give supportive therapy.

**Protection of first-aiders:** Use appropriate protection (see section 8).



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### Section 5: Fire-Fighting Measures

<b>Extinguishing media</b>	This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product of commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.
<b>Suitable:</b>	Dry chemical, water fog, foam, carbon dioxide.
<b>Unusual fire/explosion hazards:</b>	Flashback may occur along vapour trail.
<b>Flash Point:</b>	>95°C
<b>Hazardous thermal (de)composition products:</b>	Chloride compounds and nitrogen oxides
<b>Protection of fire-fighters:</b>	Self-contained breathing apparatus and total protection required in enclosed areas.

### Section 6: Accidental Release Measures

<b>Personal precautions:</b>	Wear suitable protective clothing.
<b>Environmental precautions:</b>	Do not discharge into drains or the environment.
<b>Methods for cleaning up:</b>	Exclude all bystanders from the vicinity of the spill and prevent material from entering waterways. Absorb spills with an inert (such as vermiculite, earth, sand or synthetic absorbent substance) material and place in waste containers. Wash area with water and alkaline detergent then absorb any remaining liquid with further inert material. Dispose of the waste safely in an approved landfill.

### Section 7: Handling and Storage

<b>Handling:</b>	When mixing or applying wear appropriate protective clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves, and eye protection. Remove protective clothing and wash hands, arms and face with soap and water before meals and after work. Keep exposure to this product to a minimum, and minimize the quantities kept in work areas. Avoid contact or contamination of product with incompatible materials listed in Section 10.
<b>Storage:</b>	Store in the original, unopened container in a cool, dry place, out of direct sunlight and away from sources of ignition, stock feed or foodstuffs. As a Class 9 Substance with Ecotoxicity Classifications storage of Mandate Herbicide must be carried out in such a manner as to prevent contamination of waterways. It is recommended that The New Zealand Standard for the Management of Agrichemicals (NZS8409) is followed as a means of meeting the secondary containment provisions of the HSNO Emergency Management regulations.

### Section 8: Exposure Controls/Personal Protection

<b>Engineering measures:</b>	No special ventilation requirements are normal necessary for this product.
<b>Hygiene measures:</b>	When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.
<b>Occupational Exposure Limits</b>	
<b>Common name:</b>	<b>Clodinafop-propargyl</b> Not Established
<b>Personal protective equipment:</b>	
<b>Respiratory system:</b>	Respiratory protection is not required if good ventilation is maintained.
<b>Skin and body:</b>	Cotton overalls buttoned to the neck and wrist Chemical resistant boots.
<b>Hands:</b>	Impervious elbow-length gloves.
<b>Eyes:</b>	Safety goggles or face shield.



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### Section 9: Physical and Chemical Properties

<b>Physical state:</b>	Liquid
<b>Colour:</b>	Light brown to brown
<b>Odour:</b>	Aromatic hydrocarbon odour
<b>Boiling point:</b>	220-230°C at 100kPa
<b>Vapour pressure:</b>	3.19x10 <sup>-3</sup> mPa @ 20°C
<b>Solubility in water:</b>	Emulsifiable
<b>Coeff Oil/water distribution</b>	3.9 @ 25 °C (log P octanol/water)
<b>pH:</b>	3-7 (1% in deionised water)
<b>Flash Point:</b>	>95°C
<b>Upper Flammability Limit:</b>	11.8%
<b>Lower Flammability Limit:</b>	1.8%
<b>Autoignition temp:</b>	>420°C

### Section 10: Stability and Reactivity

<b>Reactivity:</b>	This product is unlikely to react or decompose under normal storage conditions.
<b>Materials to avoid:</b>	acids, bases, oxidizing agents
<b>Fire Decomposition:</b>	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally cyanide gas in reducing atmospheres. Hydrogen chloride gas, other compounds of chlorine. Hydrogen fluoride gas and other compounds of fluorine. Water.

