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

JUL 8 1993

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: Chlorpropham, Reregistration. Independent Laboratory  
Validation of an Analytical Method (MRID No.  
42778901).

CBRS No. 11948. DP Barcode No. D191727.

FROM: John Abbotts, Chemist *John Abbotts*  
Special Review Section II  
Chemistry Branch II - Reregistration Support  
Health Effects Division [H7509C]

THRU: Francis B. Suhre, Section Head *Francis B. Suhre*  
Special Review Section II  
Chemistry Branch II - Reregistration Support  
Health Effects Division [H7509C]

TO: Venus Eagle, PM Team 71  
Reregistration Branch  
Special Review and Reregistration Division [H7508W]

In support of reregistration, the Chlorpropham Task Force, on behalf of registrants Aceto Agricultural Chemicals Corporation and Elf Atochem North America, Inc., has submitted data on independent laboratory validation of an analytical method for detection of residues in or on potato commodities. Assignment instructions are to determine if the submission fulfills guidelines for analytical method in plants.

Tolerances are established for combined residues of the plant regulator and herbicide chlorpropham, isopropyl m-chlorocarbanilate (CIPC), and its metabolite 1-hydroxy-2-propyl 3'-chlorocarbanilate, calculated as CIPC, in or on potatoes (post-harvest) at 50 ppm, and soybeans at 0.2 ppm (40 CFR 180.181). Interim tolerances are established for residues of chlorpropham on numerous plant and animal commodities, pending establishment of permanent tolerances (40 CFR 180.319). Chlorpropham is a List A Chemical. A Registration Standard (Guidance Document) was issued 12/87; an Update to the Residue Chemistry Chapter was issued 10/16/91.



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### Conclusions

1. For the purposes of reregistration for post-harvest uses on stored potatoes, residue data are only required for parent chlorpropham and 3-chloroaniline; data on other metabolites will not be reviewed here.
2. Residue data for potatoes are only required on the raw agricultural commodity tuber and processed commodities wet peel, dry peel, granules, and chips. Data on other potato commodities will not be reviewed here.
3. Samples were fortified with standards after maceration in methanol:water. CBRS will accept this approach for this submission, but notes that fortification of homogenized sample, before beginning the extraction, would be preferable.
4. Recoveries of parent chlorpropham from potato samples were acceptable for processed wet peel fortified at 1 ppm, and for each of processed dry peel, dehydrated granules, and chip fortified at 2 ppm.
5. Recoveries of parent chlorpropham from fortified samples of whole potato ranged from 138-183%, values which the performing laboratory described as "unacceptably high." CBRS agrees with this assessment.
6. Recoveries of 3-chloroaniline from fortified potato samples were unacceptable for each of the relevant matrices. The inability to adequately recover residues from fortified samples does not provide confidence that the method could recover residues from treated samples or processed commodities, where metabolism would be more extensive and covalently-bound conjugates might form.

### Recommendations

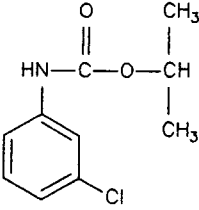
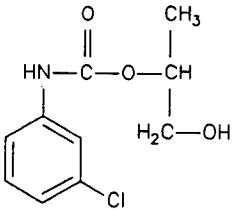
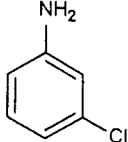
For the reasons identified in Conclusions 5 and 6, independent laboratory validation was unsuccessful, and this item remains an outstanding data requirement. Consistent with the conclusions of the HED Metabolism Committee (Memo, 3/31/93, J. Abbotts), judgment remains reserved on 3-chloroaniline residue data until the analytical methodology employed has been validated for its ability to detect conjugated 3-chloroaniline residues.

