

7/11/97

MEMORANDUM

SUBJECT: Chlorothalonil Reregistration: List A Case No. 0097: Chemical No. 081901:
Update of Chemistry Data Summary Tables for the HED RED. No MRID Nos.
DP Barcode D235201. CB No. 17871

FROM: William Smith, Chemist
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THROUGH: F. B. Suhre, Branch Senior Scientist
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TO: Mary Clock, Chemical Manager
Risk Characterization & Analysis Branch (RCAB)
Health Effects Division (HED) 7509C

The Residue and Product Chemistry Chapters for the Chlorothalonil RED were completed on 6/13/95. In anticipation of completion of the RED in FY97, RCAB requests that we update the chemistry data summary tables to reflect the changes in our assessment of this chemical that have occurred over the last two years. The following tables reflect the current chemistry science assessments for reregistration of chlorothalonil and should be incorporated in the HED RED.

cc: W. Smith (CEB-I), Reg Std File, SF, RF.

7509C:CEB-I:WOS:wos:Rm805A:CM2:305-5353:07/10/97
RDI: Reschem team (07/10/97), FSuhre (07/11/97).

Case No. 0097
Chemical No. 081901

Case Name: Chlorothalonil
Registrant: ISK Biosciences Corporation
Product(s): 97% Ts (EPA Reg. Nos. 50534-200, 50534-7, 50534-24, and 50534-117).

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ^a	MRID Number ^b
61-1	Product Identity and Disclosure of Ingredients	Y	40202501
61-2	Starting Materials and Manufacturing Process	Y	00143748 40202501
61-3	Discussion of Formation of Impurities	Y	00143748 40202502
62-1	Preliminary Analysis	N ^c	40333801 43052701 ^d
62-2	Certification of Ingredient Limits	Y	40202501
62-3	Analytical Methods to Verify the Certified Limits	Y	40202502 40333802
63-2	Color	Y	00143749
63-3	Physical State	Y	00143749
63-4	Odor	Y	00143749
63-5	Melting Point	Y	00143749
63-6	Boiling Point	N/A ^e	
63-7	Density, Bulk Density or Specific Gravity	Y	42433801
63-8	Solubility	Y	00143749
63-9	Vapor Pressure	Y	00143749
63-10	Dissociation Constant	Y	00143749
63-11	Octanol/Water Partition Coefficient	Y	00143749
63-12	pH	Y	42433802
63-13	Stability	Y	00143749 42433803
63-14	Oxidizing or Reducing Action	N	
63-15	Flammability	N/A ^e	
63-16	Explodability	N	
63-17	Storage Stability	N	
63-18	Viscosity	N/A ^e	
63-19	Miscibility	N/A ^e	
63-20	Corrosion Characteristics	N	

^a Y = Yes; N = No; N/A = Not Applicable. Submitted data are applicable to all products. The 96% Ts were determined to be identical in the FRSTR. The 97% T has been determined to be essentially equivalent to these products based on a letter from the registrant included in the product jacket and a CSF dated 1/9/91 (product jacket) which demonstrates the product is repackaged from the source technical.

^b Unbolded citations were reviewed in the Chlorothalonil FRSTR dated 3/11/88; **bolded** citations were reviewed under CBRS No. 10461, D181882, dated 11/24/92, by W. Smith; and all other citations were reviewed as noted.

^c These data satisfy the requirements of 40 CFR §158.170 (Guideline Reference No. 62-1) concerning preliminary analysis. The registrant has submitted data in response to a DCI concerning halogenated dibenzo-p-dioxins and dibenzofurans (PCDDs/PCDFs) in technical chlorothalonil (D197984 and D207699). To be in complete compliance with the DCI the registrant is required to submit a revised CSF in which upper limits are certified for all PCDDs/PCDFs detected.

^d CBRS No. 13029, D197984, dated 8/15/94, by W. Smith.

^e Data are not required because the TGAI/MPs are solids at room temperature.

