

## Londax; CASRN 83055-99-6

Human health assessment information on a chemical substance is included in the IRIS database only after a comprehensive review of toxicity data, as outlined in the [IRIS assessment development process](#). Sections I (Health Hazard Assessments for Noncarcinogenic Effects) and II (Carcinogenicity Assessment for Lifetime Exposure) present the conclusions that were reached during the assessment development process. Supporting information and explanations of the methods used to derive the values given in IRIS are provided in the [guidance documents located on the IRIS website](#).

### STATUS OF DATA FOR Londax

**File First On-Line 03/31/1987**

Category (section)	Assessment Available?	Last Revised
<b>Oral RfD (I.A.)</b>	yes	09/07/1988
<b>Inhalation RfC (I.B.)</b>	not evaluated	
<b>Carcinogenicity Assessment (II.)</b>	not evaluated	

## I. Chronic Health Hazard Assessments for Noncarcinogenic Effects

### I.A. Reference Dose for Chronic Oral Exposure (RfD)

Substance Name — Londax  
CASRN — 83055-99-6  
Primary Synonym — DPX-F5384  
Last Revised — 09/07/1988

The oral Reference Dose (RfD) is based on the assumption that thresholds exist for certain toxic effects such as cellular necrosis. It is expressed in units of mg/kg-day. In general, the RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. Please refer to the Background Document for an elaboration of these concepts. RfDs can also be derived for the noncarcinogenic health effects of

substances that are also carcinogens. Therefore, it is essential to refer to other sources of information concerning the carcinogenicity of this substance. If the U.S. EPA has evaluated this substance for potential human carcinogenicity, a summary of that evaluation will be contained in Section II of this file.

### I.A.1. Oral RfD Summary

Critical Effect	Experimental Doses*	UF	MF	RfD
<b>Liver effects</b>	NOEL: 750 ppm diet [19.9 mg/kg/day (females), 21.4 mg/kg/day (males)]	100	1	2E-1 mg/kg/day
<b>1-Year Dog Feeding Study</b>	LEL: 7500 ppm diet [222.6 mg/kg/day (females) 237.3 mg/kg/day (males)]			
<b>du Pont, 1986a</b>				

\*Conversion Factors -- None

### I.A.2. Principal and Supporting Studies (Oral RfD)

E.I. du Pont de Nemours & Company, Inc. 1986a. MRID No. 40089319. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Groups beagle (5/sex/dose) were dosed daily for 52 weeks with DPX-F5384 formulated in their feed at doses of 0, 50, 750, or 7500 ppm (Male: 0, 1.4, 21.4, and 237.3 mg/kg/day; Female: 0, 1.4, 19.9, and 222.6 mg/kg/day female). The dogs were observed for clinical signs at least twice daily, and physical examinations were performed prior to testing and weekly throughout the study. Body weights and food consumption were measured pre-test and weekly throughout the study. Clinical pathology parameters were measured at 1, 3, 6, 9, and 12 months for all dogs. Effects were only observed at the highest dose tested (7500 ppm). Effects included elevated alkaline phosphatase, SGPT (ALT), and liver weights, and brown pigment in the biliary canaliculi. Discoloration and inflammation of the oral mucosa was also observed.

Based on the effects observed at 7500 ppm (Male: 237.3 mg/kg/day; Female: 222.6 mg/kg/day), the NOEL for systemic toxicity is 750 ppm (Male: 21.4 mg/kg/day; Female: 19.9 mg/kg/day).

### I.A.3. Uncertainty and Modifying Factors (Oral RfD)

UF — An uncertainty factor of 100 was used to account for the inter- and intraspecies differences.

MF — None

#### **I.A.4. Additional Studies/Comments (Oral RfD)**

Data Considered for Establishing the RfD:

- 1) 1-Year Feeding - dog: Principal study - see previous description; core grade minimum
- 2) 2-Year Feeding (oncogenic) - rat: Systemic NOEL=750 ppm (30 and 40 mg/kg/day males and females, respectively); Systemic LEL=7500 ppm (309 and 405 mg/kg/day in males and females, respectively) (elevated BUN and creatinine in males, diffuse fatty changes in male livers, and centrilobular hepatocellular hypertrophy and centrilobular hepatocyte cytoplasmic basophilia margination in both sexes); core grade minimum (du Pont, 1986b)
- 3) 2-Generation Reproduction - rat: Reproductive NOEL=7500 ppm (309 and 405 mg/kg/day in males and females, respectively) (HDT); core grade minimum (du Pont, 1986b)
- 4) Teratology - rat: Maternal NOEL=1320 mg/kg/day (HDT); Fetotoxic NOEL=1320 mg/kg/day (HDT); Embryotoxic NOEL=1320 mg/kg/day (HDT); Teratogenic NOEL=1320 mg/kg/day (HDT); core grade minimum (du Pont, 1985)
- 5) Teratology - rabbit: Maternal NOEL=300 mg/kg/day; Maternal LEL=1500 mg/mg/day (HDT; complete resorption, abortion, death, stained tail, red discharge, and reduced feed consumption); Fetotoxic NOEL=300 mg/kg/day; Fetotoxic LEL=1500 mg/kg/day (HDT; decreased fetal body weight); Teratogenic NOEL=1500 mg/kg/day (HDT); core grade minimum (du Pont, 1987)

