



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

R.F.
9-25-85

SEP 25 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Registration No. 464-567. Chlorpyrifos (Dursban 6R Insecticidal Concentrate®). Product Chemistry Follow-up in Response to the Chlorpyrifos Registration Standard Data Gaps. Accession No. 257593. RCB No. 935.

FROM: Sami Malak, Ph.D., Chemist *Sami Malak*
Tolerance Petition Section III
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Amy S. Rispin, Chief
Science Integration Staff
Hazard Evaluation Division (TS-769)

and

Jay S. Ellenberger, PM #12
Insecticide-Rodenticide Branch
Registration Division (TS-767)

THRU: Charles L. Trichilo, Ph.D., Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

In response to the Chlorpyrifos Registration Standard of February 29, 1984, Dow Chemical Company responded on April 8, 1985, by submitting product chemistry data cited in the Standard as data gaps for their Manufacturing-Use Product (MUP), Dursban 6R Insecticidal Concentrate, Registration No. 464-567.

Chlorpyrifos is the common name for the insecticide O,O-dimethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate. Technical chlorpyrifos is manufactured by Dow Chemical Company. Dow apparently formulates several intermediate products known as Manufacturing-Use Products (MUP's). Dow also sells technical chlorpyrifos to several other companies for formulating intermediate products (MUP's), or end-use products, several of which are registered with the EPA.

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Detailed data gaps cited in Table B of the Standard for MUP's comprise all data requirements under Series 61 and 62 of the Product Chemistry Guidelines, Subdivision D. The Table did not list data requirements under Series 63, because at that time (February 29, 1984), Residue Chemistry Branch did not address the physical and chemical characteristics of the MUP's. Data under Series 63 are now being processed by the Residue Chemistry Branch.

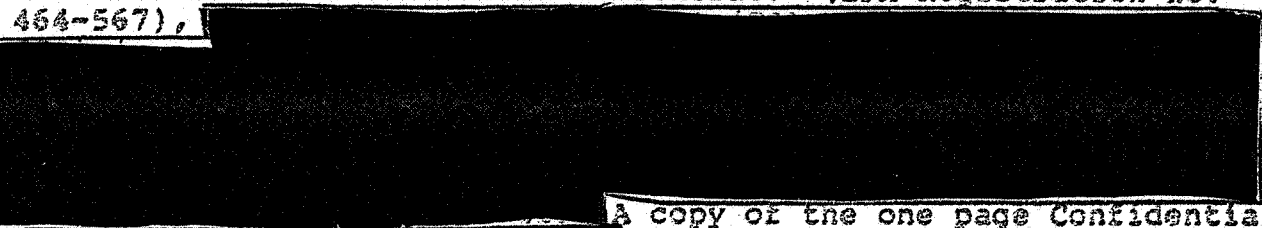
In our discussion below, we will list the data gap required under the corresponding section in the product chemistry requirements of Part III, Pesticide Registration; Data Requirements for Pesticide Registration, Final Rule (40 CFR Part 158, 49 FR 42856, October 24, 1984) followed by Dow's response and our comments.

Series 61: Product Identity and Composition

\$61-1 Product Identity and Disclosure of Ingredients

Dow's Response

Dursban 6R Insecticidal Concentrate[®] (EPA Registration No. 464-567),



A copy of the one page Confidential Statement of Formula is included in the Confidential Appendix of Attachment 2 of this review.

RCB Comments

No additional information is required under \$61-1.

\$61-2 Description of Beginning Materials and Manufacturing Process

Dow's Response

- (a) Beginning materials are reported by Dow in one page, a copy of which is included in page 2 of the Confidential Appendix of Attachment 2 of this review.
- (b) Manufacturing process is reported by Dow in one page, a copy of which is included in page 3 of the Confidential Appendix of Attachment 2 of this review.
- (c) Changes in beginning materials or manufacturing process: No changes in the beginning materials or manufacturing process were reported.

RCB Comments

Dow Chemical Company complied with data requirements under §61-2 of the Product Chemistry Guidelines, Subdivision D.