Appendix 1: Product Chemistry Data Summary

Case No. 0097

Chemical No. 081901

Case Name: Chlorothalonil

Registrant: ISK Biosciences Corporation

Product(s): 96% FI (EPA Reg. No. 50534-114)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ^a	MRID Number ^b
61-1	Product Identity and Disclosure of Ingredients	N ^c	00143748 40202501
61-2	Starting Materials and Manufacturing Process	Y	
61-3	Discussion of Formation of Impurities	N	
62-1	Preliminary Analysis	N/A ^d	40333802
62-2	Certification of Ingredient Limits	N ^c	
62-3	Analytical Methods to Verify the Certified Limits	Y	
63-2	Color	N	
63-3	Physical State	N	
63-4	Odor	N	
63-5	Melting Point	N/A ^d	
63-6	Boiling Point	N/A ^d	
63-7	Density, Bulk Density or Specific Gravity	N	
63-8	Solubility	N/A ^d	
63-9	Vapor Pressure	N/A ^d	
63-10	Dissociation Constant	N/A ^d	
63-11	Octanol/Water Partition Coefficient	N/A ^d	
63-12	pH	N	
63-13	Stability	N/A ^d	
63-14	Oxidizing or Reducing Action	N	
63-15	Flammability	N/A ^e	
63-16	Explodability	N	
63-17	Storage Stability	N	
63-18	Viscosity	N	
63-19	Miscibility	N/A ^f	
63-20	Corrosion Characteristics	N	

^a Y = Yes; N = No; N/A = Not Applicable.

^b All citations were reviewed in the Chlorothalonil FRSTR dated 3/11/88.

^c An updated Confidential Statement of Formula (CSF) must be submitted on EPA Form 8570-4 (Rev 12/90).

^d This data requirement will be fulfilled by data for the technical source product/TGAI.

^e Data are not required because the MP does not contain combustible liquids.

^f Data are not required because the MP is not an emulsifiable liquid to be diluted with petroleum solvents.

Appendix 1: Product Chemistry Data Summary

Case No. 0097

Chemical No. 081901

Case Name: Chlorothalonil

Registrant: ISK Biosciences Corporation

Product(s): 75% FIs (EPA Reg. Nos. 50534-29 and 50534-116); and
30.8% FI (EPA Reg. No. 50534-35)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ^a	MRID Number ^b
61-1	Product Identity and Disclosure of Ingredients	N ^c	00143748
61-2	Starting Materials and Manufacturing Process	N ^d	
61-3	Discussion of Formation of Impurities	N	
62-1	Preliminary Analysis	N/A ^e	40333802
62-2	Certification of Ingredient Limits	N ^c	
62-3	Analytical Methods to Verify the Certified Limits	Y	
63-2	Color	N ^f	
63-3	Physical State	N ^f	
63-4	Odor	N ^f	
63-5	Melting Point	N/A ^e	
63-6	Boiling Point	N/A ^e	
63-7	Density, Bulk Density or Specific Gravity	N ^f	
63-8	Solubility	N/A ^e	
63-9	Vapor Pressure	N/A ^e	
63-10	Dissociation Constant	N/A ^e	
63-11	Octanol/Water Partition Coefficient	N/A ^e	
63-12	pH	N ^f	
63-13	Stability	N/A ^e	
63-14	Oxidizing or Reducing Action	N	
63-15	Flammability	N/A ^g	
63-16	Explosibility	N	
63-17	Storage Stability	N	
63-18	Viscosity	N	
63-19	Miscibility	N/A ^h	
63-20	Corrosion Characteristics	N	

^a Y = Yes; N = No; N/A = Not Applicable.

^b All citations were reviewed in the Chlorothalonil FRSTR dated 3/11/88.

^c Updated Confidential Statements of Formula (CSFs) must be submitted on EPA Form 8570-4 (Rev 12/90).

^d These data do not satisfy the requirements of 40 CFR §158.160-165 (Guideline Reference No. 61-2) concerning starting materials and the manufacturing process because information regarding the relative amounts of the starting materials and the order in which they are added must be submitted. In addition, the name and address of the manufacturer, producer, or supplier of each starting material used in the manufacture must be provided, along with information regarding the properties (MSDSs) of those materials. Currently, discrepancies exist between the CSFs and the submitted manufacturing process.

^e This data requirement will be fulfilled by data for the technical source product/TGAI.

Appendix 1: Product Chemistry Data Summary

^f Product-specific data are required for the MPs.

^g Data are not required because the MPs do not contain combustible liquids.

^h Data are not required because the MPs are not emulsifiable liquids to be diluted with petroleum solvents.

