

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 CLASSIFICATIONS

SIGNAL WORD – DANGER



HAZARD CLASSIFICATIONS

Health Hazards	Category	Physical Hazards	Category
Reproductive toxicity	1B	None	--
Carcinogenicity	2		
Acute toxicity, inhalation	4	Environmental Hazards	Category
Specific target organ toxicity (repeated exposure)	2	Hazardous to the Aquatic Environment – Chronic	1
		Hazardous to the Aquatic Environment – Acute	1

HAZARD STATEMENTS

May damage the unborn child, suspected of damaging fertility (H360Df)
Suspected of causing cancer (H351)
May cause damage to organs through prolonged or repeated exposure (H373)



SAFETY DATA SHEET

LOROX[®] LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

Harmful if inhaled (H332)

May be harmful if swallowed (H303)

Very toxic to aquatic life with long lasting effects (H400+H410)

HAZARDS NOT REQUIRING CLASSIFICATION

None

PRECAUTIONARY STATEMENTS

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 dust. Use only outdoors or in a well-ventilated area. (P203+P280+P260+P271)

If exposed or concerned, get medical advice. Get medical help if you feel unwell. (P318+P319)

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help. (P304+P340+P317)

IF SWALLOWED: Get medical help. (P301+P317)

Store locked up. (P405)

Avoid release to the environment not in accordance with the product label. Collect spillage. (P273+P391)

Dispose of contents / container using instructions in the product label and in accordance with local / Federal regulations. (P501)

OTHER CLASSIFICATIONS

ADG 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 Not scheduled
Classification: (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



SAFETY DATA SHEET

LOROX® LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

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.
- 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** Wear self-contained positive pressure breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.



SAFETY DATA SHEET

LOROX® LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

Firefighters: 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.

Hazchem Code: 3Z

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.

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.



SAFETY DATA SHEET

LOROX[®] LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure None established

Standards:

Biological No data available.

Monitoring:

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.

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



SAFETY DATA SHEET

LOROX[®] LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

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.
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



SAFETY DATA SHEET

LOROX® LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

Germ Cell Mutagenicity: Not mutagenic or genotoxic

Carcinogenicity: Classified by SWA's HCIS as follows:
Hazard Classification:
Carcinogenicity = Category 2
Hazard Statement:
Suspected of causing cancer (H351)
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).

Reproductive Toxicity: Classified by SWA's HCIS as follows:
Hazard Classification:
Reproductive Toxicity = Category 1B
Hazard Statement:
May damage the unborn child, suspected of damaging fertility (H360Df)

Specific Target Organ Toxicity (STOT) – single exposure: Not classified by SWA's HCIS

Specific Target Organ Toxicity (STOT) – repeated exposure: Classified by SWA's HCIS as follows:
Hazard Classification:
Specific target organ toxicity (repeated exposure) = Category 2
Hazard Statement:
May cause damage to organs through prolonged or repeated exposure (H373)

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



SAFETY DATA SHEET

LOROX® LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

EC₅₀ 72 hr Freshwater Algae 0.016 mg/L
(*Scenedesmus subspicatus*)

NOEC 21 day Rainbow Trout 0.1 mg/L

NOEC 21 day *Daphnia magna* 0.18 mg/L

Classified by SWA's HCIS:

Hazard Classification:

Hazardous to the Aquatic Environment – Chronic Category 1

Hazardous to the Aquatic Environment – Acute Category 1

Hazard Statement:

Very toxic to aquatic life with long lasting effects (H400+H410)

Bird Toxicity: Acute Oral LD₅₀ Bobwhite Quail 940 mg/kg

Persistence and Degradability:

Plants:

In plants, metabolism involves demethylation and demethoxylation.

Soil and Water:

Microbial degradation is the primary factor in disappearance from soil. Half-life under field conditions is 2-5 months.

Bioaccumulative Potential:

No data available

Mobility in Soil:

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use.

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.

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.



SAFETY DATA SHEET

LOROX[®] LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

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

Road and Rail Transport (ADG):	Not classified as Dangerous Goods under the ADG7 when being transported in IBCs or other receptacles <500 L (kg), (Special Provision AU01).
Marine Transport (IMDG):	Classified as Dangerous Goods for transport by sea according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13 th Edition
Air Transport (IATA):	Classified as Dangerous Goods for transport by air according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13 th 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 exempted 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.
Special Precautions for User:	Not applicable



SAFETY DATA SHEET

LOROX[®] LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

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: 25 January 2024

Reason for Revision: Update to hazard classifications in Section 2 and Section 11

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
- HCIS – Hazardous Chemical Information System
- 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 Poisons



SAFETY DATA SHEET

LOROX[®] LINURON FLOWABLE HERBICIDE

Date of Issue: 25 January 2024

SWA – Safe Work Australia

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