### Background

Registrants have voluntarily canceled all uses except post-harvest treatment of potatoes. The Guidance Document (12/87) specified that methods for data collection and tolerance enforcement, including methods for 3-chloroaniline, should include pre-hydrolysis and hydrolysis extraction steps in order

to detect free and conjugated metabolites; and should be tested with regard to their efficiency in extracting bound residues, using radiolabeled samples from metabolism studies. The Update to the Residue Chemistry Chapter (10/16/91) reiterated these requirements, and also required that the method(s) chosen as suitable for tolerance enforcement must be validated by an independent laboratory prior to undergoing Agency validation. Structures of parent chlorpropham, the hydroxy metabolite presently included in the tolerance expression, and 3-chloroaniline are shown in Table 1.

Table 1. Chlorpropham and Metabolites.

Chemical Names (Common names)	Chemical Structure
isopropyl m-chlorocarbanilate  isopropyl 3-chlorocarbanilate  (chlorpropham; CIPC)	
1-hydroxy-2-propyl- 3'-chlorocarbanilate (40 CFR 180.181)  hydroxyisopropyl-N- (3-chlorophenyl) carbamate  (isopropyl-OH-CIPC)	
3-chloroaniline  (chloroaniline)	

The nature of the residue in stored potatoes treated post-harvest is adequately understood (CBRS Nos. 8942, 9137, 9166, 9171, 3/10/93, J. Abbotts). At a meeting on 3/22/93, the HED Metabolism Committee reached the following conclusions with regard to post-harvest treatment of potatoes with chlorpropham (Memo, 3/31/93, J. Abbotts):

1. The tolerance for potatoes may be continued for residues of chlorpropham only, but the need to include 3-chloroaniline in the tolerance expression will be revisited upon availability of adequate oncogenicity data.

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2. Judgment is reserved on whether 3-chloroaniline is a residue of concern, and on whether concentration of 3-chloroaniline in potato processed commodities is of concern, pending the availability of data on its oncogenicity.

3. Judgment is reserved on whether concentration of chlorpropham in potato processed commodities is of concern, pending review of data on oncogenicity.

4. Judgment is reserved on the magnitude of 3-chloroaniline residues pending validation of a method adequate for detecting bound residues in potato commodities.

Review of a previous submission from the Chlorpropham Task Force on analytical method (MRID 42123101) concluded that the method adequately recovered residues of parent chlorpropham from fortified potato samples. However, the method was not suitable for data collection or tolerance enforcement, if residues to be regulated were to include 3-chloroaniline (CBRS 8942ff, 3/10/93, J. Abbotts). The Task Force recognized that the previous method gave recoveries of 3-chloroaniline that were less than satisfactory in routine analysis of aged samples, and submitted a revised analytical method (Method Addendum 1, MRID 42653401). Review of this revised submission concluded that the method adequately recovered residues of parent chlorpropham from fortified potato samples; however, recoveries of 3-chloroaniline residues from fortified samples were inadequate for nearly all potato commodities. Judgment was reserved on submitted 3-chloroaniline residue data until the analytical methodology employed has been validated for its ability to detect conjugated 3-chloroaniline residues (CBRS 11217, 11422, 11428, 6/21/93, J. Abbotts). In the meantime, the Task Force had requested independent laboratory validation of the revised analytical method. The present submission provides the results of the independent laboratory validation.

#### Present Submission

In support of reregistration, the Chlorpropham Task Force submitted the following document:

Validation of a Method for the Determination of Chlorpropham (CIPC) and Other Target Analytes from Potato Matrices, Midwest Research Institute, Project MRI No. 3304-F, March 15, 1993 (MRID 42778901).

The analytical method tested has previously been described as Addendum 1, Chlorpropham Task Force Report No. 92CIPC01 (MRID 42653401), and that revised method has been reviewed (CBRS 11217ff, 6/21/93, J. Abbotts). The performing laboratory for the present submission was Midwest Research Institute, Kansas City, MO. The method was examined for its ability to detect residues

of parent chlorpropham, 3-chloroaniline, 4'-hydroxychlorpropham, and p-methoxychlorpropham. Matrices examined included whole potato, potato pulp, fresh potato peel, processed wet peel, processed dry peel, dehydrated granules, potato chips with and without peel, and French fries.