Other Data Reviewed:

- 1) 2-Year Feeding (oncogenic) - mouse: Systemic NOEL=2500 ppm (226 and 227 mg/kg/day for males and females, respectively); Systemic LEL=5000 ppm (455 and 460 mg/kg/day for males and females, respectively) (oligodipsia, increased alkaline phosphatase, SGOT, SGPT, and total cholesterol, enlarged liver, abdominal cavity ascites, nodules and masses in the liver, increased liver weights, centrilobular hepatocyte swelling, focal hepatocellular necrosis, and increased brown pigment deposition of liver stellate cells); core grade minimum (du Pont, 1986c)
- 2) 90-Day Feeding - dog: NOEL=1000 ppm (32.1 and 36.3 mg/kg/day for males and females, respectively); LEL=10,000 ppm (340 and 360 mg/kg/day for males and females, respectively)

(mildly elevated alkaline phosphatase and SGPT levels; elevated liver and testes weights; decreased heart weight; gross findings of gall bladder calculus, liver enlargement and discoloration; and microscopic findings of gall bladder calculus; bile stasis; centrilobular hepatocyte swelling; and vacuolation of the seminiferous tubules); core grade guideline (du Pont, 1984a)

3) 90-Day Feeding and Reproduction - rat: Systemic NOEL=1500 ppm (93 and 111 mg/kg/day for males and females, respectively); Systemic LEL=7500 ppm (474 and 567 mg/kg/day for males and females, respectively) (increased cholesterol; decreased neutrophils, elevated liver, kidney, and heart weights; and slight paleness of the hepatocellular cytoplasm); core grade guideline for feeding, unacceptable for reproduction (du Pont, 1984b)

4) 90-Day Feeding - mouse: NOEL=1000 ppm (132 and 133 mg/kg/day for males and females, respectively); LEL=3000 ppm (387 and 407 mg/kg/day for males and females, respectively) (fatty deposition in the corticomedullary junction of the adrenals in females, and centrilobular hepatocyte swelling in males); core grade guideline (du Pont, 1984c)

Data Gap(s): None

#### **I.A.5. Confidence in the Oral RfD**

Study — High

Database — High

RfD — High

The critical study is of good quality and is given a high confidence rating. Because the overall quality of the additional studies is good, the database is given a high confidence rating. High confidence in the RfD follows.

#### **I.A.6. EPA Documentation and Review of the Oral RfD**

Pesticide Registration Standard, April 1988

Pesticide Registration Files

Agency Work Group Review — 09/02/1986, 05/25/1988

Verification Date — 05/25/1988

Screening-Level Literature Review Findings — A screening-level review conducted by an EPA contractor of the more recent toxicology literature pertinent to the RfD for Londax conducted in August 2003 did not identify any critical new studies. IRIS users who know of important new studies may provide that information to the IRIS Hotline at [hotline.iris@epa.gov](mailto:hotline.iris@epa.gov) or 202-566-1676.

#### **I.A.7. EPA Contacts (Oral RfD)**

Please contact the IRIS Hotline for all questions concerning this assessment or IRIS, in general, at (202)566-1676 (phone), (202)566-1749 (FAX) or [hotline.iris@epa.gov](mailto:hotline.iris@epa.gov) (internet address).

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#### **I.B. Reference Concentration for Chronic Inhalation Exposure (RfC)**

Substance Name — Londax  
CASRN — 83055-99-6  
Primary Synonym — DPX-F5384

Not available at this time.

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## **II. Carcinogenicity Assessment for Lifetime Exposure**

Substance Name — Londax  
CASRN — 83055-99-6  
Primary Synonym — DPX-F5384

This substance/agent has not undergone a complete evaluation and determination under US EPA's IRIS program for evidence of human carcinogenic potential.

**III. [reserved]**

**IV. [reserved]**

**V. [reserved]**

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## **VI. Bibliography**

Substance Name — Londax

CASRN — 83055-99-6

Primary Synonym — DPX-F5384

### **VI.A. Oral RfD References**

E.I. du Pont de Nemours & Company, Inc. 1984a. MRID No. 00147397. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1984b. MRID No. 00148301. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1984c. MRID No. 00147395. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1985. MRID No. 40089318, 40311902. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1986a. MRID No. 40089319. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1986b. MRID No. 40089316. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1986c. MRID No. 40089317. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

E.I. du Pont de Nemours & Company, Inc. 1987. MRID No. 40113801, 40311906. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

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## VI.B. Inhalation RfD References

None

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## VI.C. Carcinogenicity Assessment References

None

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## VII. Revision History

Substance Name — Londax  
CASRN — 83055-99-6  
Primary Synonym — DPX-F5384

Date	Section	Description
06/30/1988	I.A.	Withdrawn; new RfD verified (in preparation)
09/07/1988	I.A.	Revised oral RfD summary added
10/28/2003	I.A.6.	Screening-Level Literature Review Findings message has been added.

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## VIII. Synonyms

Substance Name — Londax  
CASRN — 83055-99-6

Primary Synonym — DPX-F5384

Last Revised — 03/31/1987

- 83055-99-6
- DPX-F5384
- Londax
- SOLVANOL