§61-3 Discussion of Formation of ImpuritiesDow's Response

Dursban 6R Insecticidal Concentrate is a manufacturing-use product containing 62.4 percent chlorpyrifos, Registration No. 464-567. It is formulated by Dow Company [REDACTED]

[REDACTED] Therefore, we expect that the impurities in both manufacturing-use products, [REDACTED] and Dursban 6R, to be identical. These impurities were reported by Dow [REDACTED]

[REDACTED] (September 11, 1985) product chemistry data gaps. Dow Company reported that since Dursban 6R is a [REDACTED] no new impurities are introduced except for the solvent.

RCB Comments

Dow Chemical Company complied with data requirements under §61-3.

Series 62: Analysis of Certification of Product Ingredients
§62-1 Preliminary Analysis

Dow's Response

The analysis included in this submission is for five randomly selected production batches of the manufacturing-use product, Dursban 6R, sampled during 1981. Samples were analyzed for chlorpyrifos per se using Dow's method No. 26057 (QA No. 1677) with a resulting upper and lower limits of [REDACTED] respectively. Analysis of the inerts are reported on p. 4 of the Confidential Appendix, Attachment 2. The company reported no new impurities associated with Dursban 6R, which were not already reported for [REDACTED] nor did they report on any intentionally added ingredients except for the above addition of solvent. These impurities for [REDACTED] were previously discussed by S. Malak in connection with [REDACTED]

[REDACTED] product chemistry data gaps (September 11, 1985).

RCB Comments

No additional information is required under §62-1.

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QUALITY CONTROL PROCEDURE INFORMATION IS NOT INCLUDED

PRODUCT INGREDIENT SOURCE INFORMATION IS NOT INCLUDED

QUALITY CONTROL PROCEDURE INFORMATION IS NOT INCLUDED

§62-2 Certification of LimitsDow's Response

The manufacturer has given the upper and lower certification of limits for chlorpyrifos per se at [REDACTED] respectively. The certification of limits for the inerts are reported on p. 4 of the Confidential Appendix, Attachment 2.

RCB Comments

No additional information is required under §62-2.

§62-3 Analytical Methods for Enforcement of LimitsDow's Response

The analytical method employed for the determination of chlorpyrifos per se in the manufacturing-use product, Dursban 6R, is Dow's method No. 26057 (QA No. 1677), entitled "Dursban 6R Insecticidal Concentrate," April 7, 1981.

[REDACTED]

Dow's method No. M2-AM-81 (QA No. 2349) is used for determination of the impurities in [REDACTED]

RCB Comments

No additional information is needed under §62-3.

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Series 63: Physical and Chemical Characteristics

Dow's Response

The physical and chemical characteristics for the manufacturing-use product, Dursban 6R, required under this series were reported as follows:

63-2	Color	Clear
63-3	Physical State	Liquid
63-4	Odor	Aromatic solvent
63-7	Specific Gravity	1.15 at 20 °C
63-12	pH	N/A
63-14	Oxidizing/Reducing	N/A
63-15	Flash Point	125 °F
63-16	Explosibility	N/A
63-17	Storage Stability	3 years at room temp. several months up to 120 °F
63-18	Viscosity	4.0 cps at 20 °C
63-19	Miscibility	Noncorrosive to stainless steel or aluminum
63-20	Corrosion	Corrosive to brass, copper, and tin

RCB Comments

No additional information is required under Section 63.

Conclusion and Recommendations

1. Product chemistry data requirements for chlorpyrifos (Dursban 6R), EPA Registration No. 464-567, have been satisfied.
2. We recommend that data available for Dursban 6R in this review be added to the Chlorpyrifos Registration Standard.
3. An updated copy of product chemistry Table-B as Attachment 1 is included.

Attachment 1: Table B (2-pages).

Attachment 2: Confidential Appendix (3 pages).

P 1 : Confidential Statement of Formula.

P 2 : Beginning materials.

