

US EPA ARCHIVE DOCUMENT

035506

D-7913 / LINURON SR

(23) 10-8-85

Shaughnessy #: 035506

Date out of EAB: Oct 8, 1985

Signature: [Signature] for SR

To: I. Sunzenauer  
Product Manager # 78  
Registration Division (TS-767)

Releasable

From: Emil Regelman, Acting Chief  
Registration Standards, Section #3  
Exposure Assessment Branch  
Hazard Evaluation Division (TS-769)

Attached please find the EAB review of:

Reg./File No.: \_\_\_\_\_

Chemical: Linuron

Type Product: Herbicide

Product Name: \_\_\_\_\_

Company Name: Du Pont

Submission Purpose: Review of 'cold' field dissipation data  
for comparison with <sup>14</sup>C field studies

Action Code: 827

Date In: 7/19/85

EAB # 5783

Date Completed: OCT 8 1985

TAIS (level II) 67 Days 3

Deferrals To:

\_\_\_\_\_ Ecological Effects Branch

\_\_\_\_\_ Residue Chemistry Branch

\_\_\_\_\_ Toxicology Branch

Receiver: A Schlessner

1. CHEMICAL: Linuron
2. TEST MATERIAL: See Dynamac Linuron Addendum IV of October 2, 1985
3. STUDY/ACTION TYPE: Data review
4. STUDY IDENTIFICATION: Comparison of 'cold' field data with previously submitted  $^{14}\text{C}$  data.

5. REVIEWED BY:

Art Schlosser  
Chemist  
EAB/HED/OPP

Signature: Arthur A. Schlosser  
Date: 10/7/85

6. APPROVED BY:

Emil Regelman  
Acting Chief  
Review Section #3,  
EAB/HED/OPP

Signature: E. Regelman  
Date OCT / 8 1985

7. CONCLUSIONS:

The field studies submitted are deficient in descriptions of the analytical methodology and other experimental details. In addition, the test sites for these studies were different from those of the  $^{14}\text{C}$  studies previously submitted. Therefore, useful and valid comparisons between the studies cannot be made.

8. RECOMMENDATIONS:

The subject studies cannot be used for comparison with previously submitted  $^{14}\text{C}$  field data.

9. BACKGROUND:

Registrant has submitted 'cold' field dissipation studies to be compared with previously submitted confined  $^{14}\text{C}$ -field studies to demonstrate that the latter studies provide data acceptable for registration.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

See Dynamac Linuron Addendum IV of October 2, 1985.

11. COMPLETION OF ONE-LINER: Not done at this time.

12. CBI APPENDIX:

Data are claimed to be CBI and should be treated as such.

**LINURON ADDENDUM IV**

Final Report

**Task 1: Review and Evaluation of  
Individual Studies**

Contract No. 68-01-6679

**OCTOBER 2, 1985**

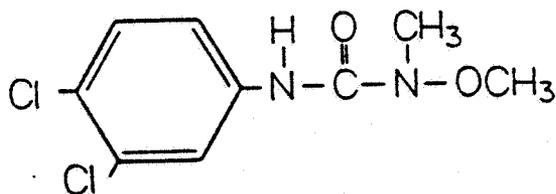
**Submitted to:**  
Environmental Protection Agency  
Arlington, VA 22202

**Submitted by:**  
Dynamac Corporation  
Enviro Control Division  
The Dynamac Building  
11140 Rockville Pike  
Rockville, MD 20852

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LINURON ADDENDUM

LINURON, AFALON, GRIFFIN LINEX 4L,  
HOE 2810, LINUREX, LOROX, PREMALIN, SARCLEX



3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea

Table of Contents

Study

1

E. I. du Pont de Nemours and Company, Inc. 1985. Field soil dissipation data - linuron. Unpublished study received on unknown date under unknown admin. no.; submitted by E. I. du Pont de Nemours and Company, Inc., Wilmington, DE.

CASE GS0047                      LINURON                      STUDY 1                      PM PM# 07/15/81

CHEM 035506                      Linuron

BRANCH EFB                      DISC --

FORMULATION 12 - EMULSIFIABLE CONCENTRATE (EC OR E)

FICHE/MASTER ID No MRID                      CONTENT CAT 01  
E. I. du Pont de Nemours and Company, Inc. 1985. Field soil dissipation data -  
linuron. Unpublished study received on unknown date under unknown admin. no.;  
submitted by E. I. du Pont de Nemours and Company, Inc., Wilmington, DE.

SUBST. CLASS = S.