Consistent with the conclusions of the HED Metabolism Committee (see Background section, above), the only residues of interest for the purposes of reregistration for post-harvest uses on stored potatoes are parent chlorpropham and 3-chloroaniline. Residue data on other metabolites are not required for these uses, and will not be reviewed here. In addition, Table II of the Agency's Pesticide Assessment Guidelines, Subdivision O: Residue Chemistry, lists potato commodities for which data are required as the raw agricultural commodity tuber and the processed commodities wet peel, dry peel, granules, and chips. Feed additive tolerances for potato processed waste should be based on the maximum concentration factor observed for residues in or on granules, wet peel, or dry peel. Residue data on matrices other than those listed in Table II of Subdivision O are not required.

Conclusion 1: For the purposes of reregistration for post-harvest uses on stored potatoes, residue data are only required for parent chlorpropham and 3-chloroaniline; data on other metabolites will not be reviewed here.

Conclusion 2: Residue data for potatoes are only required on the raw agricultural commodity tuber and processed commodities wet peel, dry peel, granules, and chips. Data on other potato commodities will not be reviewed here.

With the method tested, potato commodity samples are homogenized in a food processor and stored frozen. For extraction, the sample is removed from storage and allowed to thaw. Methanol and water are added, and the sample is macerated with a Polytron Tissumizer. The resultant mixture is partitioned with dichloromethane and incubated in a 34°C water bath for 2 h. The mixture is filtered through glass wool and the liquid phases are allowed to separate. The dichloromethane layer is set aside and the post-extraction solids are combined with the original methanol phase. At this point a phosphate buffer saturated with NaCl (buffer pH=6.5) is added to the suspension and the mixture is sonicated for 1.5 min in short bursts. The mixture is extracted again with dichloromethane and the two dichloromethane phases are combined, concentrated by evaporation, redissolved in n-hexane, and loaded for analysis by gas chromatography with nitrogen-phosphorus detection. For samples from French fries and potato chips, oil is removed by gel permeation chromatography; the combined dichloromethane phases are concentrated, redissolved

in cyclohexane:dichloromethane (1:1), and loaded onto an Enviro-beads column. The eluate is concentrated, redissolved in n-hexane, and loaded for gas chromatography. Residues are quantitated by peak area, based on calibration curves using standards. Chromatograms were provided for many samples.

#### CBRS Comments, Fortification

For this independent laboratory validation, samples were fortified after maceration with the Polytron. This was not in accordance with the submitted copy of the method, which specified that fortification should occur after homogenized samples were removed from frozen storage, and before addition of methanol:water.

The Guidelines in Subdivision O:Residue Chemistry, specify that in preparing fortified samples, "The raw agricultural commodity, or a macerate thereof, should be fortified, rather than crop extracts." In this case, it was a macerate that was fortified, but fortification was performed after the addition of methanol:water, which means that the method validation was as likely to represent recovery of residues from solvent as it was to represent recovery from plant matrix. Re-examination of the earlier submission, Method Addendum 1 (MRID 42653401, reviewed in CBRS 11217ff, 6/21/93, J. Abbotts), indicates at page 38 that samples were fortified after maceration in methanol:water. With the present submission (MRID 42778901), the copy of the method attached specifies at p. 56 that samples of homogenized matrix should be fortified before addition of methanol. The fact that the method was modified suggests that fortifying the homogenized sample is practical, and this approach is preferable. CBRS will accept fortification of the Polytron macerate, but fortification of homogenized matrix would be preferable.

Conclusion 3: Samples were fortified with standards after maceration in methanol:water. CBRS will accept this approach for this submission, but notes that fortification of homogenized sample, before beginning the extraction, would be preferable.

