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

11-13-87

(24)

NOV 13 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Chlorothalonil Dietary Exposure and Oncogenic Risk Assessment

TO: Lois Rossi (PM #21)
Registration Division (TS-767)

FROM: Susan L. Stanton
TAS Program
RCB/HED (TS-769C)

THRU: Karl Arne, Ph.D.
Branch Senior Scientist
RCB/HED (TS-769C)

Susan L. Stanton 11/10/87

Action Requested

The TAS Program was asked by the Registration Division (memo Tinsworth to Barton, 10/22/87) to provide a characterization of dietary risk for chlorothalonil.

Discussion

The Reference Dose (ADI, RFD) used in the analysis was 0.015 mg/kg/day, based on a NOEL of 1.5 mg/kg/day obtained in a 2 year feeding study in dogs, with an Uncertainty Factor of 100. This value has been verified by Agency reference dose committees. In addition, this compound has been identified as an oncogen in rats and mice, and has been classified as a Category B oncogen by the Toxicology Branch Peer Review Committee. The upper bound potency estimate (Q^*) obtained in this study was 1.1×10^{-2} (mg/kg/day) $^{-1}$ (memo Bernice Fisher, 7/20/87).

The food uses evaluated were tolerances published in 40 CFR 180.275. Percent of crop treated data, provided by the Benefits and Use Division (BUD), were also incorporated into the exposure analysis. See Table 2 for a complete listing of residues used in the analysis.

I. Exposure Analysis based on Published Tolerances and an Assumption of 100% Crop Treated:

The TAS Routine Chronic Analysis estimates exposure, based on per capita consumption, for the U.S. population and each of 22 population subgroups. In this case the Theoretical Maximum Residue Contribution (TMRC) for the U.S. population was calculated to be 0.012609 mg/kg body wt/day, corresponding to 84% of the RfD. The two most highly exposed subgroups were children (TMRC = 0.022415 mg/kg body wt/day, or 149% of the RfD) and infants (TMRC = 0.015674 mg/kg body wt/day, or 104% of the RfD).

Oncogenic risk for the overall U.S. population average was calculated as follows:

$$\text{Exposure} \times Q^* = \text{Risk}$$

$$0.012609 \text{ mg/kg/day} \times 0.011 \text{ (mg/kg/day)}^{-1} = 0.0001386$$

$$\text{Risk} = 1.4 \times 10^{-4}$$

II. Exposure Analysis based on Tolerances adjusted for Percent of Crop Treated:

When residues were adjusted to account for percent of crop treated, the exposure for the U.S. population was calculated as 0.005610 mg/kg body wt/day, corresponding to 37% of the RfD. For children the exposure was reduced to 0.010235 mg/kg body wt/day (68% of the RfD), and for infants it was reduced to 0.006378 mg/kg body wt/day (43% of the RfD). Table 3 contains a summary of the analysis using both published tolerances and published tolerances adjusted for percent of crop treated.

Oncogenic risk for the overall U.S. population using percent of crop treated data was calculated as follows:

$$\text{Exposure} \times Q^* = \text{Risk}$$

$$0.005610 \text{ mg/kg/day} \times 0.011 \text{ (mg/kg/day)}^{-1} = 0.0000617$$

$$\text{Risk} = 6.2 \times 10^{-5}$$

The bulk of the theoretical exposure and oncogenic risk is from tomatoes and celery, as can be seen in Table 1, which provides information on the commodity contribution to oncogenic risk using the percent of crop treated data from BUD. Information from BUD indicates that chlorothalonil usage on both tomatoes and celery is very high, with 97% of the celery crop and 50% of the tomato crop treated annually.

It should be noted, however, that several studies have been submitted by the registrant in response to the chlorothalonil registration standard. These studies will be reviewed by RCB in the next few months during completion of the Final Registration Standard and Tolerance Reassessment (FRSTR) for chlorothalonil, which is due 2/24/88.