Appendix 1: Product Chemistry Data Summary

Case No. 0097

Chemical No. 081901

Case Name: Chlorothalonil

Registrant: ISK Biosciences Corporation

Product(s): 40.4% FIs (EPA Reg. Nos. 50534-34 and 50534-115); and
29.6% FI (EPA Reg. No. 50534-33).

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ^a	MRID Number ^b
61-1	Product Identity and Disclosure of Ingredients	N ^c	
61-2	Starting Materials and Manufacturing Process	Y	00143748
61-3	Discussion of Formation of Impurities	N	
62-1	Preliminary Analysis	N/A ^d	
62-2	Certification of Ingredient Limits	N ^c	
62-3	Analytical Methods to Verify the Certified Limits	Y	40333802
63-2	Color	N ^e	
63-3	Physical State	N ^e	
63-4	Odor	N ^e	
63-5	Melting Point	N/A ^d	
63-6	Boiling Point	N/A ^d	
63-7	Density, Bulk Density or Specific Gravity	N ^e	
63-8	Solubility	N/A ^d	
63-9	Vapor Pressure	N/A ^d	
63-10	Dissociation Constant	N/A ^d	
63-11	Octanol/Water Partition Coefficient	N/A ^d	
63-12	pH	N ^e	
63-13	Stability	N/A ^d	
63-14	Oxidizing or Reducing Action	N	
63-15	Flammability	N/A ^f	
63-16	Explosibility	N	
63-17	Storage Stability	N	
63-18	Viscosity	N	
63-19	Miscibility	N/A ^g	
63-20	Corrosion Characteristics	N	

^a Y = Yes; N = No; N/A = Not Applicable.

^b All citations were reviewed in the Chlorothalonil FRSTR dated 3/11/88.

^c Updated Confidential Statements of Formula (CSFs) must be submitted on EPA Form 8570-4 (Rev 12/90).

^d This data requirement will be fulfilled by data for the technical source product/TGAI.

^e Product-specific data are required for the MPs.

^f Data are not required because the MPs do not contain combustible liquids.

^g Data are not required because the MPs are not emulsifiable liquids to be diluted with petroleum solvents.

Appendix 1: Product Chemistry Data Summary

Case No. 0097

Chemical No. 081901

Case Name: Chlorothalonil

Registrant: Veterans Ilex, Incorporated

Product(s): 98% T (EPA Reg. No. 61451-2)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ^a	MRID Number ^b
61-1	Product Identity and Disclosure of Ingredients	N ^c	CSF dated 6/7/94 ^d
61-2	Starting Materials and Manufacturing Process	Y	42683301 43196101 ^d
61-3	Discussion of Formation of Impurities	Y	42683301
62-1	Preliminary Analysis	N ^e	42321601 ^f 42683302 42779301 ^g 43264801 ^d
62-2	Certification of Ingredient Limits	N ^c	CSF dated 6/7/94 ^d
62-3	Analytical Methods to Verify the Certified Limits	N	
63-2	Color	Y	00153787
63-3	Physical State	Y	00153787
63-4	Odor	Y	00153787
63-5	Melting Point	Y	42683303
63-6	Boiling Point	N/A ^h	
63-7	Density, Bulk Density or Specific Gravity	Y	42683303
63-8	Solubility	Y	00153787
63-9	Vapor Pressure	Y	00055014
63-10	Dissociation Constant	Y	00153787
63-11	Octanol/Water Partition Coefficient	Y	00153787
63-12	pH	Y	00153787
63-13	Stability	Y	00153787 43402101 ⁱ
63-14	Oxidizing or Reducing Action	N	
63-15	Flammability	N/A ^h	
63-16	Explosibility	N	
63-17	Storage Stability	N	
63-18	Viscosity	N/A ^h	
63-19	Miscibility	N/A ^h	
63-20	Corrosion Characteristics	N	

^a Y = Yes; N = No; N/A = Not Applicable.

^b Unbolded citations were reviewed under CBRS No. 11584, D189159, dated 11/23/93, by F. Toghrol; **bolded** citations were originally reviewed under the Chlorothalonil FRSTR dated 3/11/88 for the Griffin T (EPA Reg. No. 1812-268) and the TGAI physical/chemical data were accepted under CBRS No. 11584, D189159, dated 11/23/93, by F. Toghrol after the product transfer to Veterans Ilex; and all other references were reviewed as noted.

