SAFETY DATA SHEET

LINURON® 50DF

Date of Issue: 27 February 2025

1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

Chemical name of active ingredient(s): **Linuron**

Recommended use: **Herbicide**

Supplier: **UPL New Zealand Limited**
PO Box 51584, Pakuranga
Auckland
Phone 0800 100 325

Emergency telephone number: **0800 CHEM CALL (0800 243 622) 24 Hours**

2. HAZARDS IDENTIFICATION

Hazard Classification:

DANGER

GHS Classification:

GHS Classification and Category	Hazard Code	Hazard Statement
Acute toxicity - Oral Cat. 4	H302	Harmful if swallowed.
Serious eye damage/eye irritation Cat.2A	H319	Causes serious eye damage
Reproductive toxicity - Cat. 2	H361	Suspected of damaging fertility or the unborn child
Specific target organ toxicity - repeated exposure Cat. 1	H372	Causes damage to organs (hematopoietic system) through prolonged or repeated exposure.
Aquatic acute Cat. 1	H400	Very Toxic to aquatic life.
Aquatic chronic Cat. 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms.		
Hazardous to terrestrial vertebrates.		

Required identification Details:

PRECAUTIONARY STATEMENTS
PREVENTION
P102 - Keep out of the reach of children.
P103 - Read label carefully before use.

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing and eye protection.
P260 - Do not breathe spray.
P264 - Wash hands and face thoroughly after handling.
P270 - Do not eat, drink, or smoke when using this product.
P273 - Avoid release to the environment.
Do not apply directly into or onto water.
Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

RESPONSE

P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.P330 - Rinse mouth.P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical attention.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P391 - Collect spillage.

STORAGE

P405 - Store locked up.
Stores containing more than 100 kg of this product require secondary containment and are subject to signage.

DISPOSAL

P501Dispose of contents/container in accordance with local regulations.
Container disposal: Ensure the container is empty. Crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.
Product disposal: Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

Common name	CAS No	%
Linuron (ISO)	330-55-2	50
Inert ingredients	not allocated	50

4. FIRST-AID MEASURES

Description of necessary first aid measures:

Effects and symptoms

First-aid measures

Inhalation: Remove victim to fresh air. If breathing is difficult: artificial respiration. Get medical attention.

Ingestion: Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person.

Skin contact: Remove victim from area of exposure. Wash off remaining material with plenty of water. Remove contaminated clothing. Wash away remainder with water and soap..

Eye contact: Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention. For advice contact the National Poisons Centre 0800 POISON (0800 764766)

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

supportive therapy.

5. FIRE-FIGHTING MEASURES

Extinguishing media:	Water spray, foam, dry chemical.
Hazardous thermal (de)composition products:	Chloride compounds and nitrogen oxides
HAZCHEM Code:	2X
Protection of fire-fighters:	Wear self-contained breathing apparatus. Use water spray. Cool tank/container with water spray. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear PVC overalls, chemical resistant gloves, facemask or goggles.
Environmental precautions:	Contain Spills. Do not discharge into drains, waterways, or the environment.
Methods for cleaning up:	Shovel or sweep up. DO NOT flush with water. Place material in a clean, dry container and cover for disposal. Wash contaminated areas with water and detergent. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand or other absorbent material. Shovel or sweep up. Never return to container for reuse. (See section 13 for disposal instructions.).

7. HANDLING AND STORAGE

Handling:	Avoid skin and eye contact. Avoid inhaling the vapour, or spray mist. Wash thoroughly after handling. Wash clothing after use.
Storage:	Store in the closed, original container in a dry, well ventilated area, as cool as possible out of direct sunlight and under lock and key. Keep from contact with fertilisers, fungicides and seeds. Do not store with Classes 1,2,3.2,4 or 5 substances. Stores containing more than 100kg of this product, either alone or in aggregate with other hazardous substances are subject to requirement of an emergency management response plan, secondary containment and signage.
Packaging materials:	Plastic lined cardboard box.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Guidelines

Exposure Standards:	Not established.

Engineering measures

Exposure control measures:	Ventilation required in enclosed areas.

Personal Protective Equipment

Detail specifications for equipment:	Avoid breathing spray mist or dust. Use respiratory equipment suitable for herbicide dust if exposure may exceed AEL value (AEL: 2 mg/m^3 (8 and 12 hr TWA). Avoid contact with eyes and skin. Wear protective goggles, rubber gloves, boots and overalls during handling and mixing.

Respiratory system:	Respiratory protection is not required if good ventilation is maintained.
Skin and body:	Wear long sleeved shirt, long pants.
Hands:	Use gloves chemically resistant (eg: nitrile or neoprene) when prolonged or frequently repeated contact could occur
Eyes:	Use safety glasses if exposure possible.
General hygiene:	When handling, do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, colour, etc.):	Solid, white to tan
Odour:	NA
Odour threshold:	NA
pH:	7.3
Melting point/freezing point:	NA
Initial boiling point and boiling range:	NA
Flash point:	Not flammable
Flammability (solid, gas):	NA
Upper/lower flammability or explosive limits:	NA
Vapour pressure:	NA
Vapour density:	NA
Relative density:	NA
Solubility (ies):	NA
Partition coefficient: n-octanol/water:	NA
Auto-ignition temperature:	320^{o}C
Decomposition temperature:	NA
Kinematic viscosity:	NA
Particle characteristics:	NA
Explosive properties:	Not explosive
Oxidation properties:	Not an Oxidizing Agent