Available data for tomatoes suggest that residues may be reduced by washing and processing (See L. Cheung memo, 2/2/87). Therefore, it is possible that upon completion of RCB's review of the studies, anticipated residue data may be available that could significantly reduce the calculated exposure to chlorothalonil and the resulting oncogenic risk.

ATTACHMENT

cc: TAS file
Reading file
Chlorothalonil SF
Toxicology Branch
circ.
PMSD

Table 1Commodity Contribution to Chlorothalonil TMRC and Oncogenic Risk

<u>Commodity</u>	<u>U.S. Population</u>	<u>Oncogenic Risk X 10⁶</u>
	<u>TMRC (ug/kg/day)</u>	
Tomatoes ^b	3.636840	40.0
Celery ^b	0.886984	9.8
Green Beans ^b	0.240060	2.6
Cranberries ^a	0.169005	1.9
Brassica Leafy Veggies. ^b	0.151134	1.7
Stone Fruits ^c	0.146208	1.6
Papayas ^a	0.114704	1.3
Legumes, excl. G. Beans ^b	0.087166	1.0
Root and Tuber Veggies. ^b	0.084285	0.9
Bulb Vegetables ^b	0.032687	0.4
Sweet Corn ^b	0.023671	0.3
Cucurbits ^b	0.014033	0.2
Bananas ^a	0.011536	0.1
<u>Other (Coffee, Cocoa)^a</u>	<u>0.011333</u>	<u>0.1</u>
Total	5.609646	62.0 -or- (6.2×10^{-5})

^aAnalysis based on tolerance (no percent crop treated data available).

^bAnalysis based on tolerance, adjusted for percent of crop treated.

^cPercent crop treated data available only for cherries (analysis for other stone fruits based on tolerances).

