Safety Data Sheet

1 IDENTIFICATION

Product Name: Linex® 4L

EPA Reg. No.: 61842-21
Chemical Family: Phenylurea herbicide

Manufacturer/Supplier: Tessenderlo Kerley Inc.
2255 N. 44th Street, Suite 300
Phoenix, Arizona 85008-3279
Information:(602) 889-8300

For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC®:
(800) 424-9300 (CHEMTREC)
(866) 374-1975 (Tessenderlo Kerley)

2 HAZARD(S) IDENTIFICATION

<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>
<tr>
<td></td>
<td>Toxic to aquatic life.</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

Signal Word: Warning

NFPA Hazard Ratings

Health = 2
Fire = 0
Reactivity = 0

HMIS Ratings

Health = 2
Fire = 0
Reactivity = 0
3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Mixture
Description: Mixture of the substance(s) listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient:</td>
<td>Linuron (ISO)</td>
<td>330-55-2</td>
</tr>
<tr>
<td>Other Ingredients:</td>
<td>Ethylene glycol</td>
<td>107-21-1</td>
</tr>
</tbody>
</table>

4 FIRST AID MEASURES

Description of first aid measures
General information:
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-866-374-1975. See Label for Additional Precautions and Directions for Use.

IF SWALLOWED: Call a poison control center 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 center or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES: 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 center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5 FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents:
Use firefighting measures that suit the environment.

Special hazards arising from the substance or mixture
No relevant information available.

Advice for firefighters
Protective equipment:
Wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
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 material 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.

Reference to other sections
See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.
7 HANDLING and STORAGE

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Avoid prolonged or repeated exposure.
Personnel must refer to the Product Label and Directions For Use attached to the product for agricultural use requirements in accordance with the EPA Worker Protection Standard.

Information about protection against explosions and fires: Keep protective respiratory device available.

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/PERSOAL PROTECTION

Control parameters
Components with occupational exposure limits: 107-21-1 (ethylene glycol)

<table>
<thead>
<tr>
<th>Component</th>
<th>TLV</th>
<th>Long-term value: NIC-10* mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ceiling limit value: (100) mg/m³ (H);*as inhalable fraction and vapor</td>
<td></td>
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</table>

Additional information:
Personnel who handle this product in its end-use application should use this product only in accordance with its pesticide labeling and with the "Worker Protection Standard", 40 CFR 170.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

Breathing equipment:
Use NIOSH approved, dual cartridge respirators for dusts or mists if local ventilation is inadequate (N, R or P class filter media with NIOSH approved prefix TC-84A).

Protection of hands:

- Protective gloves
  The glove material has to be impermeable and resistant to the product.

Material of gloves
- Butyl rubber, BR
- Natural rubber, NR
- Nitrile rubber, NBR
- Neoprene gloves

Penetration time of glove material
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

Eye protection:
Tightly sealed goggles
Face protection

Body protection:
Wear long-sleeved shirt and long pants, waterproof shoes and socks. Wash contaminated clothing before reuse.
9 PHYSICAL and CHEMICAL PROPERTIES

Appearance  Light tan liquid  
Odor  Weak, characteristic  
Odor Threshold  Not determined  
\( \text{pH} \)  7.1  
Melting/Freezing Point  Not determined  
Boiling Point  103 +/- 3 °C (217 +/- 37 °F)  
Flash Point  N/A  
Danger of Explosion  N/A  
Flammability (Solid/Gas)  Product does not present an explosion hazard  
Upper/Lower Flammability or Explosive Limits  Not determined  
Vapor Pressure  Not determined  
Vapor Density  Not determined  
Relative Density  Not determined  
Density @ 20°C (68°F)  9.8 lb/gal  
Solubility (in Water)  Disperses to form a suspension. Solubility of Linuron in water is 75 ppm  
Partition Coefficient: n-octanol/water  Not determined  
Auto-ignition temperature  Product is not self-igniting  
Solvent content  40.6%  
Viscosity  Not determined  

10 STABILITY and REACTIVITY

Reactivity  N/A  
Chemical stability  This is a stable material under normal temperature and storage conditions. 
Possibility of hazardous reactions  Will not occur  
Conditions to avoid  No further relevant information available.  
Incompatible materials  None known  
Hazardous decomposition products:  None known  

11 TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC\textsubscript{50} values relevant for classification:

\begin{tabular}{ll}
Oral & \text{Rat LD}_{50} : 3,540 mg/kg (male), 3,247 mg/kg (female) \\
Dermal & \text{Rabbit LD}_{50} : >2,000 mg/kg \\
Inhalation & \text{Rat LC}_{50} : >1.7 mg/L (4 hr exposure) \\
Eye Irritation & Not irritating to the eyes of rabbits \\
Skin Irritation & Not irritating to the skin of rabbits \\
\end{tabular}