#### Results

Recoveries were reported for fortified samples in several potato matrices. For most matrices, duplicate samples were fortified at two different levels, 20 or 50 µg of standard. Because the sample weight varied with matrix, so did the ppm values of fortification levels. Table 2 summarizes recoveries for residues of parent, and Table 3 for residues of 3-chloroaniline. In cases where recoveries at both levels were acceptable, data are summarized for the lower fortification level:

Table 2. Recoveries from Samples Fortified with Chlorpropham.

Commodity	Fortification Level, ppm	% Recoveries
Whole Potato	0.4	138, 183
	1.0	169, 177
Processed Wet Peel	0.4	98, 141
	1.0	80, 81
Processed Dry Peel	2.0	72, 96
Dehydrated Granules	2.0	83, 94
Potato Chip	2.0	105, 108

Table note:

Duplicate samples were analyzed for all matrices shown.

Table 3. Recoveries from Samples Fortified with 3-Chloroaniline.

Commodity	Fortification Level, ppm	% Recoveries
Whole Potato	0.4	51, 39
	1.0	38, 55
Processed Wet Peel	0.4	40, 56
	1.0	41, 42
Processed Dry Peel	2.0	33, 53
	5.0	67, 77
Dehydrated Granules	2.0	51, 63
	5.0	62, 63
Potato Chip	2.0	36, 38

Table note:

Duplicate samples were analyzed for all matrices shown.

CBRS Comments, Recoveries

The acceptable range for recoveries is 70-120%. For 3-chloroaniline, there was no fortification level in any of the relevant matrices where recoveries of both samples fell within the acceptable range. For parent chlorpropham, recoveries were acceptable in potato samples fortified at 1 ppm in processed wet peel, and at 2 ppm in each of processed dry peel, dehydrated granules, and chip. The performing laboratory described recoveries of parent chlorpropham in whole potato samples as "unacceptably high." CBRS agrees with this assessment.

Conclusion 4: Recoveries of parent chlorpropham from potato samples were acceptable for processed wet peel fortified at



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1 ppm, and for each of processed dry peel, dehydrated granules, and chip fortified at 2 ppm.

Conclusion 5: Recoveries of parent chlorpropham from fortified samples of whole potato ranged from 138-183%, values which the performing laboratory described as "unacceptably high." CBRS agrees with this assessment.

The Residue Chemistry Chapter (8/14/87) concluded that data collection and enforcement methodology should include hydrolysis step(s) in order to detect free and conjugated side-chain modified metabolites, such as isopropyl-OH-CIPC and 3-chloroaniline. The Guidance Document (12/87) specified that methods used for data collection, including methods specific for 3-chloroaniline, be tested with regard to their efficiency in extracting bound residues. To this end, it was recommended that methods be validated with weathered radioactive residues in conjunction with the required metabolism studies.

The Update to the Residue Chemistry Chapter (10/16/91) reiterated the requirement that methods must include a hydrolysis step at the tissue stage to release bound/conjugated residues. Such a hydrolysis step must be incorporated into all methods to be used for data collection in support of tolerances. The efficiency of extraction of bound/conjugated residues must be determined for any or all residue data collection methods the registrant has used or will use to support tolerances. This may best be conducted with samples containing radiolabeled material from plant and animal metabolism studies.

The nature of the residue in potatoes treated post-harvest is adequately understood (CBRS Nos. 8942ff, 3/10/93, J. Abbotts). Residues identified in peel included 3-chloroaniline, representing 0.35% of TRR (0.102 ppm). Also identified was 3-chloroaniline-N-glucosylamine, present at 0.05% TRR in peel, and 0.18% in pulp, for a combined level of 0.23% TRR (0.067 ppm). Conjugated forms of 3-chloroaniline may thus be present in potatoes and potato processed commodities. It was this observation that led the HED Metabolism Committee to conclude that judgement was reserved on the magnitude of 3-chloroaniline residues pending validation of a method adequate for detecting bound residues in potato commodities (Memo, 3/31/93, J. Abbotts).