Table 2

ANTICIPATED RESIDUE INFORMATION FOR CASHELL NUMBER 215B

DATE: 11/10/87

PAGE: 1

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		STATUS
				PADI	Rabbit teratology (Core-Supplementary).	
Chlorothalonil	2yr feeding-dog	Renal tubular vacuolization.	PADI 100 OPP RfD= 0.015000 EPA RfD= 0.015000			TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.
Cashell #215B CAS No. 1867-45-6 A.I. CODE: 081901 CFR No. 180.275	NOEL= 1.5000 mg/kg LEL= 60.00 ppm LEL= 3.0000 mg/kg LEL= 120.00 ppm	Evidence of oncogenicity in rats and mice (kidney)	WHO RfD 0.003000 Type: TAD1			
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	% CROP TREATED
01010AA	CRANBERRIES	10 RAW-FRESH OR NFS 21 COOKED-NFS	2E2939 P 5.000000	5.000000	100.00	5.000000
01010AA	CRANBERRIES	31 COOKED-FRESH OR CANNED	2E2939 P 5.000000	5.000000	100.00	5.000000
01010AA	CRANBERRY JUICE	15 RAW-FRESH OR CANNED	2E2939 P 5.000000	5.000000	100.00	5.000000
01010JA	CRANBERRY JUICE	31 COOKED-FRESH OR CANNED	2E2939 P 5.000000	5.000000	100.00	5.000000
05001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05001AA	APRICOTS-FRESH	21 COOKED-NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	3F1382 P 0.500000	0.500000	100.00	0.500000
05001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	3F1382 P 0.500000	0.500000	100.00	0.500000
05002AA	CHEERIES-FRESH	10 RAW-FRESH OR NFS	5F1183 P 0.500000	0.500000	8.00	0.040000
05002AA	CHEERIES-FRESH	21 COOKED-NFS	5F1183 P 0.500000	0.500000	8.00	0.040000
05002AA	CHEERIES-FRESH	31 COOKED-FRESH OR CANNED	5F1183 P 0.500000	0.500000	8.00	0.040000
05002AA	CHEERIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED 00 NOT SPECIFIED (NO CONSUMPTION)	5F1183 P 0.500000	0.500000	8.00	0.040000
05002DA	CHEERIES-DRIED	15 RAW-FRESH OR CANNED	5F1183 P 0.500000	0.500000	8.00	0.040000
05002JA	CHEERIES-JUICE	21 COOKED-NFS	5F1183 P 0.500000	0.500000	8.00	0.040000
05003AA	MELTARINES	10 RAW-FRESH OR NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05004AA	PEACHES-FRESH	21 COOKED-NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	3F1382 P 0.500000	0.500000	100.00	0.500000
05004AA	PEACHES-FRESH	51 COOKED-CANNED	3F1382 P 0.500000	0.500000	100.00	0.500000
05004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05004DA	PEACHES-DRIED	21 COOKED-NFS	3F1382 P 0.500000	0.500000	100.00	0.500000
05005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	2F2602 P 0.200000	0.200000	100.00	0.200000
05005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	2F2602 P 0.200000	0.200000	100.00	0.200000
05005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	2F2602 P 0.200000	0.200000	100.00	0.200000
05005D-A	PLUMS-PRUNES	21 COOKED-NFS	2F2602 P 0.200000	0.200000	100.00	0.200000
05005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	2F2602 P 0.200000	0.200000	100.00	0.200000
05005JA	PRUNE-JUICE	10 RAW-FRESH OR NFS	2F2602 P 0.200000	0.200000	100.00	0.200000
05005JA	PRUNE-JUICE	62 COOKED-FRESH OR FROZEN-BAKED	2F2602 P 0.200000	0.200000	100.00	0.200000
05005DA	BANANAS-UNSPEC	22 COOKED-FRESH-BAKED	8F2067 P 0.050000	0.050000	100.00	0.050000
05002AB	BANANAS-FRESH	10 RAW-FRESH OR NFS	8F2067 P 0.050000	0.050000	100.00	0.050000
05002AB	BANANAS-FRESH	21 COOKED-NFS	8F2067 P 0.050000	0.050000	100.00	0.050000
05002AB	BANANAS-FRESH	31 COOKED-FRESH OR CANNED	8F2067 P 0.050000	0.050000	100.00	0.050000
05002DA	BANANAS-DRIED	10 RAW-FRESH OR NFS	8F2067 P 0.050000	0.050000	100.00	0.050000
05002DA	BANANAS-DRIED	21 COOKED-NFS	8F2067 P 0.050000	0.050000	100.00	0.050000
05010AA	PAPAYAS-UNSPEC	21 COOKED-FRESH-BAKED 00 NOT SPECIFIED (NO CONSUMPTION)	6E11761 P 15.000000	15.000000	100.00	15.000000
05010AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	6E11761 P 15.000000	15.000000	100.00	15.000000
05010AB	PAPAYAS-PULP	51 COOKED-CANNED	6E11761 P 15.000000	15.000000	100.00	15.000000

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Table 2 (con't.)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 215B