P 3 : Manufacturing process and Citation of Ingredient Limits

cc: with copies of Attachment 2 to: R.F., S. Malak,

Chlorpyrifos Reg. Std. File, TOX, Ellenberger-PH #12-
RD, and PHSD/ISO.

cc: R.F., Circu, Reviewer, Subject File. Amended Use File, PHSD/ISO

SDI:Section Head:P.V.BRICO: Date:9/12/85:RDSchmitt: Date: 9/12/85

TS-769:Reviewer Initials (S. Malak:PH: 210:4557-7377:CHN)

GENERAL CONTRACT TYPE:3:

DATE:9/17/85 PHONE NUMBER 886-1270

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CHEMISTRY REQUIREMENTS

Attachment 1

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHEMICAL:
Ciloxipifos (Durston 6 R), EPA Reg. No. 464-567

4150.120 - INHIBIT CHEMISTRY

Guideline Citation and Name of Test:	Test Substance	Guidelines Status	Are Data Required		Footnote Number
			Yes	No	
<u>Product Identity:</u> (Continued)					
61-1 - Product Identity and Disclosure of Ingredients	MP	R	☐	☒	
61-2 - Description of Beginning Materials and Manufacturing process	MP	R	☐	☒	
61-3 - Discussion of Formation of Impurities	MP	R	☐	☒	
<u>Analysis and Certification of Product Specimens</u>					
62-1 - Preliminary Analysis	MP	CR	☐	☒	
62-2 - Certification of Limits	MP	R	☐	☒	
62-3 - Analytical Methods to Verify Certified Limit	MP	R	☐	☒	
<u>Physical and Chemical Characterization:</u>					
63-2 - Color	MP	R	☐	☒	
63-3 - Physical State	MP	R	☐	☒	
63-4 - Odor	MP	R	☐	☒	

DATA REQUIREMENT FOOTNOTES:

Chemistry Requirements Attachment 1

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHEMICAL: Chlorpyrifos (EPA Reg. No. 454-567)

222.120 - PRODUCT CHEMISTRY

Guideline Citation and Name of Test:

Test Substance

Guidelines Status

Are Data Required Yes No

Footnote Number

Physical and Chemical Characteristics (Continued)

62-7 - Density, Bulk Density, or Specific Gravity

NP

R

☐

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63-12 - pH

NP

N/A

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☐

63-14 - Crystallizing or Reducing Action

NP

N/A

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☐

63-15 - Flammability

NP

CR

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63-16 - Explosibility

NP

N/A

☐

☐

63-17 - Storage Stability

NP

R

☐

☒

63-18 - Viscosity

NP

CR

☐

☒

63-19 - Miscibility

NP

N/A

☐

☐

63-20 - Corrosion Characteristics

NP

R

☐

☒

Other Requirements:

64-1 - Submittal of samples

NP

CR

☐

☐

CR = Required; CR = Conditionally Required; NP = Manufacturing-use Product
EPA REQUIREMENT FOOTNOTES:

HQ-RM-4524-95
Chlorpyrifos Review

Page 4 is not included in this copy.

Pages _____ through _____ are not included.

The material not included contains the following type of information:

- ☐ Identity of product inert ingredients.
- ☐ Identity of product impurities.
- ☐ Description of the product manufacturing process.
- ☐ Description of quality control procedures.
- ☐ Identity of the source of product ingredients.
- ☐ Sales or other commercial/financial information.
- ☐ A draft product label.
- ☒ The product confidential statement of formula.
- ☐ Information about a pending registration action.
- ☐ FIFRA registration data.
- ☐ The document is a duplicate of page(s) _____.
- ☐ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

HQ-RM-4524-95
Chlorpyrifos Review

Page is not included in this copy.

Pages 9 through 10 are not included.

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- ☐ Identity of product inert ingredients.
- ☐ Identity of product impurities.
- ☒ Description of the product manufacturing process.
- ☒ Description of quality control procedures.
- ☐ Identity of the source of product ingredients.
- ☐ Sales or other commercial/financial information.
- ☐ A draft product label.
- ☐ The product confidential statement of formula.
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