^c These data do not satisfy the requirements of 40 CFR §158.155 and §158.175 (Guideline Reference Nos. 61-1 and 62-2) concerning product identity and certified limits because the registrant must confirm that the "other unidentified impurities" are present individually at less than 0.1%; otherwise, the registrant will be required to identify these impurities and provide nominal concentrations and upper certified limits. In addition, the upper certified limits for the halogenated dibenzo-*p*-dioxins and dibenzofurans are lower than the nominal concentrations, and do not reflect the conclusions of analyses for dibenzo-*p*-dioxins and dibenzofurans (CBRS No. 9952, D178734, and CBRS No. 12193, D192977).

Appendix 1: Product Chemistry Data Summary

^d CBRS Nos. 13592 and 13953, D202277 and D205005, dated 10/6/94, by W. Smith.

^e These data do not satisfy the requirements of 40 CFR §158.170 (Guideline Reference No. 62-1) concerning preliminary analysis because validation data must be submitted in support of the analytical methods used for the determination of the active ingredient and its related impurities. Further analyses are recommended for 2,3,7,8-TCDF using a DB-225 or equivalent confirmatory column prior to establishing certified limits for this impurity.

^f CBRS No. 9952, D178734, dated 9/24/92, by S. Funk.

^g CBRS No. 12193, D192977, dated 8/23/94, by L. Cheng.

^h Data are not required because the TGAI/MP is a solid at room temperature.

ⁱ CBRS No. 14592, D208601, dated 11/14/94, by W. Smith.

Table B. Residue Chemistry Science Assessments for Reregistration of Chlorothalonil.

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References ¹
171-3: Directions for use		Yes ²	See LUIS Report.
171-4 (a): Plant Metabolism		No	00029409, 00087287, 00087294, 00087295, 00087333, 00138147 ³ , 00143750 ⁴ , 40183401 ⁵ , 40684801 ⁵ , 42554001-42554002 ⁶ , 42944401 ⁷
171-4 (b): Animal Metabolism		No	41576001-41576002 ⁸ , 42174401 ⁹
171-4 (c/d): Residue Analytical Methods		No ¹⁰	00087282, 00087305, 00126732, 00141398, 00156523, 40000101, 40000102, 40000103, 40000104, 40000105, 40000106, 40000107, 40000108, 40010109, 40000110, 40000111, 40000112, 40000113, 40000114, 40183402, 40183403, 40183404, 40183405, 40183406, 40183407, 40183408, 40183409, 40183410, 40183411, 40183412, 40183413, 40183414, 40183417, 42875908-42878909 ¹¹ , 43832403 ¹² , 44071601-44071602 ¹³
171-4 (e): Storage Stability		No	00039239, 00071752, 00087354, 42875910-42875918 ¹¹ , 44240501-44240510 ¹⁴
171-4 (k): Magnitude of the Residue in Plants			
<u>Root and Tuber Vegetables Group</u>			
- Carrots	1 [§180.275(a)]	No ¹⁵	00084828, 00087311, 00087323, 00114035, 00156523, 40000101, 40183402
- Parsnips, roots	1 [§180.275(a)]	No ¹⁶	
- Potatoes	0.1 [§180.275(a)]	No ¹⁷	00071616, 00087314, 00087323, 00104656, 00147973 ¹⁸ , 00156523, 40000102, 40183403
- Sugar beets, roots	None established	No ¹⁹	
<u>Bulb Vegetables Group</u>			
- Garlic	0.5 [§180.275(a)]	No ²⁰	