DATE: 11/10/87

PAGE: 2

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			PADI	100 OPP RfD= 0.015000 EPA RfD= 0.015000		
Chlorothalonil Caswell #215B C.I.S No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding- dog NOEL= 1.5000 mg/kg LEL= 60.00 ppm LEL= 3.0000 mg/kg LEL= 120.00 ppm ONCO: Class B2 (TOX NOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (Kidney)	WHO RfD 0.003000 Type: TADI		Rabbit teratology (Core-Supplementary).	TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.
FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE
00010DA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS 10 RAW-FRESH OR NFS 00 NOT SPECIFIED (NO CONSUMPTION)	6E1761 631761 5E1569	P 15.00000 P 15.00000 P 3.00000	15.00000 15.00000 3.00000	100.00 100.00 100.00
00010JA	PAPAYAS-JUICE	21 COOKED-NFS	8E1267	P 0.050000	0.050000	100.00
00014AA	PASSION FRUIT	23 COOKED-FRESH-BOILED 25 COOKED-FRESH-FRIED	8F1267 8F1267	P 0.050000 P 0.050000	0.050000 0.050000	100.00 100.00
00016AA	PLANTAINS	21 COOKED-NFS	2E1744	P 0.050000	0.050000	100.00
00016AA	PLANTAINS	10 RAW-FRESH OR NFS	2E1744	P 0.050000	0.050000	100.00
00016AA	PLANTAINS	21 COOKED-NFS	2E1744	P 0.050000	0.050000	100.00
00016AA	PLANTAINS	21 COOKED-NFS	2E1744	P 0.050000	0.050000	100.00
07001FA	COCOA BUTTER	10 RAW-FRESH OR NFS	2E1744	P 0.050000	0.050000	100.00
07001SA	CHOCOLATE	21 COOKED-NFS	2E1744	P 0.050000	0.050000	100.00
07001SA	CHOCOLATE	22 COOKED-FRESH-BAKED	2E1744	P 0.050000	0.050000	100.00
07001SA	COFFEE	21 COOKED-NFS	2E1744	P 0.200000	0.200000	100.00
07002AA	CANTALOUPES-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	5.000000	1.00
10002AB	CANTALOUPES-PULP	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10002AB	CANTALOUPES-PULP	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10003AA	CASABAS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10004AA	CRENSHAMS	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	5.000000	1.00
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10007AA	PERSIAN MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	5.000000	1.00
10008AA	WATERMELON	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10008AA	WATERMELON	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10010AA	CUCUMBERS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CANNED, OR CURED	1F1024	P 5.000000	5.000000	1.00
10010AA	CUCUMBERS	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10011AA	PEPPERMINT	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10011AA	PEPPERMINT	22 COOKED-FRESH-BAKED	1F1024	P 5.000000	5.000000	1.00
10011AA	PEPPERMINT	62 COOKED-FRESH OR FROZEN-BAKED	1F1024	P 5.000000	5.000000	1.00
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10013AA	SQUASH-SUMMER	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	1.00
10014AA	SQUASH-WINTER	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	5.000000	1.00
10017AA	BITTER MELON	21 COOKED-NFS	1F1024	P 5.000000	5.000000	1.00
10020AA	TOEPLITZ	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	5.000000	1.00
11005AA	Tomatoes-Whole	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	50.00
11005AA	Tomatoes-Whole	21 COOKED-NFS	1F1024	P 5.000000	5.000000	50.00
11005AA	Tomatoes-Whole	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	5.000000	50.00
11005JA	Tomatoes-Juice	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	50.00
11005RA	Tomatoes-Puree	10 RAW-FRESH OR NFS	1F1024	P 5.000000	5.000000	50.00
11005RA	Tomatoes-Puree	21 COOKED-NFS	1F1024	P 5.000000	5.000000	50.00

Table 2 (con't.)