10. STABILITY AND REACTIVITY

Stability:	Stable at normal temperatures and storage conditions.
Flammable properties:	Limits in Air, % by volume: LEL 0.12 g/L.
Conditions to avoid:	Excess heat.
Fire/Explosion Hazard:	Dust forms explosive mixture with air.
Materials to avoid:	Oxidizing agents, acids and alkali.
Hazardous Decomposition Products:	Decomposition will not occur.
Hazardous polymerization:	Polymerisation will not occur.
Hazardous reactions:	None expected

11. TOXICOLOGICAL INFORMATION

Acute toxicity – Oral:	Slightly toxic by ingestion.
Acute toxicity - Dermal:	NA
Acute toxicity – Inhalation:	None established for formulated product.
Skin irritation:	Slightly to moderately toxic by contact. Tests indicate mild to no skin irritation and is not a skin sensitiser.
Eye irritation:	Causes serious eye damage
Respiratory or skin sensitization:	NA
Chronic toxicity:	None established for formulated product.
Germ cell mutagenicity:	Linuron: Negative results were obtained in the following assays: Rec-assay using two strains of *Bacillus subtili*.

	Reverse mutation tests with *S. typhimurium* (Ames Test). Host mediated assay using *S. typhimurium*. Point mutation test in Chinese Hamster ovaries (CHO). DNA damage and repair with rat hepatocytes in vitro. In vivo cytogenetic with bone marrow cells. None of the components in this material is listed by IARC, NTP OSHA, or ACGIH as a carcinogen.
Carcinogenicity:	NA
Reproductive toxicity:	Suspected of damaging fertility or the unborn child.
Aspiration hazard:	NA
STOT-single exposure:	NA
STOT-repeated exposure:	Causes damage to organs (hematopoietic system) through prolonged or repeated exposure.
Linuron:	In rats fed Linuron at 0, 50, 125 and 625 ppm for two years, a statistically significant increase in benign testicular interstitial cell adenomas was noted in mid and high dose males; in mice fed Linuron at 0, 50, 150, and 1,500 ppm for two years, a statistically significant increase in benign hepatocellular adenomas was noted in high dose females only. No increase in malignant tumours was seen in either species. Rats were fed at 0, 5, 125 and 625 ppm Linuron in the diet. Linuron was not embryotoxic or teratogenic at any level. No effects on reproduction were seen in a 3-generation rat reproduction study at 125 ppm.
Toxicity Data - Linuron:	None established for formulated product. Acute Oral LD_{50} (rat) 4,833 mg/kg (male); 4,060 mg/kg (female). Acute Dermal LD_{50} (rabbit) > 2,000 mg/kg Inhalation LC_{50} (rats) > 6.15mg/L air.

12. ECOLOGICAL INFORMATION

Ecology – general:	
Hazardous to the aquatic environment, short-term (acute):	Toxic to aquatic life.
Classification procedure - Hazardous to the aquatic environment, short-term (acute):	Fish :LC_{50} (96hr) rainbow trout and bluegill sunfish 16 mg/L Channel catfish 1.2 g/L *Daphnia* EC_{50} (48hr) 0.1-0.15 mg/L Algae EC_{50} (120hr) 0.0137 mg/L
Hazardous to the aquatic environment, long-term (chronic):	Very toxic to aquatic life with long lasting effects.
Classification procedure - Hazardous to the aquatic environment, long-term (chronic):	NA
Toxicity to terrestrial vertebrates:	Hazardous to terrestrial vertebrates. Bobwhite quail LD_{50} 940mg/kg. Dietary LC_{50} (8days) Mallard ducks 3,083mg/kg, > 5,000mg/kg for pheasants and Japanese quail. .
Toxicity to terrestrial invertebrates:	Hazardous to soil organisms. Worms LC_{50} > 1,000mg/kg soil
Persistence and degradability:	Herbicidal, soil DT50 38-67 days.
Bioaccumulative potential:	NA

Partition coefficient n-octanol/water (Log Kow):	3.2
Mobility in soil:	NA
Other adverse effects:	NA

13. DISPOSAL CONSIDERATIONS

Methods of disposal: Ensure bag is completely empty and dispose of at an approved landfill. Dispose of this product only by using in accordance with label directions. Dispose of solid contaminated material/or contaminated soil in an approved landfill. Disposal must be in accordance with applicable local regulations

Empty container precautions: Avoid contamination of any water supply with chemical or empty bag.

14. TRANSPORT INFORMATION - International transport regulations

UN number:	UN3077
Class or Division:	9
Subsidiary Class:	NA
Packing Group:	III
Marine Pollutant:	Yes
Proper shipping name:	Environmentally hazardous substance, Solid, N.O.S. Linuron

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

15. REGULATORY INFORMATION

ACVM Registered Number:	P000565
HSNO Approval Code:	HSR000229

16. OTHER INFORMATION

Additional information:

Original Issue Date: 27 September 2010
Revision Date: 27 February 2025
Replaces: ES570