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References ¹
- Leeks	5 [§180.275(a)]	No ²¹	
- Onions, dry bulb	0.5 [§180.275(a)]	No ²²	00087365, 40000103 , 40183405 , 42875922 ¹¹
- Onions, green	5 [§180.275(a)]	Yes ²¹	00087365, 40183406
- Shallots	5 [§180.275(a)]	No ²¹	
<u>Leafy Vegetables Group</u>			
- Celery	15 [§180.275(a)]	No ²³	00084829 , 00087255, 00147973 ¹⁸ , 00161154, 40000104 , 40183407
<u>Brassica (Cole) Leafy Vegetables Group</u>			
- Broccoli	5 [§180.275(a)]	No ²⁴	00087324, 00114035, 40000105 , 40183408 , 40183409 , 42875923 ¹¹
- Brussels sprouts	5 [§180.275(a)]	No ²⁵	00087324, 00114035, 40183410 , 42875924 ¹¹
- Cabbage	5 [§180.275(a)]	No ²⁶	00087324, 00114035, 40183411 , 42875920-42875922 ¹¹ - Cauliflower 5 [§180.275(a)] No ²⁷ 00087324, 40000106 , 42875922 ¹¹
<u>Legume Vegetables (Dry or Succulent) Group</u>			
- Beans, dry	0.1 [§180.275(a)]	No ²⁸	00087338, 00126732 , 00156523 , 41844101 ²⁹
- Beans, succulent	5 [§180.275(a)]	No ³⁰	00087329, 00129178, 00147973 ¹⁸ , 40000107 , 40183412
- Soybeans	0.2 [§180.275(a)]	No ³¹	00029905, 00087680
<u>Foliage of Legume Vegetables Group</u>			
- Beans, dry, forage and straw/hay	None established	No ³²	
- Beans, succulent, forage and straw	None established	No ³²	
<u>Fruiting Vegetables Group</u>			
- Tomatoes	5 [§180.275(a)]	No ³³	00087326, 00114035, 00141398 , 40000108 , 40000109
<u>Cucurbit Vegetables Group</u>			

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References ¹
- Cucumbers	5 [§180.275(a)]	No ³⁴	00087325, 00129178, 00147973 ¹⁸ , 00156523, 40183414
- Melons	5 [§180.275(a)]	No ³⁵	00087325, 00114035, 00147973 ¹⁸ , 40000110
- Pumpkins	5 [§180.275(a)]	No ³⁶	00087325
- Squash, summer	5 [§180.275(a)]	No ³⁷	00087325, 00129178, 40000111
- Squash, winter	5 [§180.275(a)]	No ³⁷	00087325, 40000112
<u>Stone Fruits Group</u>			
- Apricots	0.5 [§180.275(a)]	No ³⁸	00098113
- Cherries	0.5 [§180.275(a)]	No ³⁸	00038929, 00098113, 00143113 ³⁹
- Nectarines	0.5 [§180.275(a)]	No ³⁸	00086628
- Peaches	0.5 [§180.275(a)]	No ³⁸	00038929, 00086628, 00098113, 00120273, 00124127
- Plums	0.2 [§180.275(a)]	No ³⁸	00098113
<u>Small Fruits and Berries Group</u>			
- Cranberries	5 [§180.275(a)]	No	00130005 ⁴⁰ , 00153530 ⁴¹
- Strawberries	None established	No ⁴²	
<u>Cereal Grains Group</u>			
- Corn, field	None established	No ⁴³	42944402 ^{44 45}
- Corn, sweet (K + CWHR)	1 [§180.275(a)]	No ⁴⁶	00087329, 40000113
<u>Forage, Fodder, and Straw of Cereal Grains Group</u>			
- Corn, field, forage and fodder	None established	No ⁴⁷	42944402 ^{44,48}
- Corn, sweet, forage and fodder	None established	No ⁴⁹	44191001 ⁵⁰
<u>Grass Forage, Fodder, and Hay Group</u>			
- Grass forage and hay	None established	No ⁵¹	42875926 ¹¹
<u>Miscellaneous Commodities</u>			

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References ¹
- Bananas	0.5 (bananas) 0.05 (banana pulp) [§180.275(a)]	No	00087275, 00147973 ¹⁸ , 40000114 , 42875919 ¹¹ , 43251601 ⁵²
- Cocoa beans	0.05 [§180.275(a)]	No	00109661 ⁵³
- Coffee beans	0.2 [§180.275(a)]	No	00109661 ⁵³
- Mint hay	2 [§180.275(b)]	No	00071753, 00071754
- Papayas	15 [§180.275(a)]	No ⁵⁴	00087368
- Passion fruit	3 [§180.275(a)]	No ⁵⁵	00087353, 42059001 ⁵⁶
- Peanuts	0.3 [§180.275(a)]	No ⁵⁷	00087327, 00092412, 40000116 , 40183416 , 42875925 ¹¹ , 43843601 ⁵⁸
171-4(l): Magnitude of the Residues in Processed Food/Feed			
- Cacao beans	None established	No ⁵⁹	
- Coffee beans	None established	No ⁶⁰	00109661 ⁵³
- Corn, field	None established	No	42944403 ⁴⁴
- Mint hay	None established	No	00071753, 00071754
- Peanuts	None established	No	40183417
- Plums	None established	No	42875927 ¹¹
- Potatoes	None established	No	40183404 , 42800501 ^{61 62}
- Soybeans	None established	No	00029904, 40183413
- Tomatoes	None established	No	00129178 ⁶³
171-4 (j): Magnitude of the Residue in Meat, Milk, Poultry, and Eggs			
- Cattle, goats, hogs, horses, and sheep	None established	No ^{64,65}	0087252, 00087677, 00114035, 43832401-43832404 ⁶⁶
- Poultry	None established	No ^{67,65}	

