

**LOROX® LINURON DF HERBICIDE**

Date of Issue: December 2016

**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](http://www.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. May cause damage to organs through prolonged or repeated exposure.	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.
	Harmful if swallowed or inhaled.	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.

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Pictogram	Hazard Statements	Precautionary Statements
	Toxic to aquatic life	Avoid release to the environment.

**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**

Ingredients:	CAS Number:	Concentration (% w/w):
Linuron (ISO)	330-55-2	25-50

**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.

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**First Aid Facilities:** Provide washing facilities in the workplace.

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

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

<b>5. FIRE FIGHTING MEASURES</b>
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**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.

<b>6. ACCIDENTAL RELEASE MEASURES</b>
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**Personal Precautions, Protective Equipment and Emergency Procedures:** See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

**Environmental Precautions:** 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.

**Methods and Materials for Containment and Cleaning Up:** 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.

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<b>7. HANDLING AND STORAGE</b>
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<b>Precautions for Safe Handling:</b>	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.
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<b>Conditions for Safe Storage, including any Incompatibilities:</b>	Store in a cool, dry place. Store in a well ventilated place. Keep away from any sources of heat or flame.
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<b>8. EXPOSURE CONTROLS AND PERSONAL PROTECTION</b>
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Personnel who handle this product in its end-use application should use this product in accordance with its pesticide labelling.

<b>Exposure Standards:</b>	None established
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<b>Biological Monitoring:</b>	None required
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<b>Engineering Controls:</b>	Ensure good ventilation in the workplace
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<b>Individual Protection Measures, for example, Personal Protective Equipment (PPE):</b>	Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. <i>Hand and Skin Protection for use in situations where PPE is required to minimise exposure:</i> 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. <i>Eye Protection for use in situations where PPE is required to minimise exposure:</i> Wear tightly sealed goggles, face protection. <i>Respiratory Protection if local ventilation is inadequate:</i> 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.
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**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Grey granules
<b>Odour:</b>	Slight, characteristic odour
<b>Vapour Pressure:</b>	Not applicable
<b>Vapour Density:</b>	Not applicable
<b>Bulk Density:</b>	609 kg/m <sup>3</sup>
<b>Boiling Point:</b>	Not applicable
<b>Melting/Freezing Point:</b>	Not determined
<b>Solubility:</b>	Disperses. Solubility of Linuron in water is 75 ppm
<b>pH:</b>	Not determined
<b>Flash Point:</b>	Not applicable
<b>Flammability (explosive) Limits:</b>	Not applicable
<b>Auto-Ignition Temperature:</b>	Not applicable
<b>Viscosity:</b>	Not applicable

**10. STABILITY AND REACTIVITY**

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

**11. TOXICOLOGICAL INFORMATION**

<b>Acute Toxicity:</b>	
<b>Oral Toxicity:</b>	LD <sub>50</sub> Rat (female) 3489 mg/kg
<b>Dermal Toxicity:</b>	LD <sub>50</sub> Rabbit >2000 mg/kg

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**Inhalation Toxicity:** LC<sub>50</sub> 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 Q<sub>1</sub>\* (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

<b>12. ECOLOGICAL INFORMATION</b>
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*This information is based on the active ingredient: Linuron*

**Ecotoxicity:**

**Aquatic Toxicity:** LC<sub>50</sub> (96 hr Rainbow trout) = 3.15 mg/L  
LC<sub>50</sub> (96 hr Bluegill sunfish) = 9.6 mg/L  
LC<sub>50</sub> (96 hr Sheepshead minnow) = 0.89 mg/L  
EC<sub>50</sub> (48 hr Water flea *Daphnia magna*) = 0.12 mg/L  
EC<sub>50</sub> (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 LD<sub>50</sub> Bobwhite Quail = 940 mg/kg  
Subacute Oral LC<sub>50</sub> Bobwhite Quail = 1250 ppm

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Subacute Oral LC50 Mallard Duck = 3083 ppm  
Reproductive Toxicity, NOEC Bobwhite Quail = 100 ppm<sup>1</sup>  
Reproductive Toxicity, NOEC Bobwhite Quail = 100 ppm<sup>2</sup>  
<sup>1</sup> Treatment -related effects at 300 ppm were effects on adult weight, food consumption, egg production, and eggshell thickness  
<sup>2</sup> 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  $K_{\infty}$  500-600.

**Bioaccumulative Potential:  
Mobility in Soil:**

No data available  
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 13<sup>th</sup> Edition

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<b>UN Number:</b>	<b>3077</b>
<b>Proper Shipping Name or Technical Name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Transport Hazard Class:</b>	9
<b>Packing Group:</b>	III
<b>Environmental Hazards for Transport Purposes:</b>	Product contains environmentally hazardous substances: linuron (ISO). Marine pollutant.
<b>Special Precautions for User:</b>	Warning: Miscellaneous dangerous substances and articles
<b>Additional Information:</b>	None
<b>Hazchem Code:</b>	2Z

**15. REGULATORY INFORMATION**

<b>APVMA</b>	Registered according to the Agricultural and Veterinary Chemicals Act 1988. APVMA Product Number: 60222
<b>SUSMP</b>	Not scheduled

**16. OTHER INFORMATION**

<b>Trademark Information:</b>	Lorox® is a registered trademark of Tessenderlo Kerley, Inc. All rights reserved.
<b>Abbreviations and Acronyms:</b>	ADG7 – Australian Dangerous Goods Code for Road and Rail Transport, 7 <sup>th</sup> 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)



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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