ANTICIPATED RESIDUE INFORMATION FOR CASHMEL NUMBER 215B

DATE: 11/10/87

PAGE: 3

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Chlorothalonil Cashwell #2158 CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding-dog NOEL= 1.5000 mg/kg 60.00 ppm LEL= 3.0000 mg/kg 120.00 ppm ONCO: Class B2 (TOX NOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)	PADI 100 OPP RFD= 0.015000 EPA RFD= 0.015000 WHO RFD 0.003000 Type: TADI	Rabbit teratology (Core-Supplementary).	TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOXICITY (PPM)	ANTICIPATED RESIDUE (PPM)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (PPM)
11005RA	TOMATOES-PUREE	31 COOKED - FRESH OR CANNED 32 COOKED - FRESH OR CANNED - BAKED	1F1024	P 5.000000	5.000000		50.00	2.500000
11005RA	TOMATOES-PUREE	51 COOKED - CANNED	1F1024	P 5.000000	5.000000		50.00	2.500000
11005RA	TOMATOES-PASTE	21 COOKED - NFS	1F1024	P 5.000000	5.000000		50.00	2.500000
11005TA	TOMATOES-PASTE	22 COOKED - FRESH BAKED	1F1024	P 5.000000	5.000000		50.00	2.500000
11005TA	TOMATOES-PASTE	31 COOKED - FRESH OR CANNED	1F1024	P 5.000000	5.000000		50.00	2.500000
11005TA	TOMATOES-CATSUP	21 COOKED - NFS	1F1024	P 5.000000	5.000000		50.00	2.500000
13002AA	CELERY	10 RAW - FRESH OR NFS	7F0599	P 15.000000	15.000000		97.00	14.550000
13002AA	CELERY	21 COOKED - NFS	7F0599	P 15.000000	15.000000		97.00	14.550000
13005AA	BRASSCOLI	21 COOKED - NFS	7F0599	P 5.000000	5.000000		31.00	1.550000
13005AA	BRASSCOLI	31 COOKED - FRESH OR CANNED	7F0599	P 5.000000	5.000000		31.00	1.550000
13005AA	BRASSCOLI	63 COOKED - FRESH OR FROZEN - BOILED	7F0599	P 5.000000	5.000000		31.00	1.550000
13006AA	BRUSSEL SPROUTS	21 COOKED - NFS	7F0599	P 5.000000	5.000000		83.00	4.150000
13006AA	BRUSSEL SPROUTS	23 COOKED - FRESH - BOILED	7F0599	P 5.000000	5.000000		83.00	4.150000
13007AA	CABBAGE	10 RAW - FRESH OR NFS	7F0599	P 5.000000	5.000000		4.00	0.200000
13007AA	CABBAGE	11 RAW - FRESH - PICKLED, CORNED, OR CURED	7F0599	P 5.000000	5.000000		4.00	0.200000
13007AA	CABBAGE	21 COOKED - NFS	7F0599	P 5.000000	5.000000		4.00	0.200000
13008AA	CAULIFLOWER	10 RAW - FRESH OR NFS	7F0599	P 5.000000	5.000000		34.00	1.700000
13008AA	CAULIFLOWER	21 COOKED - NFS	7F0599	P 5.000000	5.000000		34.00	1.700000
13010AA	CABBAGE - CHINESE	10 RAW - FRESH OR NFS	7F0599	P 5.000000	5.000000		4.00	0.200000
13010AA	CABBAGE - CHINESE	21 COOKED - NFS	7F0599	P 5.000000	5.000000		4.00	0.200000
13016AA	FENNEL	00 NOT SPECIFIED (NO CONSUMPTION)	7F0599	P 15.000000	15.000000		97.00	14.550000
14003AA	CARROTS	10 RAW - FRESH OR NFS	TE1887	P 1.000000	1.000000		41.00	0.410000
14003AA	CARROTS	21 COOKED - NFS	TE1887	P 1.000000	1.000000		41.00	0.410000
14003AA	CARROTS	23 COOKED - FRESH - BOILED	TE1887	P 1.000000	1.000000		41.00	0.410000
14003AA	CARROTS	31 COOKED - FRESH OR CANNED	TE1887	P 1.000000	1.000000		41.00	0.410000
14003AA	CARROTS	51 COOKED - CANNED	TE1887	P 1.000000	1.000000		41.00	0.410000
14007AA	GARLIC	10 RAW - FRESH OR NFS	4E1502	P 0.500000	0.500000		100.00	0.500000
14007AA	GARLIC	21 COOKED - NFS	4E1502	P 0.500000	0.500000		100.00	0.500000
14007AA	GARLIC	32 COOKED - FRESH OR CANNED - BAKED	4E1502	P 0.500000	0.500000		100.00	0.500000
14011AA	ONIONS-DRY - BULB	10 RAW - FRESH OR NFS	4E1502	P 0.500000	0.500000		51.00	0.255000
14011AA	ONIONS-DRY - BULB	21 COOKED - NFS	4E1502	P 0.500000	0.500000		51.00	0.255000
14011AA	ONIONS-DRY - BULB	22 COOKED - FRESH - BAKED	4E1502	P 0.500000	0.500000		51.00	0.255000
14011AA	ONIONS-DRY - BULB	31 COOKED - FRESH OR CANNED	4E1502	P 0.500000	0.500000		51.00	0.255000
14011DA	ONIONS-DRIED	12 RAW - FRESH - DRIED	9F0743	P 0.100000	0.100000		11.00	0.011000
14013AA	POTATO(CHN) - WHOLE	10 RAW - FRESH OR NFS	9F0743	P 0.100000	0.100000		11.00	0.011000
14013AA	POTATO(CHN) - WHOLE	21 COOKED - NFS	9F0743	P 0.100000	0.100000		11.00	0.011000
14013AB	POTATO(CHN) - UNSPE	22 COOKED - FRESH - BAKED	9F0743	P 0.100000	0.100000		11.00	0.011000
14013AC	POTATO(CHN) - PULP	21 COOKED - NFS	9F0743	P 0.100000	0.100000		11.00	0.011000

