



SAFETY DATA SHEET

LINEX™ FLO

Date of Issue: 24 September 2010

1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

Chemical name of active ingredient(s): Linuron

Recommended use: Herbicide

Supplier: Etec Crop Solutions Ltd
31 Tamaki Bay Dr, Pakuranga, Auckland
Phone 0800 100 325

Emergency telephone number: 0800 Poison (0800 764 766) 24 Hours

2. HAZARDS IDENTIFICATION

Hazard Classification: Toxic - 6.1E, 6.3B, 6.4A, 6.8B, 6.9A,
Ecotoxic -9.1A, 9.2A, 9.3C

Required identification Details: WARNING – KEEP OUT OF REACH OF CHILDREN
ECOTOXIC

Very toxic to aquatic organisms.
Very toxic in the soil environment.
Harmful to terrestrial vertebrates.

HARMFUL – may be harmful if swallowed, inhaled or absorbed through the skin.
May cause skin irritation
May cause eye irritation.
Frequent exposure at high doses may cause reproductive/development damage.
Frequent exposure at high doses may cause damage to the production of blood cells.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

Common name	CAS No	%
Linuron (ISO)	330-55-2	45

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.

Notes to a physician:

There is no specific antidote. Treat symptomatically and give supportive therapy.

5. FIRE-FIGHTING MEASURES

HAZCHEM Code:

2Z

Extinguishing media :

Foam, dry chemical or carbon dioxide.

Hazardous thermal (de)composition products:

Chloride compounds and nitrogen oxides

Protection of fire-fighters:

Self-contained breathing apparatus and total protection required in enclosed areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Wear PVC overalls, chemical resistant gloves, facemask or goggles.

Environmental precautions:

Contain Spills. Do not discharge into drains or the environment.

Methods for cleaning up:

Prevent further spillage. Adsorb spilled product and place in sealable container for disposal. Wash down affected area with water plus detergent. Absorb and collect washings and place in the same sealable container for disposal. Seek advice from the local authority regarding disposal.

7. HANDLING AND STORAGE

Handling:

Avoid contact with eyes and skin.

Storage:

Keep only in the original container. Keep in a cool, dry, well ventilated place away from direct sunlight. Protect from frost. Store at 10-30°C.

Packaging materials:

HDPE plastic container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Guidelines

Exposure standards: <u>Engineering measures</u>	None Established
Exposure control measures: <u>Personal Protective Equipment</u>	Ventilation required in enclosed areas.
Detail specifications for equipment:	
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

Physical State: Colour, Odour.	Brownish aromatic liquid (suspension concentrate).
pH:	7 - 9.5
Vapour Pressure:	0.05 mPa @ 20°C (Linuron (ISO))
Boiling Point:	100°C (Water)
Freezing/melting point:	N/A
Solubility:	Dispersible.
Specific gravity:	1.19°C 0.02 g/mL @ 20°C
Flashpoint:	Not flammable
Octanol/water partition coefficient:	log P = 3.0 (Linuron (ISO))
Explosion properties:	Not Explosive.
Oxidation properties:	Not an Oxidizing Agent

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to avoid:	Excess heat
Materials to avoid:	Oxidizing agents, acids and alkali.
Hazardous decomposition Products:	In Fire - Chloride compounds and nitrogen oxides.
Hazardous polymerization:	Not subject to polymerization
Specific Data:	
Hazardous reactions :	None expected

11. TOXICOLOGICAL INFORMATION

Acute toxicity – Oral :	LD50 (rat) = 4,480 mg/kg
Acute toxicity - Dermal :	LD50 (rabbit) > 4,000 mg/kg
Acute toxicity – Inhalation:	LC50 (rat) > 4.66 mg/L (4 hours)
Skin irritation :	Not irritating (rabbit).
Eye irritation:	Not irritating (rabbit).
Sensitization :	Non sensitizer (guinea-pig).

Chronic toxicity

Mutagenicity:

Reproduction toxicity:

Other information : Teratogenicity -

NOAEL (rat) = 25 ppm or 1.3 mg/kg/day (2 years)
NOAEL (mouse) = 50 ppm or 6.5 mg/kg/day (2 years)
Not mutagenic
NOAEL (rat) = 6.83 - 8.3 (100 ppm) mg/kg/day.
NOAEL (rat) = 20 mg/kg/day (Maternal and Fetal)
NOAEL (rabbit) = 10 mg/kg/day (Maternal) ;
25 mg/kg/day Fetal)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Rainbow trout

Daphnia magna

Algae

Very toxic to aquatic organisms. Not toxic to bees.

LC50 (96 hours) = 15.4 mg/L

EC50 (48 hours) = 4.1 mg/L

(scenedesmus subspicatus) EC50 (72 hours)=0.1mg/L

Birds

Bobwhite quail (colinus virginianus) LD50 = 314 mg/kg

bobwhite quail (colinus virginianus) LC50 = 1,250 ppm

(8-day feeding)

Bees

Oral LD50 > 197 μ g /bee

Contact LD50 > 200 μ g /bee

Soil:

Not mobile. Adsorbed on organic matter and clay.

Kd = 2.2 - 18 mL/g

Koc = 362 - 877 mL/g

Persistence/degradability Soil

Lab. - Half-life time (t_{1/2}): 38-135 days (15-25o)

Field - DT50: 13-82 days.

Degradation is primarily via: microorganisms.

Water:

DT50: 48 days. Low risk of underground water contamination.

13. DISPOSAL CONSIDERATIONS

Methods of disposal :

Triple rinse container and add residue to spray tank. Submit clean empty container for recycling through Agrecovery. If this is not possible, burn if permitted and circumstances, especially wind direction allow, otherwise bury in landfill.

14. TRANSPORT INFORMATION - International transport regulations

UN number:

3082

Class or Division:

9

Packing Group:

III

Marine Pollutant:

YES

Proper shipping name :

Environmentally hazardous substance, Liquid, N.O.S. Linuron (ISO).

15. REGULATORY INFORMATION

ACVM Registered Number:

P8238

HSNO Approval Code:

HSR000938

16. OTHER INFORMATION

Additional information:

Original Issue Date: 22 December 2005

Revision Date: N/A

Replaces: N/A

Disclaimer EXCLUSION OF LIABILITY: PLEASE READ

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