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References ¹
171-5: Reduction in Residues		No	00029904, 00124128 ⁶⁸ , 00129178 ⁶³ , 00145400 ⁶⁸ , 00158892, 00158893, 00162389 ⁶⁹ , 40183404, 40183415, 40183417, 41630801, 41630802, 41819401 ⁷⁰ , 42272101 ⁷¹
165-1: Rotational Crops (Confined)		No	00139550 ⁷²
165-2: Rotational Crops (Field)		No	00156477 ⁷² , 41564832-41564846 ⁷³ , 42090109 ⁷⁴

- References in **Bold type** were reviewed in the Residue Chemistry Chapter of the Draft Final Reregistration Standard and Tolerance Reassessment (FRSTR) dated 2/19/88. Other references were reviewed in the Residue Chemistry Science Chapter of the Registration Standard dated 11/4/83 or as otherwise noted.
- Label amendments are required for some crops and are noted in the appropriate crop section.
- PP#4F3025, 5/30/84, M. Kovacs.
- CB No. 922, 9/10/85, M. Firestone.
- CB No. 5006, 6/22/89, S. Willett.
- CBRS No. 10960, DP Barcode D185139, 12/15/93, W. Smith.
- CBRS No. 12657, DP Barcode D195755, 5/26/94, W. Smith.
- CB No. 7112, 1/30/91, R. Perfetti.
- CBRS No. 9417, DP Barcode D174779, 11/4/93, P. Deschamp.
- The registrant has submitted a GC/ECD method for the enforcement of tolerances for chlorothalonil residues of concern in/on peanuts, potatoes, and tomatoes which is a modification of the current enforcement method. Contingent upon a successful Agency method trial, CBRS will consider this method for publication in PAM, Vol. II (Footnote 11).

The registrant has submitted a GC/ECD method for the enforcement of proposed tolerances for SDS-3701 residues on meat and milk. Contingent upon a successful Agency method trial, this method will be published in PAM, Vol II.

11. CBRS Nos. 12393, 12403, 12420-12423, 12428-12432, 12462, 12475-12480, and 12618, DP Barcodes D194461, D194462, D194480-D194488, D194685, D194690-D194693, D194695, D194696, and D195417, 8/5/94, W. Smith.
12. CBRS No. 16482, DP Barcode D220825, 3/6/96, W. Smith.
13. CBRS No. 17487, DP Barcode D228927, 2/5/97, W. Smith.
14. DP Barcode D235069, 6/30/97, W. Smith.
15. Labels for all chlorothalonil end-use products with uses on carrots must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 6 applications per season at 1.5 lb ai/A/application.
16. Residue data were translated from carrots.
17. No additional field residue data are required, provided the registrant amends product labels as intended to specify a 7-day PHI and a maximum seasonal rate of 9 lb ai/A (Footnote 11).
18. CB No. 1277, 9/23/85, M. Firestone.
19. The Agency has determined that the use of chlorothalonil on sugar beets grown for seed under SLN No. OR810032 is a non-food use; therefore, no residue data are required.
20. Residue data were translated from dry bulb onions. Labels for all chlorothalonil end-use products with uses on garlic must be amended to specify a maximum number of applications per season or a maximum seasonal rate.
21. The registrant must propose either a higher tolerance for green onions or a longer PHI, which is supported by appropriate field trial data (Footnote 11).
22. Labels for all chlorothalonil end-use products with uses on dry bulb onions must be amended to specify a maximum number of applications per season or a maximum seasonal rate.
23. Labels for all chlorothalonil end-use products with uses on celery must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 16 applications per season at 2.3 lb ai/A/application.
24. No additional residue data are required, provided the registrant amends all pertinent product labels as intended to specify a 7-day PHI for broccoli (Footnote 11). In

addition, labels for all chlorothalonil end-use products with uses on broccoli must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 8 applications per season at 1.1 lb ai/A/application.

