



Creating Value Through Innovative Solutions

# Material Safety Data Sheet

## LOROX DF Herbicide

MSDS Number : LOROX1 DATE: (8/20/2009)

7 Pages

### Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

- 1.0** Product Name ..... **LOROX DF Herbicide EPA # 61842-23**  
 Chemical Family ..... organic methylurea  
 Synonyms ..... Linex 50DF, LOROX 50DF, Linuron 50DF, DPX-Z0326, [3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea].  
 Formula .....  $C_9H_{10}C_{12}N_2O_2$
- 1.2** **Manufacturer** ..... Tessenderlo Kerley Inc.  
 2255 N. 44<sup>th</sup> Street, Suite 300  
 Phoenix, Arizona 85008-3279  
 Information ..... (602) 889-8300
- 1.3** **Emergency Contact** ..... (866) 374-1975 (Tessenderlo Kerley)  
**(800) 424-9300 (CHEMTREC)**

### Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

2.1	Chemical Ingredients (% by wt.)	CAS No.	%
	Linuron [3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea]	330-55.2	50
	Inert ingredients		50%

(See Section 8 for exposure guidelines)

### Section 3: HAZARDS IDENTIFICATION

**NFPA:**      **Health - 1**      **Flammability - 1**      **Reactivity - 0**

#### EMERGENCY OVERVIEW

CAUTION! Harmful if swallowed or contacts the eye or skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling.

<b>Section</b>	<b>3:</b>	<b>HAZARDS IDENTIFICATION Cont.</b>
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### 3.1 POTENTIAL HEALTH EFFECTS (if product not handled in the recommended manner)

**EYE:** Contact with the eyes may cause eye irritation with discomfort, tearing, or blurring of vision.

**SKIN CONTACT:** Contact with product may cause skin irritation with discomfort or rash.

**SKIN ABSORPTION:** Absorption is unlikely to occur.

**INGESTION:** Repeated or prolonged exposure by ingestion may cause red blood cell destruction.

**INHALATION:** Inhalation of product may cause irritation of the upper respiratory passages.

**CHRONIC EFFECTS/CARCINOGENICITY:** Not listed as a carcinogen by NTP, IARC or OSHA. See Section 11, Toxicological Information

<b>Section</b>	<b>4:</b>	<b>FIRST AID MEASURES</b>
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With any exposure contact the Poison Control Center for medical advise. Have product label with you when calling.

**4.1 EYES:** Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids. Obtain immediate medical attention.

**4.2 SKIN:** Immediately flush with large quantities of water for 15 minutes. Remove contaminated clothing under a safety shower. Do not neutralize with chemical agents. Obtain medical attention if irritation occurs.

**4.3 INGESTION:** DO NOT INDUCE VOMITING. Give 1 or 2 glasses of water. If vomiting does occur, repeat fluid administration. If unconscious or convulsing, do not give fluids. Obtain immediate medical attention.

**4.4 INHALATION:** Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain immediate medical attention.

<b>Section</b>	<b>5:</b>	<b>FIRE FIGHTING MEASURES</b>
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### 5.1 FLAMMABLE PROPERTIES

<b>FLASH POINT:</b>	NA	<b>METHOD USED:</b>	NA
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**5.2 FLAMMABLE LIMITS** NA

**5.3 EXTINGUISHING MEDIA:** Use extinguishing media as appropriate for combustibles involved in fire.

**5.4 FIRE & EXPLOSIVE HAZARDS:** Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air

**5.5 FIRE FIGHTING EQUIPMENT:** Wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

<b>Section</b>	<b>6:</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
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**6.1 Small releases:** Clear area. Shut off leak if safely possible. Do not wash small spills away. Ensure adequate ventilation. Do not discharge into drains or surface waters/groundwater. Sweep up then shovel material into a suitable container (fiberboard) for disposal. If spill area is on ground near trees or other valuable plants, remove top two inches of soil after initial cleanup. Dispose as directed by the pesticide product label.

**6.2 Large releases:** Cordon off area of spillage and dike area with dirt, sand or other inert material to prevent any further migration. Recover as much of usable product for application (best disposal practice). Handle remaining material as a small spill above.

