1. IDENTIFICATION

Product Identifier: Lorox® Linuron DF 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
Suite 3/935 Station Street
Box Hill North Vic 3129 Australia
(03) 9899 8100
www.agnova.com.au

Emergency Phone Number: 1800 033 111 (24 hrs)

2. HAZARD(S) IDENTIFICATION

GHS Classification of the Active Substance:

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Hazard Statements</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.</td>
<td>Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. If exposed or concerned: Get medical advice/attention. Store locked up. Dispose of contents/container in accordance with local and state regulations.</td>
</tr>
<tr>
<td>!</td>
<td>Harmful if swallowed or inhaled.</td>
<td>Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. Use personal protective equipment as required.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

LOROX® LINURON DF HERBICIDE

Date of Issue: December 2016

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Hazard Statements</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Toxic to aquatic life</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

*Signal word:* Warning

**ADG Classification:** Not classified as Dangerous Goods for land transport under the Australian Code for Transport of Dangerous Goods by Road and Rail special provision AU01 – refer section 14

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

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients:</th>
<th>CAS Number:</th>
<th>Concentration (% w/w):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linuron (ISO)</td>
<td>330-55-2</td>
<td>25-50</td>
</tr>
</tbody>
</table>

### 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: Provide washing facilities in the workplace.

Symptoms Caused by Exposure: No data available

Medical Attention and Special Treatment: None specified

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Equipment: Use firefighting measures that suit the environment.

Specific Hazards Arising from the Chemical: No relevant information available.

Special Protective Equipment and Precautions for Fire Fighters: Full protective clothing and self-contained breathing apparatus should be worn.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: See Section 7 for information on safe handling.

Environmental Precautions: See Section 8 for information on personal protection equipment.

Methods and Materials for Containment and Cleaning Up: Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers, surface or ground water.

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.
7. HANDLING AND STORAGE

Precautions for Safe Handling:
- Ensure good ventilation/exhaustion at the workplace.
- Avoid prolonged or repeated exposure.
- Keep protective respiratory device available.
- Refer to the Product Label for further information.

Conditions for Safe Storage, including any Incompatibilities:
- Store in a cool, dry place.
- Store in a well ventilated place.
- Keep away from any sources of heat or flame.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personnel who handle this product in its end-use application should use this product in accordance with its pesticide labelling.

Exposure Standards: None established

Biological Monitoring: None required

Engineering Controls: Ensure good ventilation in the workplace

Individual Protection Measures, for example, Personal Protective Equipment (PPE):
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.

Hand and Skin Protection for use in situations where PPE is required to minimise exposure:
- Wear butyl rubber, natural rubber, nitrile rubber, or neoprene gloves. Wear long-sleeved shirt and long pants, waterproof shoes and socks.
- Wash contaminated clothing before reuse.

Eye Protection for use in situations where PPE is required to minimise exposure:
- Wear tightly sealed goggles, face protection.

Respiratory Protection if local ventilation is inadequate:
- Use NIOSH approved, dual cartridge respirators for dusts or mists (N, R or P class filter media with NIOSH approved prefix TC-84A).
- Store protective clothing separately.
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Grey granules
Odour: Slight, characteristic odour
Vapour Pressure: Not applicable
Vapour Density: Not applicable
Bulk Density: 609 kg/m³
Boiling Point: Not applicable
Melting/Freezing Point: Not determined
Solubility: Disperses. Solubility of Linuron in water is 75 ppm
pH: Not determined
Flash Point: Not applicable
Flammability (explosive) Limits: Not applicable
Auto-Ignition Temperature: Not applicable
Viscosity: Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperature and storage conditions.
Possibility of Hazardous Reactions: Will not occur
Conditions to Avoid: Ignition, heat, open flame and long exposure to high temperatures
Incompatible Materials: None known.
Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:
Oral Toxicity: LD₅₀ Rat (female) 3489 mg/kg
Dermal Toxicity: LD₅₀ Rabbit >2000 mg/kg
Inhalation Toxicity: \( \text{LC}_{50} \) Rat 5.08 mg/L (4 hr exposure)

Skin Corrosion/Irritation: No irritant effect

Serious Eye Damage/Irritation: Mild to moderate eye irritant

Respiratory or Skin Sensitisation: Not a skin sensitizer in animals

*This information is based on the active ingredient: Linuron*

Germ Cell Mutagenicity: Not mutagenic or genotoxic

Carcinogenicity: Category C without Q1* (Possible Human Carcinogen) by USEPA

Not listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program) or OSHA-Ca (Occupational Safety & Health Administration)

Reproductive Toxicity: Not a developmental or reproductive toxin

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

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: \( \text{LC}_{50} \) (96 hr Rainbow trout) = 3.15 mg/L  
\( \text{LC}_{50} \) (96 hr Bluegill sunfish) = 9.6 mg/L  
\( \text{LC}_{50} \) (96 hr Sheepshead minnow) = 0.89 mg/L  
\( \text{EC}_{50} \) (48 hr Water flea *Daphnia magna*) = 0.12 mg/L  
\( \text{EC}_{50} \) (72 hr freshwater algae) = 0.016 mg/L  
21-day NOEC Rainbow trout = 0.10 mg/L  
21-day NOEC Water flea *Daphnia magna* = 0.18 mg/L

Bird Toxicity: Acute Oral LD50 Bobwhite Quail = 940 mg/kg  
Subacute Oral LC50 Bobwhite Quail = 1250 ppm
Subacute Oral LC50 Mallard Duck = 3083 ppm
Reproductive Toxicity, NOEC Bobwhite Quail = 100 ppm
Reproductive Toxicity, NOEC Bobwhite Quail = 100 ppm

1 Treatment-related effects at 300 ppm were effects on adult weight, food consumption, egg production, and eggshell thickness
2 Treatment-related effects at 300 ppm were effects on egg production, hatchability, and offspring survival

Persistence and Degradability:
In plants, metabolism involves demethylation and demethoxylation.
Microbial degradation is the primary factor in disappearance from soil. Half-life under field conditions is c. 2-5 months, F. Kempson-Jones and R. J. Hance Pestic. Sci.,1979, 10: 449.
In soil, DT50 38-67 d. Soil adsorption K∞ 500-600.

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
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.

14. TRANSPORT INFORMATION

Transport Classification:
Road and Rail Transport: Not 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
LOROX® LINURON DF HERBICIDE

Date of Issue: December 2016

| UN Number: | 3077 |
| Proper Shipping Name or Technical Name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Transport Hazard Class: | 9 |
| Packing Group: | III |
| Special Precautions for User: | Warning: Miscellaneous dangerous substances and articles |
| Additional Information: | None |
| Hazchem Code: | 2Z |

15. REGULATORY INFORMATION

APVMA
Registered according to the Agricultural and Veterinary Chemicals Act 1988.
APVMA Product Number: 60222

SUSMP
Not scheduled

16. OTHER INFORMATION

Trademark Information:
Lorox® is a registered trademark of Tessenderlo Kerley, Inc.
All rights reserved.

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

Date of Preparation or Revision: December 2016

Reason for Revision: To comply with GHS

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