DIRECT RVW TIME = 3 1/2 (MH) START-DATE                      END DATE

REVIEWED BY: L. Lewis  
TITLE: Staff Scientist  
ORG: Dynamac Corp., Enviro Control Division, Rockville, MD  
TEL: 468-2500

SIGNATURE: *L. Lewis*                      DATE: Aug. 28, 1985

APPROVED BY:  
TITLE:  
ORG:  
TEL:

SIGNATURE:

DATE:

CONCLUSIONS:

Field Dissipation - Terrestrial

Linuron residues appeared to dissipate from field plots in Colorado with half-lives of 84-140 days (treated on 5/22/78), 7-39 days (treated on 4/19/79), and 47-69 days (treated on 5/17/79) following treatment with linuron (4 lb/ gal EC) at 2 lb ai/A. In Oregon field plots, linuron residues dissipated with a half-life of 64-102 days.

These data cannot be used for comparison with <sup>14</sup>C studies previously submitted for the following reasons: analytical methodology and recovery data were not provided, soil characteristics were not given, soil samples were only taken to 10, 15, or 20 cm, and field test data including rainfall and/or irrigation amounts were not given. In addition, the <sup>14</sup>C studies were conducted in Delaware and Mississippi while the cold studies reviewed here were carried out in Colorado and Oregon. Essentially side-by-side test plots would be needed to make adequate comparisons.

MATERIALS AND METHODS:

Field plots (1.8 x 6 m) of loam soil in Colorado and silt loam soil in Oregon were treated with linuron (Lorox, 4 lb/gal EC, E. I. du Pont de Nemours and Co.) at 2 lb ai/A. The test soils were not further characterized. Soil samples (0-10 cm or 0-15 cm for Colorado, 0-20 cm for Oregon) were taken pretreatment and at intervals up to 155 days after treatment. The analytical method was not provided.

REPORTED RESULTS:

Linuron residues in pretreatment soil samples were <0.05 ppm. Linuron residues dissipated with half-lives of 7-140 days from field plots located in Colorado and 64-102 days from field plots in Oregon (Tables 1 and 2).

DISCUSSION:

1. The analytical method including recovery data was not provided. It could not be determined whether the data provided represented linuron (parent only) or linuron residues (parent plus degradates). Degradates were not separately identified.
2. Complete soil characteristics, such as textural analyses, pH, organic matter content, and CEC, were not reported.
3. Soil samples were taken only to 0-10 or 0-15 cm depths in Colorado field plots, and to 0-20 cm in Oregon field plots.
4. The field plots were too small (1.8 x 6 m) to be representative of actual field conditions.
5. Field test data, including rainfall and irrigation amounts, soil and air temperatures, slope of test plot, and depth to water table, were not reported.

Table 1. Linuron residues (ppm) in loam soil from field plots in Fort Collins, Colorado, treated with linuron at 2 lbs ai/A.

Sampling interval (days)	Treated 5/22/78 <sup>a</sup>		Treated 4/19/79 <sup>b</sup>			Treated 5/17/79 <sup>b</sup>		
	Plot 1	Plot 2	Plot 1	Plot 2	Plot 3	Plot 1	Plot 2	Plot 3
0	0.72	0.58	0.54	0.45	0.68	0.40	0.38	0.41
1	0.52	0.38	0.49	0.39	0.51	--	--	--
3	0.52	0.55	--	--	--	--	--	--
4	--	--	0.39	0.44	0.43	--	--	--
5	--	--	--	--	--	0.48	0.57	0.45
7	0.45	0.61	0.34	0.43	0.34	--	--	--
11	--	--	--	--	--	0.38	0.24	0.24
14	0.41	0.47	--	--	--	--	--	--
25	--	--	0.23	0.12	0.35	--	--	--
28	0.56	1.0	--	--	--	--	--	--
29	--	--	--	--	--	0.29	0.28	0.29
39	--	--	0.23	0.19	0.26	--	--	--
47	--	--	--	--	--	0.24	0.23	0.26
56	0.49	0.64	--	--	--	--	--	--
57	--	--	0.23	0.12	0.13	--	--	--
69	--	--	--	--	--	0.17	0.12	0.14
84	0.39	0.37	--	--	--	--	--	--
88	--	--	0.14	0.05	0.13	0.15	0.12	0.15
89	--	--	--	--	--	--	--	--
112	0.34	0.40	--	--	--	--	--	--
116	--	--	0.11	0.10	0.11	--	--	--
140	0.25	0.26	--	--	--	--	--	--

a Soil sampled to a depth of 15 cm.

b Soil sampled to a depth of 10 cm.

Table 2. Linuron residues (ppm) in silt loam soil from field plots in Oregon, treated with linuron at 2 lb ai/A.<sup>a</sup>

Sampling interval (days)	Treated 4/3/79			Treated 4/10/78
	Plot 1	Plot 2	Plot 3	Plot 1
0	0.27	0.09	0.24	0.85
1	--	--	--	0.67
3	--	--	--	0.82
7	0.26	0.21	0.28	0.69
14	0.29	0.23	0.19	0.78
28	0.18	0.18	0.23	0.73
56	0.22	0.16	0.17	--
64	--	--	--	0.55
84	0.16	0.13	0.12	--
94	--	--	--	0.18
102	0.13	0.05	0.08	--
125	--	--	--	0.14
155	--	--	--	0.12