




1. IDENTIFICATION

Product Identifier:	Lorox® Linuron Flowable Herbicide
Other Means of Identification:	Linuron
Recommended Use of the Chemical and Restrictions on Use:	Herbicide
Details of Manufacturer or Importer:	AgNova Technologies Pty Ltd Unit 4, 482 Kingsford Smith Drive Hamilton Qld 4007 Australia (03) 9899 8100 agnova.com.au
Emergency Phone Number:	1800 033 111 (24 hrs)

2. HAZARD(S) IDENTIFICATION

GHS Classification of the Active Substance:

Pictogram	Hazard Statements	Precautionary Statements
	Suspected of causing cancer (H351). May cause damage to organs through prolonged or repeated exposure (H373).	Obtain, read and follow all safety instructions before use. Wear protective gloves and protective clothing. Refer to Section 8 for specific PPE requirements. Do not breathe mist/spray. Use only outdoors or in a well-ventilated area. (P203+P280+P260+P271) IF exposed or concerned, get medical advice. (P318) Get medical help if you feel unwell. (P319)
	Harmful if inhaled (H332).	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help. (P304+P340+P317) Store locked up. (P405) Avoid release to the environment. Collect spillage. (P273+P391)
	Very toxic to aquatic life with long lasting effects (H400+H410).	Dispose of contents/container using instructions in the product label and in accordance with local/federal regulations. (P501)

Signal Word: Warning



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ADG Classification: Not classified as Dangerous Goods for land transport under the Australian Code for Transport of Dangerous Goods by Road and Rail, 7th Edition, special provision AU01 – refer Section 14

SUSMP Classification: Not scheduled
(Standard for Uniform Scheduling of Medicines and Poisons)

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (% w/v):
Linuron [3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea]	330-55-2	48.0

4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (Phone 13 11 26), and follow the advice given. Show this Safety Data Sheet to a doctor.

Description of Necessary First Aid Measures:

Ingestion: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air. If person is not breathing, call 000, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

First Aid Facilities: Provide washing facilities in the workplace.



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**Symptoms
Caused by
Exposure:** No data available.

**Medical Attention
and Special
Treatment:** None specified.

5. FIREFIGHTING MEASURES

**Suitable
Extinguishing
Equipment:** Use firefighting media appropriate for combustibles involved in the fire.

**Specific Hazards
Arising from the
Chemical:** Thermal decomposition or combustion may generate irritating and highly toxic fumes.

**Special Protective
Equipment and
Precautions for
Firefighters:** Wear self-contained positive pressure breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Evacuate area of all unnecessary personnel and fight fire from a safe distance upwind. Contain contaminated water/firefighting water; do not allow to enter drains or waterways. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff.

6. ACCIDENTAL RELEASE MEASURES

**Personal
Precautions,
Protective
Equipment and
Emergency
Procedures:** Isolate area and keep unnecessary and unprotected personnel from entering. Wear suitable personal protective clothing and equipment as described in Section 8 of this document. Ensure adequate ventilation.

**Environmental
Precautions:** Prevent material from entering into soil, ditches, public sewer systems, any waterways and/or groundwater. Do not flush to drain or soil. Contain contaminated water.



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Methods and Materials for Containment and Cleaning Up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. All Clear DS). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Harmful if swallowed or absorbed through the skin. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause an allergic reaction in some individuals. Remove contaminated clothing and wash clothing before reuse. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, including any Incompatibilities:

Store product in original container only. Store in a cool, dry place. Store locked up.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

None established

Biological Monitoring:

No data available.

Engineering Controls:

General ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual Protection Measures, for example, Personal Protective Equipment (PPE):

Wear protective gloves, protective clothing, eye protection and face protection.
Wash hands thoroughly after handling product.
Wash contaminated clothing before reuse.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light tan liquid
Odour:	Weak, characteristic odour
Vapour Pressure:	No data available
Vapour Density:	No data available
Density at 20°C:	1.19
Boiling Point:	103 +/- 3°C
Melting/Freezing Point:	No data available
Solubility:	Disperses to form a suspension. Solubility of Linuron in water is 75 ppm.
pH:	7.1
Flash Point:	No data available
Flammability:	Not flammable
Flammability Limits:	Not applicable
Auto-Ignition Temperature:	No data available
Partition Coefficient:	No data available
Kinematic Viscosity:	No data available

10. STABILITY AND REACTIVITY

Reactivity:	Not reactive under normal temperature and storage conditions.
Chemical Stability:	Stable under normal temperature and storage conditions.
Possibility of Hazardous Reactions:	Will not occur.
Conditions to Avoid:	Exposure to extreme heat and open flames.



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Incompatible Materials: Strong acids or bases.

Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral Toxicity: LD₅₀ Rat = 3247 mg/kg

Dermal Toxicity: LD₅₀ Rat >2000 mg/kg

Inhalation Toxicity: LC₅₀ Rat >1.7 mg/L (4 hr exposure)

Skin Corrosion/Irritation: Not irritating to the skin (rabbits)

Serious Eye Damage/Irritation: Not irritating to the eyes (rabbits)

Respiratory or Skin Sensitisation: Not a sensitiser

Reproductive Toxicity: Not a developmental or reproductive toxin

Germ Cell Mutagenicity: Not mutagenic or genotoxic.

Carcinogenicity: US EPA: Group C without Q₁* (Possible Human Carcinogen). Not listed by ACGIH (American Conference of Governmental Industrial Hygienists), IARC (International Agency for Research on Cancer), NTP (National Toxicology Program) or OSHA (Occupational Safety & Health Administration).

Specific Target Organ Toxicity (STOT) – single exposure: No data available.



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Specific Target Organ Toxicity (STOT) – repeated exposure: No data available.

Aspiration Hazard: No data available.

12. ECOLOGICAL INFORMATION

This information is based on the active ingredient: Linuron

Ecotoxicity:

Aquatic Toxicity:	EC ₅₀ 48 hr	<i>Daphnia magna</i>	0.12 mg/L
	LC ₅₀ 96 hr	Sheepshead Minnow	0.89 mg/L
	EC ₅₀ 72 hr	Freshwater Algae (<i>Scenedesmus subspicatus</i>)	0.016 mg/L
	NOEC 21 day	Rainbow Trout	0.1 mg/L
	NOEC 21 day	<i>Daphnia magna</i>	0.18 mg/L

Bird Toxicity:	Acute Oral LD ₅₀	Bobwhite Quail	940 mg/kg
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Persistence and Degradability:	<i>Plants:</i>
	In plants, metabolism involves demethylation and demethoxylation.
	<i>Soil and Water:</i>
	Microbial degradation is the primary factor in disappearance from soil. Half-life under field conditions is 2-5 months.

Bioaccumulative Potential:	No data available
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Mobility in Soil:	This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use.
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13. DISPOSAL CONSIDERATIONS

Disposal Containers and Methods	Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemical on site.
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If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. DO NOT burn empty containers or product.

For minor spills, leaks, etc., follow all precautions indicated on the product label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, phone 1800 033 111 (24 hrs).

14. TRANSPORT INFORMATION

Transport Classification:

Road and Rail Transport: Not classified as Dangerous Goods under the ADG7 when being transported in IBCs or other receptacles <500 L (kg), (Special Provision AU01).

Marine and Air: Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13th Edition

UN Number:

3082

Proper Shipping Name or Technical Name:

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

Transport Hazard Class:

9

Packing Group Number:

III

Environmental Hazards for Transport Purposes:

Product contains environmentally hazardous substances: linuron (ISO).

Marine pollutant.

Non-bulk packaging (max capacity of 450 L or less for liquids or 400 kg or less for solids) transported by motor vehicle, rail car or aircraft are excepted from all Marine Pollutants regulations and therefore treated as non-hazardous material.

All bulk shipments or any shipment transported partially or entirely by vessel are treated as regulated Marine Pollutants and are shipped according to the requirements listed above.



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Special Precautions for User: Not applicable

Additional Information: None

Hazchem Code: 3Z

15. REGULATORY INFORMATION

APVMA Registered according to the Agricultural and Veterinary Chemicals Code Act 1994 (Cwlth).
APVMA Product Number: 60490

SUSMP Not scheduled.

16. OTHER INFORMATION

Date of Preparation or Revision: 7 December 2021

Reason for Revision: 5-year review.
The following sections were revised:
Section 1: Contact details updated.
Sections 2, 3, 5-14: Updated as per updated manufacturer SDS

Abbreviations and Acronyms: ADG7 – Australian Dangerous Goods Code for Road and Rail Transport, 7th Edition
APVMA – Australian Pesticides and Veterinary Medicines Authority
EC – Effective Concentration
EPA – Environmental Protection Agency (US)
GHS – Globally Harmonised System of Classification and Labelling of Chemicals
IBC – Intermediate Bulk Containers
LC – Lethal Concentration
LD – Lethal Dose
NIOSH – National Institute for Occupational Safety and Health (USA)
NOEC – No Observed Effect Concentration
SUSMP – Standard for the Uniform Scheduling of Medicines and



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Poisons

Data Sources: Manufacturer product safety data and published data

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

The opinions expressed herein are those of qualified experts with the manufacturer. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of AgNova Technologies Pty Ltd, it is the user's obligation to determine the conditions of safe use of the product.

END OF SDS