<b>Section</b>	<b>7:</b>	<b>HANDLING and STORAGE</b>
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**7.1 Handling:** Manufacturing, commercial blending, packaging and applicator 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. Keep out of reach of children. Use only in a well ventilated area. Avoid prolonged or repeated contact with the skin and eyes. Avoid breathing vapors, mist or dust. Wash thoroughly with soap and water after handling. Wash exposed clothing before reuse.

Do not contaminate water, food or feed by close storage.

Avoid dust generation. Keep away from heat, open flame, or ignition sources.

**7.2 Storage:** Store in cool, dry, well ventilated areas away from ignition sources, heat or flame. Protect containers from physical damage and contamination.

<b>Section</b>	<b>8:</b>	<b>EXPOSURE CONTROLS, PERSONAL PROTECTION</b>
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All 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. Wear long-sleeve work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with shower and eye wash.

**8.1 RESPIRATORY PROTECTION:** Use NIOSH approved, dual cartridge respirators for dusts or mists if local ventilation is inadequate..

**8.2 SKIN PROTECTION:** Wear butyl, natural, nitrile or neoprene rubber gloves and coveralls over long-sleeve shirt and long pants and chemical resistant apron to prevent repeated or prolonged contact with the skin.

**8.3 EYE PROTECTION:** Chemical goggles and a full face shield to prevent contact with face and eyes.

<b>8.4 EXPOSURE GUIDELINES:</b>	OSHA	ACGIH
	<u>PEL</u>	<u>TLV STEL</u>
Linuron	Not established	Not established

**8.5 ENGINEERING CONTROLS:** Use adequate exhaust ventilation to prevent inhalation of product vapors, mist or dust..

<b>Section</b>	<b>9:</b>	<b>PHYSICAL and CHEMICAL PROPERTIES.</b>
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<b>9.1 APPEARANCE:</b>	Gray granules
<b>9.2 ODOR:</b>	Slight characteristic odor
<b>9.3 BOILING POINT:</b>	NA
<b>9.4 VAPOR PRESSURE:</b>	NA
<b>9.5 VAPOR DENSITY:</b>	NA
<b>9.6 SOLUBILITY IN WATER:</b>	Disperses. Solubility of Linuron in water is 75 ppm
<b>9.7 BULK DENSITY:</b>	38 lbs/ft <sup>3</sup> (609 kg/m <sup>3</sup> )
<b>9.8 FREEZING POINT:</b>	NA
<b>9.9 pH:</b>	Not determined
<b>9.10 VOLATILE:</b>	NA
<b>9.11 MELTING POINT</b>	Not determined

<b>Section</b>	<b>10:</b>	<b>STABILITY and REACTIVITY</b>
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- 10.1 STABILITY:** This is a stable material under normal temperature and storage conditions.
- 10.2 HAZARDOUS POLYMERIZATION:** Will not occur.
- 10.3 HAZARDOUS DECOMPOSITION PRODUCTS:** Hazardous decomposition will not occur.
- 10.4 INCOMPATIBILITY:** Avoid ignition, heat, open flame and long exposure to high temperatures.

<b>Section</b>	<b>11:</b>	<b>TOXICOLOGICAL INFORMATION</b>
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- 11.1 ORAL:** Oral-Rat LD<sub>50</sub>: 3,489 mg/kg (female)
- 11.2 DERMAL:** > 2,000 mg/kg (rabbits)
- 11.3 INHALATION:** 5.08 mg/L (rats – 4 Hr)
- 11.4 CHRONIC/CARCINOGENICITY:** Not listed as a carcinogen by NTP, IARC or OSHA.
- 11.5 TERATOLOGY:** Data not available
- 11.6 REPRODUCTION:** Data not available
- 11.7 MUTAGENICITY:** Data not available

LOROX DF is a mild to moderate eye irritant, but is not a skin irritant or skin sensitizer in animals.

