SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	**CYCLONE**
Chemical name of active	Alachlor
Product Use:	Herbicide
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	ADAMA New Zealand Ltd
Address:	Level 1/93 Bolt Road Tahunanui, 7011, Nelson
Telephone:	+64 3 543 8275
E-mail:	nzorders@adama.com
Emergency Telephone:	**0800 764 766 (National Poison Centre)** **0800 734 607 (24hr Emergency Response)**
Date of SDS Preparation:	10 October 2022

Section 2. Hazards Identification

This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020

HSNO Approval No: HSR000397

Pictograms

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement
Flammable liquid Category 3	H226	Flammable liquid and vapour.
Acute oral toxicity Category 4	H302	Harmful if swallowed.
Acute inhalation toxicity Category 4	H332	Harmful if inhaled.
Eye irritation Category 2	H319	Causes serious eye irritation.
Skin sensitisation Category 1	H317	May cause an allergic skin reaction.
Carcinogenicity Category 2	H351	Suspected of causing cancer.
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment acute Category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment chronic Category 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H421	Very toxic to the soil environment.
Hazardous to terrestrial vertebrates	H433	Harmful to terrestrial vertebrates.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks, open flames, hot surfaces or other ignition sources. No smoking.
P233	Keep container tightly closed.
P241	Use explosion-proof electrical/ventilating/lighting.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fumes, vapours or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid unintended release into the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P301 + P312 + P330	IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
P303 + P361+ P353	IF ON SKIN (or Hair) Take off/Remove immediately all contaminated clothing. Rinse skin with water/shower.
P313 + P333	If skin irritation or rash occurs: Get medical advice/attention.
P304 + P312 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P337 + P338 + P351	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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry chemical, water spray, foam or carbon dioxide for extinction.
P391	Collect spillage.

Storage Code	Storage Statement
P405	Store locked up.
P403 + P235	Store in a well-ventilated place. Keep cool.
	Store locked up in the original, unopened container in a cool, dry, well-ventilated place, out of direct sunlight and away from stockfeed or foodstuffs. As a substance with aquatic ecotoxicity classifications, storage of CYCLONE 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.

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

Section 3. Composition / Information on Ingredients

Ingredients	Wt %	CAS NUMBER.
Alachlor (ISO)	41-45	15972-60-8
Chlorobenzene	39-43	108-90-7
Other ingredients not contributing to the overall classification of the substance or non hazardous	To balance	NA

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on Skin — Take off contaminated clothing and wash before re-use. Wash off immediately with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

If Swallowed — Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.

If Inhaled — Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed
Symptoms:
Ingestion: Harmful if swallowed.
Skin: May cause an allergic skin reaction
Inhalation: Harmful if inhaled.
Eyes: Causes serious eye irritation.
Chronic: Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure.

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

Section 5. Fire Fighting Measures

Hazard Type	Flammable Liquid
Hazardous thermal (de)composition products	Chloride compounds and nitrogen oxides.
Suitable Extinguishing media	Dry chemical, water spray, foam, carbon dioxide.
Precautions for firefighters and special protective clothing	Self-contained breathing apparatus and total protection required in enclosed areas.
HAZCHEM CODE	**3Y**

Section 6. Accidental Release Measures

Wear full protective clothing as detailed in Section 8. Evacuate area from unnecessary personnel. Keep away from: open flame, sparks and heat.

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up
Absorb remainder in sand or other inert material. Dispose of container in a suitable landfill or take to an Agrecovery collection site.

Section 7. Handling and Storage

Precautions for Handling:

- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Keep container tightly closed.
- Use explosion-proof electrical/ventilating/lighting.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe fumes, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid unintended release into the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Store locked up.
- Store away from incompatible materials listed in Section 10.
- Keep away from children.
- Keep only in the original container. Keep in a cool, dry, well-ventilated place away from direct sunlight.
- Resin-lined metal drums are the suitable packing material.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**ppm**	**mg/m3**	**ppm**	**mg/m3**
Monochlorobenzene (Chlorobenzene) [108-90-7]	10	46		

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls
Ensure adequate ventilation.

Personal Protection Equipment

Eyes	Safety goggles or face shield. Avoid wearing contact lenses.
Hands and Skin	Wear chemical resistant gloves, suitable protective clothing and chemical resistant boots.
Respiratory	Respiratory protection is not required if good ventilation is maintained.
General	Change work clothes daily. May irritate the eyes and skin. Avoid contact with eyes and skin. Do not intake dust or spray mist. If product gets on skin immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Section 9 Physical and Chemical Properties

Appearance	Violet Liquid
Odour	Aromatic (solvent)
Odour Threshold	Not applicable
pH	5-7 CIPAC, MT 75
Boiling Point	130^0C (Chlorobenzene)
Melting Point	Not applicable
Flash Point	29°C (closed cup)
Flammability	Flammable
Upper and Lower Exposure Limits	1.3 – 11%
Explosive properties	Vapours (Naphta) – May form explosive mixture with air.
Vapour Pressure	2.9 mPa @ 25°C (Alachlor) (ISO)
Density	1.12 ± 0.01 g/ml @ 20°C
Bulk Density	Not applicable
Relative Density	Not applicable
Solubilities in water	242 ppm @ 25°C (Alachlor) (ISO)
Auto-ignition Temperature	>600°C (Chlorobenzene)
Octanol/water partition coefficient	log = 2.9 (Alachlor) (ISO)
Volatiles	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Sources of ignition.
Incompatible Materials	Oxidizing agents, acids and alkali.
Hazardous Decomposition Products	Chloride compounds and nitrogen oxides.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed. LD50 (rat)= 1,837 mg/kg
Dermal	Not triggered. LD50 (rabbit) > 2,000 mg/kg
Inhalation	Harmful if inhaled. LC50 (rat) > 5.05 mg/L (4 hours) (maximum attainable concentration).
Eye	Causes severe eye irritation.
Skin	May cause an allergic skin reaction.