In a previous submission (MRID 42653401, reviewed in CBRS 11217ff, 6/21/93, J. Abbotts), the performing laboratory discussed reports indicating that 3-chloroaniline can form conjugates or bind with matrix. Yet the analytical method used in the present submission extracts tissues with methanol:water. These extraction conditions would not be expected to release conjugated 3-chloroaniline for subsequent identification. It should be noted that Table 3 indicates inadequate recovery by the method from fortified samples, where 3-chloroaniline may be bound

to matrices. These data do not provide confidence that the method could recover residues from treated samples or processed commodities, where metabolism would be more extensive and covalently-bound conjugates might form.

Conclusion 6: Recoveries of 3-chloroaniline from fortified potato samples were unacceptable for each of the relevant matrices. The inability to adequately recover residues from fortified samples does not provide confidence that the method could recover residues from treated samples or processed commodities, where metabolism would be more extensive and covalently-bound conjugates might form.

Recommendations: For the reasons identified in Conclusions 5 and 6, independent laboratory validation was unsuccessful, and this item remains an outstanding data requirement. Consistent with the conclusions of the HED Metabolism Committee (Memo, 3/31/93, J. Abbotts), judgment remains reserved on 3-chloroaniline residue data until the analytical methodology employed has been validated for its ability to detect conjugated 3-chloroaniline residues.

cc:Circ, Abbotts, RF, Chlorpropham List A File, SF  
RDI:FBSuhre:7/7/93:MSMetzger:7/8/93:EZager:7/8/93  
H7509C:CBII-RS:JAbbotts:Rm805A:305-6230:7/8/93  
●JA6:chlorpro.11

**CHLORPROPHAM (CASE 0271/CODE 108301)**  
**UNOFFICIAL RESIDUE CHEMISTRY DATA SUMMARY THROUGH 7/8/93<sup>1</sup>**

**REASSESSMENT OF U.S. TOLERANCES AND POTENTIAL FOR HARMONIZATION WITH  
 CODEX<sup>2</sup>**

Guideline Number and Topic <sup>3</sup>	Phase 5 data requirements satisfied?	MRID(s) <sup>4</sup>
171-3 Directions for use	No	
171-4(a) Plant Metabolism	Yes <sup>5</sup>	42085601
171-4(b) Animal Metabolism	No <sup>6</sup>	42112201,42130401
171-4(c) Residue Analytical Methods - Plants	No <sup>7</sup>	42123101,42653401, 42778901
171-4(d) Residue Analytical Methods - Animals	Reserved	
171-4(e) Storage Stability	No <sup>8</sup>	42660101
171-4(k) Crop Field Trials		
171-4(k) Root and Tuber Vegetables Group		
Carrots	No <sup>9</sup>	
Potatoes	No <sup>10</sup>	42566801,42653601, 42653801,42653901, 42610301
(Processed food/feed)	No <sup>11</sup>	42566801,42653701, 42660201
Sugar beets [see 171-4(l)]	No	
171-4(k) Leaves of Root and Tuber Vegetables		
Sugar beet tops	No	
171-4(k) Bulb Vegetables Group		
Garlic	No	
Onions (green and dry bulb)	No	
171-4(k) Leafy Vegetables (except Brassica)		
Spinach	No <sup>9</sup>	
171-4(k) Legume Vegetables (succulent/dried)		
Beans (succulent and dried)	No	
Peas (succulent and dried)	No	
Soybeans [see 171-4(l)]	No	
171-4(k) Foliage of Legume Vegetables		
Bean vines and hay	No	
Pea vines and straw	No	
Soybean forage and hay	No	
171-4(k) Fruiting Vegetables Group		
Tomatoes [see 171-4(l)]	No	
171-4(k) Small Fruits and Berries Group		
Blackberries	No	
Blueberries	No	
Cranberries	No	
Raspberries	No	
171-4(k) Cereal Grains Group		
Rice [see 171-4(l)]	No	