<b>Section</b>	<b>12:</b>	<b>ECOLOGICAL INFORMATION</b>
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**AQUATIC TOXICITY**

96 hour LC <sub>50</sub>	Bluegill sunfish:	9.6 mg/L
96 hour LC <sub>50</sub>	Rainbow trout:	3.3 mg/L
48 hour EC <sub>50</sub>	Daphnia magna:	1.9 mg/L
72 hour EC <sub>50</sub>	Freshwater algae:	0.028 mg/L

<b>Section</b>	<b>12:</b>	<b>ECOLOGICAL INFORMATION, Cont.</b>
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**AVIAN TOXICOLOGY**

Acute Oral LD <sub>50</sub>	Bobwhite quail	940 mg/kg
Acute dietary LC <sub>50</sub>	Bobwhite quail	1,838 ppm
Acute dietary LC <sub>50</sub>	Mallard duck	5,224 ppm
Oral LC <sub>50</sub>	Mallard duck	3,083 ppm

<b>Section</b>	<b>13:</b>	<b>DISPOSAL CONSIDERATIONS</b>
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Disposal of product waste should be handled by licensed waste handlers in accordance with all governmental regulations. Do not contaminate water, food or feed by improper disposal. Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility.

Environmental Hazards: This product is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning equipment or disposing of equipment wash waters. .

Ground water advisory: This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where are permeable, particularly where the water table is shallow, may result in ground water contamination.

Container Disposal:

Plastic containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of the smoke.

For paper and plastic bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of resulting smoke.

Container Refilling and Disposal (for containers up to 250gal): Refer to product label.

Container Disposal for Bulk Containers: Refer to product label.

The container must not be refilled with the pesticide product. **DO NOT REUSE CONTAINER FOR ANY OTHER PURPOSE>**

Do not transport if the container is damaged or leaking.

Disposal of the container must be in compliance with State and local regulations.

When disposal is made to discard this product, it does not meet RCRA's characteristics definitions nor is it a listed water in 40 CFR 261.33.

For spills or leaks SEE SECTION 6,

<b>Section</b>	<b>14:</b>	<b>TRANSPORT INFORMATION</b>
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**14.1 DOT Shipping Name:** Environmentally Hazardous Substance, solid, n.o.s.,

<b>Section</b>	<b>14:</b>	<b>TRANSPORT INFORMATION, Cont.</b>
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<b>14.2 DOT Hazard Class:</b>	9
<b>14.3 UN/NA Number:</b>	UN3077
<b>14.4 Packing Group:</b>	III
<b>14.5 DOT Placard:</b>	Class 9
<b>14.6 DOT Mark</b>	Marine Pollutant (Linuron)
<b>14.7 IMO Shipping Name:</b>	Environmentally Hazardous Substance, solid, n.o.s.
<b>14.8 Reportable Quantity (RQ):</b>	NA
<b>14.9 IATA/ICAO (Ai):</b>	Not regulated

<b>Section</b>	<b>15:</b>	<b>REGULATORY INFORMATION</b>
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<b>15.1 OSHA:</b>	This product is listed as a hazardous chemical under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.		
<b>15.2 SARA TITLE III:</b>	a.	<b>EHS</b> (Extremely Hazardous Substance) List:	No
	b.	Section 311/312, (Tier I,II) Categories:	Immediate (acute) Yes
		Fire	No
		Sudden release	No
		Reactivity	No
		Delayed (chronic)	Yes
	c.	Section 313 (Toxic Release Reporting-Form R):	Yes
		<u>Chemical name</u>	<u>CAS No.</u>
		Linuron	330-55-2
		<u>Concentration</u>	50%
<b>15.3 CERCLA/SUPERFUND:</b>	RQ (Reportable Quantity)		No
<b>15.4 TSCA:</b> (Toxic Substance Control Act) Inventory List:			Yes
<b>15.5 RCRA:</b> (Resource Conservation and Recovery Act) Status:			No
<b>15.6 WHMIS:</b> (Canada) Hazard Classification:			ND
<b>15.7 DOT:</b> Hazardous Material: (See Section 14)			Yes/No
<b>15.8 CAA:</b> Hazardous Air Pollutant (HAP)			No
<b>15.9 FIFRA:</b> Registered pesticide			Yes
		EPA REG #61842-23	
<b>15.10 Prop 65 (CA):</b>			Yes

**Section 16: OTHER INFORMATION**

**REVISIONS:** The entire MSDS was reformatted to comply to ANSI Standard Z400.1-1993, by Technical Services-Tessenderlo Kerley, Inc.

THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND OSHA, ANSI, NFPA, DOT, ERG, AND CHRIS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.