Chronic Effects:

Carcinogenicity	Suspected of causing cancer.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Causes damage to organs through prolonged or repeated exposure.

Common name: **Alachlor (ISO)**
Chronic toxicity: NOEL: mice 26 mg/kg/day; 0.5 mg/kg/day
Carcinogenicity: EPA : Group B2
EU : Carc. Category 3
IARC : Not classified
Mutagenicity: Not mutagenic
Reproduction toxicity: NOEL 30 mg/kg/day (3-generation)
Other information : Teratogenicity - NOEL (Maternal and Fetal): 60 mg/kg/day.

Section 12. Ecotoxicological Information

HSNO Classifications: Hazardous to the aquatic environment acute Category 1, Hazardous to the aquatic environment chronic Category 1, Hazardous to soil organisms. Hazardous to terrestrial vertebrates.

Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

The data below is for Alachlor(ISO)

Mobility: Soil – Low mobility – moderately mobile
Adsorbed on soils with high organic content.
Water
Low risk of underground water contamination.

Persistence/degradability: **Soil**
Half-life time (t½): ˜ 21 days
Degradation is primarily via: microorganisms.
Water
55% degraded in 28 days
Bioaccumulative potential: Low bioaccumulation potential (Kow log P = 3.09)
Ecotoxicity: **Fish**
LC50 (96 hours) rainbow trout (oncorhynchus mykiss)= 2.8 mg/L
Bluegill sunfish (Lepomis macrochirus) = 1.8 mg/L
Dwarf gowrami = 1.73 mg/L
Daphnia magna
EC50 (24 hours) = 26 mg/L
Algae (seleastrum capriconutun)
EC50 (72 hours) = 0.012 mg/L
Birds
Bobwhite quail (colinus virginianus) LD50 = 1,536 mg/kg
Chicken LD50 = 916 mg/kg
Mallard duck (anas platyrhynchos) and
Bobwhite quail (colinus virginianus):LC50 > 5,620 mg/kg (5 feeding days)

Bees
LD50 = 32 mg/bee
Very toxic to aquatic organisms. Low toxicity: birds,
Non toxic: Bees

Section 13. Disposal Considerations

Disposal Method: Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers before puncturing and offering for recycling or landfill.

Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not burn product or container.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433

Road and Rail Transport

UN No:	1993
Class-primary	3
Packing Group	III
Proper Shipping Name:	FLAMMABLE LIQUID N.O.S. (chlorobenzene)

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

Air Transport

UN No:	1993
Class-primary	3
Packing Group	III
Proper Shipping Name:	FLAMMABLE LIQUID N.O.S. (chlorobenzene)

Marine Transport

UN No:	1993
Class-primary	3
Packing Group	III
Proper Shipping Name:	FLAMMABLE LIQUID N.O.S. (chlorobenzene)
Marine Pollutant:	Yes

Special Provisions:

If the product's individual container is below 5L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Segregation:
Check the Land Transport Rule Dangerous Goods 2005, Rule 45001/1 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

This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020

HSNO Approval Code: HSR000397

HSNO Classification: Flammable liquid Category 3, Acute oral toxicity Category 4, Acute inhalation toxicity Category 4, Eye irritation Category 2, Skin sensitisation Category 1, Carcinogenicity Category 2, Specific target organ toxicity (repeated exposure) Category 1, Hazardous to the aquatic environment acute Category 1, Hazardous to the aquatic environment chronic Category 1, Hazardous to soil organisms, Hazardous to terrestrial vertebrates.

HSW (HS) Regulations 2017 and EPA Notices	**Trigger Quantity**
Certified Handlers	Not Required
Location Certificate	500 L(>5L), 1500 L(<5L), 250L open
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100 L
Emergency Response Plan	100 L
Secondary Containment	100 L
Hazardous Property Controls Notice 2017	
HPC Notice Part 1	Hazardous Property Controls preliminary provisions
HPC Notice Part 3	Hazardous substances in a place other than a workplace
HPC Notice Part 4 Subpart A	Substances that are hazardous to the environment: Site and storage controls
HPC Notice Part 4 Subpart B	Use of substances that are hazardous to the environment
HPC Notice Part 4 Clause 47	Equipment for environmentally hazardous substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of ecotoxic pesticides and plant growth regulators
HPC Notice Part 4 Clause 52	Agrichemicals that are hazardous to the aquatic environment must not be applied to water
HPC Notice Part 4 Subpart C	Qualifications required for the application of substances that are hazardous to the environment
ACVM Act and Regulations	
Registered pursuant to the ACVM Act 1997, See www.nzfsa.govt.nz/acvm for registration conditions	P009582

Section 16 Other Information

Glossary

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997.
EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority.
HSNO	Hazardous Substances and New Organisms Act 1996.
HSW	Health and Safety at Work Act 2015.
HSW (HS) Regulations 2017.	Health and Safety at Work (Hazardous Substances) Regulations
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.

TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level.
WES	Workplace Exposure Limit.

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer:

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