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Table 2 (cont.t.)

ANTICIPATED RESIDUE INFORMATION FOR CASHELL NUMBER 215B

DATE: 11/10/87

PAGE: 4

FOOD CODE	FOOD	FOOD FORM	STUDY TYPE	EFFECTS	REFERENCE DOSES PADI 100 OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.003000 Type: TADI	DATA GAPS/COMMENTS Rabbit teratology (Core-Supplementary).	STATUS TOX complete 3/14/86. ORD verified 4/8/86. WHO last revised 1987.
14013AC	POTATO(WH)-PULP	22 COOKED - FRESH - BAKED		9F0743 P 0.100000	0.100000	11.00	0.011000
14013AC	POTATO(WH)-PULP	23 COOKED - FRESH - BOILED		9F0743 P 0.100000	0.100000	11.00	0.011000
14013AC	POTATO(WH)-PULP	25 COOKED - FRESH - FRIED		9F0743 P 0.100000	0.100000	11.00	0.011000
14013DA	POTATO(WH)-DRY	10 RAW - FRESH OR NFS		9F0743 P 0.100000	0.100000	11.00	0.011000
14013DA	POTATO(WH)-DRY	31 COOKED - FRESH OR CANNED		9F0743 P 0.100000	0.100000	11.00	0.011000
14013HA	POTATO(WH)-PEEL	22 COOKED - FRESH - BAKED		9F0743 P 0.100000	0.100000	11.00	0.011000
14017AA	SNALLOTS	00 NOT SPECIFIED (NO CONSUMPTION)		4E1502 P 0.500000	0.500000	51.00	0.255000
14021AA	PARSNIPS	21 COOKED - NFS		7E1887 P 1.000000	1.000000	100.00	1.000000
15001AA	BEANS-DRY-GRT NO 00	NOT SPECIFIED (NO CONSUMPTION)		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AB	BEANS-DRY-KIDNEY	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AB	BEANS-DRY-KIDNEY	31 COOKED - FRESH OR CANNED		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AC	BEANS-DRY-LIMA	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AD	BEANS-DRY-NAVY	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AD	BEANS-DRY-NAVY	31 COOKED - FRESH OR CANNED		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AE	BEANS-DRY-OTHER	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AE	BEANS-DRY-OTHER	25 COOKED - FRESH - FRIED		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AE	BEANS-DRY-OTHER	31 COOKED - FRESH OR CANNED		4F2980 P 0.100000	0.100000	24.00	0.024000
15001AF	BEANS-DRY-PINTO	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15003AA	BEANS-SUCC-GREEN	21 COOKED - NFS		1F1024 P 5.000000	5.000000	24.00	1.200000
15005AA	CORN,SWEET	10 RAW - FRESH OR NFS		7F0599 P 1.000000	1.000000	10.00	0.100000
15005AA	CORN,SWEET	21 COOKED - NFS		7F0599 P 1.000000	1.000000	10.00	0.100000
15005AA	CORN,SWEET	31 COOKED - FRESH OR CANNED		7F0599 P 1.000000	1.000000	10.00	0.100000
15006AA	PEANUTS-WHOLE	10 RAW - FRESH OR NFS		1F1024 P 0.300000	0.300000	70.00	0.210000
15006AA	PEANUTS-WHOLE	21 COOKED - NFS		1F1024 P 0.300000	0.300000	70.00	0.210000
15013AA	MUNG BEANS	22 COOKED - FRESH - BAKED		4F2980 P 0.300000	0.300000	70.00	0.210000
15013AA	MUNG BEANS	10 RAW - FRESH OR NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15022AA	BEANS-DRY-BROAD	00 NOT SPECIFIED (NO CONSUMPTION)		4F2980 P 0.100000	0.100000	24.00	0.024000