25. No additional residue data are required provided the registrant amends all pertinent product labels as intended to specify a 7-day PHI for Brussels sprouts (Footnote 11). In addition, labels for all chlorothalonil end-use products with uses on Brussels sprouts must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 8 applications per season at 1.1 lb ai/A/application.
26. No additional residue data are required, provided the registrant amends all pertinent product labels as intended to specify a 7-day PHI for cabbage (Footnote 11). In addition, labels for all chlorothalonil end-use products with uses on cabbage must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 9 applications per season at 1.2 lb ai/A/application.
27. No additional residue data are required, provided the registrant amends all pertinent product labels as intended to specify a 7-day PHI for cauliflower (Footnote 11). In addition, all chlorothalonil end-use products with uses on cauliflower must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 8 applications per season at 1.1 lb ai/A/application.
28. The registrant has recently proposed label amendments for some formulations (82.5% DF, 6 lb/gal FlC, and 4.17 lb/gal SC/L) to change the PHI from 42 days to 14 days and to establish a maximum seasonal rate of 6.0 lb ai/A (maximum of four applications per season). CBTS has recommended for the proposed label amendments and noted that the labels for the 90% DF and 4.16 and 4.17 lb/gal FlC formulations may also be amended without additional review by CBTS (CBTS Nos. 14057-14059, DP Barcodes D205409, D205411, and D205412, 9/15/94, J. Stokes).
29. CB No. 7931, DP Barcode D163742, 5/22/91, J. Abbotts.
30. No additional residue data are required, provided the registrant amends all pertinent product labels as intended to specify a maximum seasonal rate of 9 lb ai/A (Footnote 11).

31. Labels for all chlorothalonil end-use products with uses on soybeans must be amended to specify a maximum number of applications per season or a maximum seasonal rate.
32. Product labels currently contain a restriction against the grazing of treated areas or feeding of treated plant parts to livestock for dry and succulent beans. All pertinent product labels must be amended to state that the use of chlorothalonil is restricted to beans grown for human consumption only.
33. Labels for all chlorothalonil end-use products with uses on tomatoes must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 11 applications per season at 2.3 lb ai/A/application.

The 7/31/91 DCI required data depicting chlorothalonil residues of concern in/on greenhouse-grown tomatoes following application of a DF or Impr formulation. The registrant no longer has any registered uses of chlorothalonil on greenhouse-grown tomatoes; therefore, these data are no longer required.

34. Labels for all chlorothalonil end-use products with uses on cucumbers must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a seasonal application schedule of one application at vine formation at up to 6.3 lb ai/A plus 9 applications at 2.3 lb ai/A/application.
35. Labels for all chlorothalonil end-use products with uses on melons must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 10 applications per season at 2.2 lb ai/A/application.
36. Residue data were translated from winter squash. Labels for all chlorothalonil end-use products with uses on pumpkins must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 10 applications per season at 2.2 lb ai/A/application.
37. Labels for all chlorothalonil end-use products with uses on squash (summer and winter) must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 10 applications per season at 2.2 lb ai/A/application.
38. Labels for all chlorothalonil end-use products with uses on apricots, cherries, nectarines, peaches, and/or plums must

be amended to specify a maximum seasonal rate.

39. CB No. 371, 3/7/85, M. Firestone.
40. PP#3E2939, 1/13/84, M. Kovacs.
41. CB No. 824, 5/31/85, J. Mayes.
42. The Agency has determined that the 24(c) registrations of chlorothalonil on non-bearing strawberries (CA850066 and CA850067) are non-food uses; therefore, no residue data are required.
43. A tolerance has been proposed for the combined residues of chlorothalonil and its 4-hydroxy metabolite in/on field corn grain of 0.05 ppm. Labels for all chlorothalonil end-use products with uses on corn grown for seed must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 7 applications per season at 1.5 lb ai/A/application.
44. CBRS Nos. 12651 and 12653, DP Barcodes D195759 and D195757, 12/5/94, W. Smith.
45. CBRS 16797, DP Barcode D222163, 4/26/96, W. Smith.
46. Labels for all chlorothalonil end-use products with uses on sweet corn must be amended to remove the restrictions against the treatment of sweet corn grown for processing and to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 8 applications per season at 1.4 lb ai/A/application.
47. Tolerances have been proposed for the combined residues of chlorothalonil and its 4-hydroxy metabolite in/on field corn fodder of 50 ppm. Labels for all chlorothalonil end-use products with uses on corn grown for seed must be amended to impose a 45-day pregrazing interval for feeding of the fodder of treated corn to livestock.
48. CBRS No. 15319, DP Barcode D213495, 5/23/95, W. Smith.
49. A tolerance must be proposed for the combined residues of chlorothalonil and its 4-hydroxy metabolite in/on sweet corn forage; the available data would support a tolerance of 65 ppm. A tolerance of 50 ppm has been proposed for the combined residues of chlorothalonil and its 4-hydroxy metabolite in/on sweet corn fodder. Labels for all chlorothalonil end-use products with uses on sweet corn must be amended to remove the restrictions against the grazing of