### Section 11. Toxicological Information

<b>Acute toxicity - Oral:</b>	LD <sub>50</sub> (rat)= 2276 mg/kg
<b>Acute toxicity - Dermal:</b>	LD <sub>50</sub> (rabbit) > 4,000 mg/kg
<b>Acute toxicity – Inhalation:</b>	LC <sub>50</sub> (rat) > 3500 mg/m <sup>3</sup>
<b>Skin irritation:</b>	IRRITANT (rabbit).
<b>Eye irritation:</b>	IRRITANT (rabbit).
<b>Sensitization :</b>	SENSITISER (guinea-pig)

**Clodinafop-Propargyl technical:** No evidence of mutagenic, teratogenic or reproductive effects was obtained. It induced liver toxicity and benign and malignant liver tumours in mice fed high daily doses over their whole lifetimes. Rats fed high doses showed mild liver toxicity but did not develop tumours while no liver effects were observed for dogs fed high doses. The liver tumour finding occurring at high doses is believed due to **Clodinafop-Propargyl** inducing proliferate effects genetically pre-existing in mice and has no relevance to humans because the cellular changes which underlie it are rodent-specific and have been shown experimentally not to occur in primates.

### Section 12: Ecological Information

<b>Ecotoxicity:</b>	<b><u>Fish</u></b>		
	Trout	LC <sub>50</sub> /EC <sub>50</sub>	0.39ppm
	Bluegill	LC <sub>50</sub> /EC <sub>50</sub>	0.21ppm
	<b><u>Invertebrates</u></b> (water fleas)		
		LC <sub>50</sub> /EC <sub>50</sub>	>2.0ppm
	<b><u>Birds</u></b>		
	Bobwhite Quail	LC <sub>50</sub> /EC <sub>50</sub>	>5,200ppm (8 day dietary)
	Mallard Duck	LC <sub>50</sub> /EC <sub>50</sub>	>5,200ppm (8 day dietary)
	<b><u>Bees</u></b>		
		LC <sub>50</sub> /EC <sub>50</sub>	>100 µg/bee

Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is not biodegradable; it may accumulate in the soil or water and cause long term problems.



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### Section 13: Disposal Considerations

**Methods of disposal:** Triple rinse empty container and add rinsate to spray tank. Empty containers and product should NOT be burnt. Crush or puncture containers and bury in a suitable landfill, away from watercourses or if appropriate, recycle. Do not contaminate ponds, waterways and ditches with product or used container.

### Section 14: Transport Information

**UN Number** 3082  
**Proper shipping name** Environmentally hazardous substance, Liquid, N.O.S, (Clodinafop-propargyl)  
**DG Class** 9  
**Packing Group** III  
**Hazchem Code** 2X  
**Marine Pollutant** Yes  
**IER Guide page** 47

**National transport regulations:** Do not carry this product on a passenger service vehicle.

**Segregation:** Check the land transport Rule Dangerous Goods 1999, Rule 45001 for additional information. Sea transport may require additional segregation. Refer: NZS5433; Sea Segregation, or the International Maritime Dangerous Goods Code for details.

### Section 15: Regulatory Information

#### New Zealand Regulatory Information:

**NZFSA Approval:** Registered pursuant to the ACVM Act 1997. No P7677  
See [www.nzfsa.govt.nz/acvm](http://www.nzfsa.govt.nz/acvm) for registration conditions.

**HSNO Approval:** Approved pursuant to the HSNO Act 1996, Approval No. HSR007753  
See [www.ermanz.govt.nz](http://www.ermanz.govt.nz) for approval controls

**HSNO Classifications:** 6.1E, 6.3B, 6.4A, 6.5B, 6.8B, 6.9B, 9.1A, 9.2A



**ECOTOXIC**

**APPROVED HANDLER -** THIS PRODUCT MUST BE UNDER THE CARE OF AN APPROVED HANDLER WHEN IT IS USED BY A COMMERCIAL CONTRACTOR

### Section 16: Other Information

Note: This product is a registered agricultural chemical and must be therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the Government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

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#### **HISTORY**

**Date of printing:** 03/06/2014  
Supersedes SDS issued 23/06/2009