15023AA	BEANS-DRY-P GEON	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15029AA	SOYBEAN-SPROUTED	00 NOT SPECIFIED (NO CONSUMPTION)		6F1799 P 0.200000	0.200000	100.00	0.200000
15030AA	BEANS-DRY-HVAC	00 NOT SPECIFIED (NO CONSUMPTION)		4F2980 P 0.100000	0.100000	24.00	0.024000
15031AA	BLKEYE PEAS-DRY	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15032AA	BEANS-DRY	21 COOKED - NFS		4F2980 P 0.100000	0.100000	24.00	0.024000
15032AA	BEANS-DRY	31 COOKED - FRESH OR CANNED		4F2980 P 0.100000	0.100000	24.00	0.024000
16004AA	ONIONS-GREEN	10 RAW - FRESH OR NFS		4E1502 P 5.000000	5.000000	51.00	2.550000
16004AA	ONIONS-GREEN	21 COOKED - NFS		4E1502 P 5.000000	5.000000	51.00	2.550000
16004AA	ONIONS-GREEN	25 COOKED - FRESH-FRIED		4E1502 P 5.000000	5.000000	51.00	2.550000
27007AA	PEANUTS-OIL	18 PROCESSED OIL		1F1024 P 0.300000	0.300000	70.00	0.210000
27010AA	SOYBEANS-OIL	18 PROCESSED OIL		6F1799 P 0.200000	0.200000	100.00	0.200000
28023AA	SOYBEANS-UNSPEC	21 COOKED - NFS		6F1799 P 0.200000	0.200000	100.00	0.200000

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Table 2 (con't.)

ANTICIPATED RESIDUE INFORMATION FOR CASHELL NUMBER 215B

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		STATUS
				PADI	100 OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.005000 Type: TADI	
Chlorothalonil Cassell #215B CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding- dog NOEL = 1.5000 mg/kg 60.00 ppm LEL = 3.0000 mg/kg 120.00 ppm ONCO: Class B2 (TOX WOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (k/deny)				
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE
28023AB	SOYBEANS-DRY	10 RAW-FRESH OR NFS	6F1799	P 0.200000	0.200000	
28023AB	SOYBEANS-DRY	21 COOKED-NFS	6F1799	P 0.200000	0.200000	
28023AB	SOYBEANS-DRY	23 COOKED-FRESH-BOILED	6F1799	P 0.200000	0.200000	
28023AB	SOYBEANS-DRY	25 COOKED-FRESH-FRIED	6F1799	P 0.200000	0.200000	
28023AB	SOYBEANS-DRY	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.200000	
28023HA	SOY - FL., FULL FAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000	
28023HA	SOY - FL., FULL FAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.200000	
28023HA	SOY - FL., FULL FAT	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.200000	
28023HB	SOY - FL., LOW FAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000	
28023WC	SOY - FL., DEFAT	10 RAW-FRESH OR NFS	6F1799	P 0.200000	0.200000	
28023WC	SOY - FL., DEFAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000	
28023WC	SOY - FL., DEFAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.200000	
28023WC	SOY - FL., DEFAT	51 COOKED-CANNED	6F1799	P 0.200000	0.200000	
28023WC	SOY - FL., DEFAT	53 COOKED-CANNED-BOILED	6F1799	P 0.200000	0.200000	
28080AA	PEPPERMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000	
28080DA	PEPPERMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000	
28081AA	SPEARMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000	
28081OA	SPEARMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000	