This information is based on the active ingredient: Linuron

\textbf{Mutagenicity / genotoxicity}  Not mutagenic or genotoxic  
\textbf{Reproductive Toxicity}  Not a developmental or reproductive toxin  
\textbf{Carcinogenicity Assessment}  Category C without Q\textsubscript{1} \textsuperscript{*} (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)
ECOLOGICAL INFORMATION

This information is based on the active ingredient: Linuron

AQUATIC TOXICITY

96 hour LC₅₀  Bluegill sunfish: 9.6 mg/L
96 hour LC₅₀  Rainbow trout: 3.3 mg/L
48 hour EC₅₀  Daphnia magna: 1.9 mg/L
72 hour EC₅₀  Freshwater algae: 0.028 mg/L

AVIAN TOXICOLOGY

Acute Oral LD₅₀  Bobwhite quail 940 mg/kg
Acute dietary LC₅₀  Bobwhite quail 1,838 ppm
Acute dietary LC₅₀  Mallard duck 5,224 ppm
Oral LC₅₀  Mallard duck 3,083 ppm

This information is based on the ingredient: Ethylene Glycol

AQUATIC TOXICITY

96 hour LC₅₀  Fathead minnows 49,000 mg/L
48 hour EC₅₀  Daphnia magna, 46,300 mg/L
96 hour EC₅₀  Algae 10,940 mg/L

This information is based on the ingredient: Linuron

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 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.

Mobility

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

DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure 2 more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities by burning. If burned, stay out of smoke.
For minor spills, leaks, etc., follow all precautions indicated on this 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, call 1- (800) 424-9300 (CHEMTREC) day or night.
14 TRANSPORT INFORMATION

**UN Number**
DOT, ADR, IMDG, IATA    UN3082

**UN Proper shipping name:**
DOT  Environmentally hazardous substance, liquid, n.o.s.
ADR  UN3082 Environmentally hazardous substance, liquid, n.o.s.
IMDG  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, liquid, n.o.s. (linuron(ISO)), MARINE POLLUTANT
IATA  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, liquid, n.o.s.

**Transport hazard class(es)**

**DOT**
- Class: 9 Miscellaneous dangerous substances and articles

**ADR, IMDG**
- Class: 9 Miscellaneous dangerous substances and articles
- Label: 9

**IATA**
- Class: 9 Miscellaneous dangerous substances and articles
- Label: 9

**Packing group**
DOT, ADR, IMDG, IATA    III

**Environmental hazards:**
Product contains environmentally hazardous substances: linuron (ISO)

**Marine pollutant:**
Yes

**Special marking (ADR):**
Symbol (fish and tree)

**Special marking (IATA):**
Symbol (fish and tree)

**Special precautions for user**
Warning: Miscellaneous dangerous substances and articles

**EMS Number:**
F-A,S-F

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
Not applicable.

**Transport/Additional information:**
In accordance with 49 CFR 171.4(c), non-bulk packagings (max capacity of 119 gal (450 L) or less for liquids or 882 lbs (400 kg) or less for solids) transported by motor vehicle, rail car or aircraft are excepted from all Marine Pollutants regulations in 49 CFR 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.
TRANSPORT INFORMATION (continued)

**ADR**
*Excepted quantities (EQ)*
- Code: E1
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 1000 ml

**IMDG**
*Limited quantities (LQ)*
- 5L
*Excepted quantities (EQ)*
- Code: E1
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 1000 ml

**UN “Model Regulation”**
UN3082 Environmentally hazardous substance, liquid, n.o.s., 9, III

REGULATORY INFORMATION

**FIFRA:** Yes
**Product Name:** Linex 4L Herbicide  
**EPA Reg No.** 61842-21

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**CAUTION**
- 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.

**Safety, health and environmental regulations/legislation specific for the substance or mixture**
Section 355 (extremely hazardous substances): None of the ingredients is listed.
Section 313 (Toxic Release Reporting-Form R):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
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<tbody>
<tr>
<td>Linuron</td>
<td>330-55-2</td>
<td>40.6%</td>
</tr>
<tr>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
<td>8%</td>
</tr>
</tbody>
</table>

**TSCA (Toxic Substances Control Act):** Exempt from TSCA

**Proposition 65**
This product contains chemicals known to the state of California to cause developmental toxicity.

**CERCLA/SUPERFUND:**
- RQ (Reportable Quantity) Yes: Ethylene Glycol (5,000 lbs)

**RCRA Classification**
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**National regulations:**
The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

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