**CHLORPROPHAM (CASE 0271/CODE 108301)**  
**UNOFFICIAL RESIDUE CHEMISTRY DATA SUMMARY THROUGH 7/8/93<sup>1</sup>**  
**REASSESSMENT OF U.S. TOLERANCES AND POTENTIAL FOR HARMONIZATION WITH**  
**CODEX<sup>2</sup>**

Guideline Number and Topic <sup>3</sup>	Phase 5 data requirements satisfied?	MRID(s) <sup>4</sup>
<b>171-4(k) Forage, Fodder, and Straw of Cereal Grains</b>		
Rice straw	No	
<b>171-4(k) Grass Forage, Fodder, and Hay Group</b>		
Grass forage and hay	No	
<b>171-4(k) Non-grass Animal Feeds</b>		
Alfalfa [see 171-4(l)]	No	
Clover	No	
Trefoil	No	
<b>171-4(k) Miscellaneous Commodities</b>		
Safflower [see 171-4(l)]	No	
Tobacco	No	
<b>171-4(j) Meat/Milk/Poultry/Eggs</b>	No <sup>12</sup>	
<b>171-4(f) Potable Water</b>	Yes	
<b>171-4(g) Fish</b>	Yes	
<b>171-4(h) Irrigated Crops</b>	N/A	
<b>171-4(i) Food Handling Establishments</b>	N/A	
<b>171-5 Reduction of Residues</b>	N/A	
<b>171-6 Tolerances</b>	No <sup>13</sup>	

<sup>1</sup>Registration Standard issued 12/87. Reregistration Standard Update to the Residue Chemistry Chapter issued 10/16/91. This summary is unofficial and subject to correction.

<sup>2</sup>No Codex MRLs are established or proposed for chlorpropham.

<sup>3</sup>N/A = Guideline requirement not applicable.

<sup>4</sup>MRIDs that were reviewed in the current submission are designated in shaded type.

<sup>5</sup>CBRS 8942, 9137, 9166, 9171, 3/10/93, J. Abbotts: The nature of the residue in stored potatoes treated post-harvest is adequately understood.

Memo, 3/31/93, J. Abbotts: The HED Metabolism Committee reached the following conclusions with regard to post-harvest treatment of potatoes with chlorpropham: 1) The tolerance may be continued for residues of parent only, but the need to include 3-chloroaniline in the tolerance expression will be revisited upon availability of adequate oncogenicity data. 2) Judgment is reserved on whether 3-chloroaniline is a residue of concern, and on whether its concentration in potato processed commodities is of concern, pending availability of data on its oncogenicity. 3) Judgment is reserved on whether concentration of chlorpropham in potato processed commodities is of concern, pending review of data on oncogenicity. 4) Judgment is reserved on the magnitude of 3-chloroaniline residues pending validation of a method adequate for detecting bound residues in potato commodities.

<sup>6</sup>CBRS 8942ff, 3/10/93, J. Abbotts: Additional work is necessary to upgrade the ruminant metabolism study; 80% of the extracted residue in liver was not identified. Considering that potato commodities are not significant feed items, the poultry metabolism study is adequate, provided adequate storage stability data are submitted.

<sup>7</sup>CBRS 8942ff, 3/10/93, J. Abbotts. MRID 42123101: The submitted method adequately recovers parent and other metabolites from fortified potato samples. The method is not adequate for 3-chloroaniline, and an improved method will be necessary if this or additional metabolites are designated residues to be regulated. Validation of the method for recovery of free and conjugated residues of concern remains an outstanding requirement. Enforcement methods must be validated by an independent laboratory.

CBRS 11217ff, 6/21/93, J. Abbotts. MRID 42653401: The submitted method adequately recovers parent chlorpropham from fortified potato samples. The method is not adequate for 3-chloroaniline; judgment is reserved on submitted 3-chloroaniline residue data until the analytical method has been validated for its ability to detect conjugated residues.

