



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

R.F. 9-11-85

SEP 11 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Registration No. 464-564: Chlorpyrifos
(Dursban MCR Insecticidal Concentrate®)
Product Chemistry Follow-Ups in Response to the
Chlorpyrifos Registration Standard Data Gaps.
Accession No. 257594. RCB No. 932

FROM: Sami Malik, Ph.D., Chemist *Sami Malik*
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 *CD Trichilo*
Residue Chemistry Branch
Hazard Evaluation Division (TS-769) *for*

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 MCR Insecticidal Concentrate®, Registration No. 464-564.

Chlorpyrifos is the common name for the insecticide 0,0-diethyl 0-(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). 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.

Detailed data gaps cited in Table B of the Standard for MUP 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 MCR Insecticidal Concentrate®, EPA Registration No. 464-564, is a solution of [REDACTED]

[REDACTED] respectively for chlorpyrifos O,O diethyl (10-(3,5,6-trichloro-2-pyridyl)phosphorothioate). Dursban MCR is a manufacturing-use product, produced by Dow Chemical Company that may be used for formulation of other manufacturing-use products or end-use products. A copy of the one-page Confidential Statement of Formula is included in page 1 of the Confidential Appendix, 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 on page 2 of the Confidential Appendix, Attachment 2 of this review.
- B. Manufacturing process is reported by Dow in one page, a copy of which is included on page 3 of the Confidential Appendix, 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 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 MCR Insecticidal Concentrate is a manufacturing-use product containing 52.4 percent chlorpyrifos, Registration No. 464-564. It is formulated by Dow Company [REDACTED]

[REDACTED] (See Confidential Statement of Formula in the Confidential Appendix, Attachment 2 of this review). Therefore, we expect that the impurities in both manufacturing-use products, [REDACTED] and Dursban MCR, to be identical. These impurities were reported by [REDACTED]

RCB Comments:

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

Series 62: Analysis of Certification of Product Ingredients§62-1 Preliminary AnalysisDow's Response:

Dow Chemical Company reported that Dursban MCR is currently an inactive product for which there are no production batch analysis data to report. When production of this formula is resumed, the batch analysis data will be collected. This constitutes a data gap.

RCB Comments:

Data required under §62-1 for Dursban MCR has not been satisfied.

§62-2 Certification of LimitsDow's Response:

Dow Chemical Company has given the upper and lower certification of limits for chlorpyrifos per se at [REDACTED] respectively. The upper and lower certification of limits for [REDACTED]

the xylene range aromatic solvent is reported at 49.6 and 45.8 percent, respectively. The upper certified limit for inerts associated with [REDACTED] which are the same as those in Dursban MCR (Registration No. 464-564) is reported at [REDACTED]

RCB Comments:

No additional information is required under §62-2.

§62-3 Analytical Methods for Enforcement of Limits

Dow's Response:

The analytical method employed for the determination of chlorpyrifos per se in the manufacturing-use product Dursban MCR Insecticidal Concentrate, is described in this submission. In this method, Dow's Method No. 26058 (QA No. 1676) [REDACTED]

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

RCB Comments:

No additional information is needed under §62-3.

Series 63: Physical and Chemical Characteristics

Dow's Response:

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

63-2	Color	Clear
63-3	Physical State	Liquid
63-4	Odor	Methylene chloride
63-7	Specific Gravity	1.38 at 20 °C
63-12	pH	N/A
63-14	Oxidizing/Reducing	None
63-15	Flash point	None
63-16	Explosibility	None
63-17	Storage Stability	3 years at 25 °C
63-18	Viscosity	1.68 cps at 25 °C
63-19	Miscibility	N/A
63-20	Corrosion	Noncorrosive to stainless steel Corrosive to aluminum, brass and copper

RCB Comments:

No additional information is required under Series 63.

Conclusion and Recommendations:

1. With the exception of data required under §62-1 (Preliminary Analysis), all other data requirements for chlorpyrifos (Dursban MCR, Registration No. 464-564), have been satisfied.
2. We recommend that data available for Dursban MCR in this review, be added to the chlorpyrifos Registration Standard.
3. An updated copy of product chemistry Table B is attached.

Attachment 1: Table B (2 pages)

Attachment 2: Confidential Appendix (3 pages)

Page 1: Confidential Statement of Formula.

Page 2: Beginning materials.

Page 3: Manufacturing process.

(Copies of Attachment 2 to: R.F., S. Malak, chlorpyrifos S.F.; chlorpyrifos Registration Standard File, TOX, Ellenberger-FM #12-RD, and PMED/ISB.
cc: Circu, EAS, EES
RDI:P.Errico:August __, 1985; R.D.Schmitt:August __, 1985
TS-769;RCB:S.Malak:Typist:Rm.810:CM#2:Ext.557-7377:August __, 1985

CHEMISTRY MONITORING

TABLE B
PRODUCT-SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHEMICAL:
CHLORPYRIFOS (PURSANT TO INSECTICIDAL CONCENTRATIONS)
EPA REGISTRATION NO. 464-554

§ 158.120 - PRODUCT CHEMISTRY

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required		Footnote Number
			Yes	No	
<u>Product Identity:</u>					
61-1 - Product Identity and Disclosure of Ingredients	MP	R	☐	☒	
61-2 - Description of Raw Materials and Manufacturing Process	MP	R	☐	☒	
61-3 - Discussion of Formation of Impurities	MP	R	☐	☒	
<u>Analysis and Certification of Product Ingredients</u>					
62-1 - Preliminary Analysis	MP	CR	☒	☐	1/ analyses of 5 batches
62-2 - Certification of Limits	MP	R	☐	☒	
62-3 - Analytical Methods to Verify Certified Limit	MP	R	☐	☒	
<u>Physical and Chemical Characteristics</u>					
63-2 - Color	MP	R	☐	☒	
63-3 - Physical State	MP	R	☐	☒	
63-4 - Odor	MP	R	☐	☒	

DATA REQUIREMENT FOOTNOTES:

ATTACHMENT 1

CHEMISTRY REQUIREMENTS

TABLE B
PRODUCT-SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHEMICAL:
CHLORPYRIFOS, EPA REGISTRATION NO. 464-564

§ 159.120 - PRODUCT CHEMISTRY (Con't)

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required		Footnote Number
			Yes	No	
<u>Physical and Chemical Characteristics</u> (Continued)					
63-7 - Density, Bulk Density, or Specific Gravity	MP	R	☐	☒	
63-12 - pH	MP	N/A	☐	☐	
63-14 - Oxidizing or Reducing Action	MP	N/A	☐	☐	
63-15 - Flammability	MP	CR	☐	☒	
63-16 - Explosibility	MP	R	☐	☒	
63-17 - Storage Stability	MP	R	☐	☒	
63-18 - Viscosity	MP	CR	☐	☒	
63-19 - Miscibility	MP	N/A	☐	☐	
63-20 - Corrosion Characteristics	MP	R	☐	☒	
<u>Other Requirements:</u>					
64-1 - Submittal of samples	MP	CR	☐	☐	

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R = Required; CR = Conditionally Required; MP = Manufacturing-use Product
DATA REQUIREMENT FOOTNOTES:
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HQ-RM-4524-95

Chlorpyrifos Review

Page 8 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.

AD-RAN-4524-95
Chlorpyrifos Review

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Pages 9 through 10 are not included.

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Conf. Appendix

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.