



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **AFALON HERBICIDE**
Name of active ingredient: Linuron
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
Email: nzorders@adama.com

**Emergency Telephone: 0800 764 766 (National Poison Centre)
0800 734 607 (24hr Emergency Response)**

Date of SDS Preparation: 20 September 2023

Section 2. Hazards Identification

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

HSNO Approval No: HSR100376

Pictograms



Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement
Eye irritation Category 2	H319	Causes serious eye irritation.
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child.
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	H432	Toxic 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.

P260	Do not breathe fumes, vapours or spray.
P264	Wash hands thoroughly after handling this product.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid unintended release into the environment.
P280	Wear protective clothing and use personal protective equipment as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P305 + P313 + 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.
P391	Collect spillage.

Storage Code	Storage Statement
P405	Store locked up in the original, unopened container in a cool, dry place, out of direct sunlight and away from stockfeed or foodstuffs.

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.
Linuron (ISO)	35-40	330-55-2
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	Wash off immediately with soap and plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
If Swallowed	Wash out mouth with plenty of water. Get medical attention. 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: Not applicable.

Skin: Not applicable.

Inhalation: Not applicable.

Eyes: Causes serious eye irritation.

Chronic: Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Notes to physician: There is no specific antidote. If poisoning is suspected apply symptomatic therapy.

Section 5. Fire Fighting Measures

Hazard Type	Not Flammable.
Hazardous thermal (de)composition products	No specific hazard known.
Suitable Extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Precautions for firefighters and special protective clothing	In the event of fire, wear self-contained breathing apparatus In the event of fire and/or explosion do not breathe fumes.
HAZCHEM CODE	3Z

Section 6. Accidental Release Measures

Wear full protective clothing as detailed in Section 8. Evacuate area from unnecessary personnel.

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 liquid spills with an inert (such as vermiculite, earth, sand or synthetic absorbent substance) material and place in waste containers. 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.
- Do not breathe fumes, vapours or spray.
- Wash hands thoroughly after handling.
- Ventilation required.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing and use personal protective equipment as detailed in Section 8.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep away from children.
- Store in the original, unopened container in a cool, dry place, well ventilated place away from direct sunlight and under lock and key.
- Plastic containers is the suitable packaging material.

Section 8 Exposure Controls / Personal Protection**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³

No ingredients have exposure limits

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 2019 11TH EDITION.

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Personal Protection Equipment

Eyes	Safety goggles or face shield. Avoid wearing contact lenses.
Hands and Skin	Wear plastic or rubber gloves and protective clothing.
Respiratory	Respiratory protection is not required if good ventilation is maintained.
General Hygiene	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

Section 9 Physical and Chemical Properties

Appearance	Clear Brown
Odour	Urea
Odour Threshold	Not applicable
pH	8-9
Boiling Point	No Data
Melting Point	Not applicable
Flash Point	>79°C
Flammability	Not flammable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	No data
Density	1.14 -1.24 g/mL @ 20°C
Bulk Density	Not applicable
Relative Density	Not applicable
Solubilities in water	Dispersible
Auto-ignition Temperature	566
Octanol/water partition coefficient	log P = 3.0 (Linuron) (ISO)
Volatiles	Not applicable
Oxidising Properties	Not oxidising
Kinematic viscosity mm²/s 40°C	487.4

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Heat, Flames Sparks
Incompatible Materials	No information available
Hazardous Decomposition Products	None under normal use conditions.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes severe eye irritation.
Skin	Not applicable.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Causes damage to organs through prolonged or repeated exposure.

Information on toxicological effects

Acute toxicity

	Values	Species	Method	Remarks
Oral LD50 mg/kg	: 4480	Rat	OECD 401	male
Dermal LD50 mg/kg	: > 4000	Rat	OECD 402	
Inhalation LC50 mg/I/4h	> 1.74	Rat	OECD 403	Maximum attainable concentration
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Not irritating to eyes	Rabbit	OECD 405	
Respiratory/skin sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

Section 12. Ecotoxicological Information

Toxicity

Aquatic toxicity

	Values	Species	Method	Remarks
Acute toxicity				
Fish 96-hour LC50 mg/I	15.4	Rainbow trout	OECD 203	
Crustacea 48-hour EC50 mg/I	15	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/I	0.1	D. Subspicatus	OECD 201	
Other plants EC50 mg/I	99	Lemna minor	OECD 221	
Chronic aquatic toxicity		Species	Method	Remarks
Fish NOEC mg/I	0.			
Crustacea NOEC mg/I	16			
Algae NOEC mg/I				
Other plants NOEC mg/I	Values			
	No data available			

Terrestrial Toxicity

Birds Oral LD50 mg/kg

Chemical Name

Linuron : 314 Bobwhite quail

Product Name: Afalon Herbicide
Date of SDS: 20 September 2023

Issued by: Adama New Zealand Ltd
Tel: 64 3 543 8275

www.adama.com

Bees Oral LD50 pg/bee

Chemical Name

Linuron : > 112

Persistence and degradability**Abiotic Degradation**

Water DT50 days

Chemical Name

Linuron

: 9.9

Soil DT50 days

Chemical Name

Linuron

: 38 - 135

Bioaccumulative potential**Partition Coefficient**

(n-octanol/water) Partition

Coefficient (n-octanol/water) Log

Pow

Chemical Name

Linuron

: 3.0

Bioconcentration factor (BCF)

Chemical Name

Linuron

: 38

Mobility in soil**Adsorption/Desorption**

Chemical Name

Linuron

: 743

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method: Dispose of this product only by using according to the label or at an approved landfill. Container Disposal: Triple rinse container and add rinsate to spray tank. Empty containers and product should not be burnt. Dispose of container in a suitable landfill or take to an Agrecovery collection site. Do not use container for any other purpose.



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:

3082

Class-primary

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Packing Group

III

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (Linuron)

Product Name: Afalon Herbicide
Date of SDS: 20 September 2023

Issued by: Adama New Zealand Ltd
Tel: 64 3 543 8275

www.adama.com

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

Air Transport

UN No: 3082
Class-primary 9
Packing Group III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Linuron)

Marine Transport

UN No: 3082
Class-primary 9
Packing Group III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Linuron)
Marine Pollutant: Yes

Special Provisions:

If the product's individual container is below 5L/kg, 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.

Section 15 Regulatory Information

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

HSNO Approval Code: HSR100376

HSNO Classification: Eye irritation Category 2, Reproductive toxicity 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	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100 L (9.1A)
Emergency Response Plan	100 L (9.1A)
Secondary Containment	100 L (9.1A)
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	Record of application of agrichemicals
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.foodsafety.govt.nz for registration conditions	No. P7239
For all further controls	Refer to EPA website (www.epa.govt.nz) for controls document - HSR100376

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	Health and Safety at Work (Hazardous Substances) Regulations 2017.
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.
OSHA	American Occupational Safety and Health Administration.
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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