CBRS 11948, 7/8/93, J. Abbotts. MRID 42778901: Independent laboratory validation was unsuccessful, and this item remains an outstanding data requirement.

<sup>8</sup>CBRS 11217ff, 6/21/93, J. Abbotts: Data are sufficient to indicate stability of parent chlorpropham during frozen storage at -4°C for up to 183 days in wet potato peels, and up to 231 days in other potato commodities. The final report on storage stability should include data for storage periods at least as long as the maximum storage periods for corresponding samples of potato or potato processed products. Data on 3-chloroaniline are also required.

<sup>9</sup>Update: In view of existing use on spinach permitted under SLN VA910004 and USDA's wish to support use on carrots and spinach, interim tolerances for carrots and spinach should remain in effect until appropriate permanent tolerances are established. A full complement of residue data is necessary to establish tolerances.

CBRS 11008, 6/21/93, J. Abbotts: USDA has indicated at the staff level that it does not intend to support reregistration of chlorpropham because of resource limitations. Interim tolerances on carrots and spinach should be revoked, unless the Agency receives formal notification from USDA or other party of an intent to support reregistration. The residues to be regulated for in-field use may include metabolites in addition to parent and 3-chloroaniline.

<sup>10</sup>CBRS 8580, 9/18/91, R. Perfetti: A protocol for the 4 lb formulation was accepted.

CBRS 9013, 12/26/91, P. Deschamp: CBRS advised SRRD that data from residue tests in which warehouse-stored potatoes were treated with a 4 lb formulation as a fog would support registration of a 7 lb formulation, provided that the 4 lb and 7 lb formulations are identical types (e.g., both are RTU formulations), have the same application rate and timing, and that the prescribed methods of application are essentially identical. At the present time, products registered for postharvest use on potatoes include the 49.65% and 78.5% ready-to-use (RTU); 25, 36, and 46.5% emulsifiable concentrate (EC), and 46% soluble concentrate/liquid (SC/L) formulations.

CBRS 9278, 4/17/92, S. Funk: A protocol for the 7 lb formulation was acceptable with revisions.

CBRS 11008, 4/16/93, J. Abbotts. MRID 42566801: The submitted study can be upgraded to an acceptable status if additional information is provided. Judgment is reserved on 3-chloroaniline residue data until the analytical method has been validated for its ability to detect conjugated 3-chloroaniline residues. The data were submitted to support use of an RTU formulation applied by aerosol/fogger at 0.017 lb ai/1000 lb potatoes. Registrations with higher rates, different application methods, or other formulations not supported by other registrants should be canceled.

CBRS 11217ff, 6/21/93, J. Abbotts. MRIDs 42653601, 42653801, 42653901, 42610301: The

submitted study can be upgraded to an acceptable status if additional information is provided. Judgment is reserved on 3-chloroaniline residue data.

<sup>11</sup>CBRS 11008, 4/16/93, J. Abbotts. MRID 42566801: The submitted study can be upgraded to an acceptable status if additional information is provided. Judgment is reserved on 3-chloroaniline residue data until the analytical method has been validated for its ability to detect conjugated 3-chloroaniline residues.

CBRS 11217ff, 6/21/93, J. Abbotts. MRIDs 42653701, 42660201: The submitted study can be upgraded to an acceptable status if additional information is provided. Judgment is reserved on 3-chloroaniline residue data. The data provided indicate that residues of parent chlorpropham concentrate in wet peel, dry peel, and processed potato waste during processing.

<sup>12</sup>CBRS 8942ff, 3/10/93, J. Abbotts: A ruminant feeding study is required, to be conducted after the nature of the residue in ruminants is adequately understood and residues to be regulated in animal commodities have been determined.

<sup>13</sup>Update: Registrant voluntarily canceled all uses except post-harvest treatment of potatoes. The permanent tolerance on soybeans and all interim tolerances on commodities not supported for reregistration should be revoked.

cc: Abbotts; Chlorpropham List A Reregistration Standard File; Lois Rossi, SRRD  
271.5