treated areas, feeding of treated forage, or ensiling of treated corn.

50. CB No. 17747, DP Barcode D232879, 6/30/97, W. Smith.
51. Labels for all chlorothalonil end-use products with uses on grass grown for seed must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 3 applications per season at 1.5 lb ai/A/application. In addition, in the absence of data from the state of MO, product labels must be amended to restrict use of chlorothalonil on grasses grown for seed to the states of ID, OR, and WA.
52. CBRS No. 13888, DP Barcode D204405, 10/13/94, W. Smith.
53. PP#2E2744, 2/8/83, A. Smith.
54. Labels for all chlorothalonil end-use products with uses on papayas must be amended to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 11 applications per season at 3 lb ai/A/application.
55. Labels for all chlorothalonil end-use products with uses on passion fruit must be amended to specify a maximum number of applications per season or a maximum seasonal rate, and a 7-day PHI. The available data support a maximum seasonal rate of 7 lb ai/A (Footnote 56).
56. CBRS No. 8840, DP Barcode D170695, 9/16/92, F. Fort.
57. A tolerance of 20 ppm has been proposed for peanut hay. Labels for all chlorothalonil end-use products with uses on peanuts must be amended to delete the restriction against the grazing of treated areas or the feeding of hay or threshings from treated fields and to specify a maximum number of applications per season or a maximum seasonal rate. The available data would support a maximum of 7 applications per season at 1.1 lb ai/A/application.
58. CBRS No. 16720, DP Barcode D221397, 5/28/96, W. Smith.
59. Based on the submitted data for cocoa beans, it was concluded that chlorothalonil residues of concern would likely reduce during processing (Footnote 53).
60. Based on the submitted data for coffee beans, it was concluded that chlorothalonil residues of concern would likely reduce during processing (Footnote 53).

61. CBRS No. 12047, DP Barcode D192291, 12/15/93, W. Smith.
62. CBRS Nos. 15223 & 15648, DP Barcodes D212906 & D215634, 8/3/95, W. Smith.
63. Appendix D to the Residue Chemistry Science Chapter of the Chlorothalonil Reregistration Standard, 10/24/83, E. Zager.
64. Tolerances have been proposed for residues of 4-hydroxy-2,5,6-trichloroisophthalonitrile (SDS-3701) in milk and meat commodities. Adequate data have been submitted by the Registrant in support of this petition.
65. The requirements for HCB poultry and ruminant feeding studies (7/31/91 DCI) have been waived (CBRS No. 11686, DP Barcode D189849, 1/25/94, W. Smith).
66. CBRS No. 16482, DP Barcode D220825, 3/6/96, W. Smith.
67. The requirements for poultry metabolism and feeding studies (7/31/91 DCI) have been waived (CBRS No. 12821, DP Barcode D196755, 11/2/94, W. Smith). No tolerances are needed for poultry and eggs.
68. Reviewed in the FRSTR dated 3/11/88.
69. CBRS No. 1413, 2/2/87, L. Cheng.
70. This MRID and the previously listed MRIDs were considered in estimating Chlorothalonil anticipated residues for this RED.
71. CBRS No. 10462, DP Barcode D181909, 11/13/92, W. Smith.
72. Reviewed in EFED, 4/26/84, S. Creeger.
73. CB No. 7840, DP Barcode D162931, 5/7/91., J. Stokes.
74. CBTS No. 9021, DP Barcode D172017, 2/26/92, J. Stokes.