Table 3
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Chlorothalonil	Caswell #2158	2yr feeding-dog	Renal tubular vacuolization.	PADI 100 OPP Rfd= 0.015000 EPA Rfd= 0.015000	Rabbit teratology (Core-Supplementary).	TOX complete 3/14/86. ORD verified 4/8/86.
CAS No. 1897-45-6	A.I. CODE: 081901	NOEL= 60.00 ppm				WHO Last reviewed 1987.
CFR No. 180-275	LEL= 3.0000 mg/kg		Evidence of oncogenicity in rats and mice (kidney)			
		120.00 ppm		WHO Rfd 0.003000 Type: TAOI		
	ONCO: Class B2 (TOX NOTE)					

POPULATION SUBGROUP	TOTAL THRC (MG/KG BODY WEIGHT/DAY)		NEW THRC**	NEW THRC* AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES ARC (MG/KG/DAY)
	CURRENT THRC*	NEW THRC**				
U.S. POPULATION - 48 STATES	0.012609	0.012609	84.063260	0.000000	0.005610	37.397640
U.S. POPULATION - SPRING SEASON	0.012335	0.012335	82.235187	0.000000	0.005417	36.113740
U.S. POPULATION - SUMMER SEASON	0.014354	0.014354	95.690233	0.000000	0.005794	38.628480
U.S. POPULATION - FALL SEASON	0.012029	0.012029	80.196120	0.000000	0.005626	37.50753
U.S. POPULATION - WINTER SEASON	0.011706	0.011706	78.041820	0.000000	0.005603	37.350407
NORTHEAST REGION	0.012814	0.012814	85.429900	0.000000	0.005902	39.344160
NORTH CENTRAL REGION	0.012712	0.012712	84.744387	0.000000	0.005755	38.369427
SOUTHERN REGION	0.011687	0.011687	77.913340	0.000000	0.004926	32.862440
WESTERN REGION	0.013758	0.013758	91.722033	0.000000	0.006189	41.257293
HISPANICS	0.012588	0.012588	83.922953	0.000000	0.005970	39.802687
NON-HISPANIC WHITES	0.012977	0.012977	86.512847	0.000000	0.005808	38.718140
NON-HISPANIC BLACKS	0.010332	0.010332	66.876733	0.000000	0.004161	27.737913
NON-HISPANICS OTHER	0.014167	0.014167	94.445707	0.000000	0.005610	37.401067
NURSING INFANTS (<1 YEAR OLD)	0.006351	0.006351	42.338580	0.000000	0.002553	17.021300
NON-NURSING INFANTS (<1 YEAR OLD)	0.015674	0.015674	104.495627	0.000000	0.006378	42.518167
FEMALES (13+ YEARS, PREGNANT)	0.010286	0.010286	68.571280	0.000000	0.004590	30.599807
FEMALES (13+ YEARS, NURSING)	0.012008	0.012008	80.055707	0.000000	0.005473	36.485240
CHILDREN (1-6 YEARS OLD)	0.022415	0.022415	149.432887	0.000000	0.010235	68.233367
CHILDREN (7-12 YEARS OLD)	0.017967	0.017967	119.779633	0.000000	0.008052	53.678227
MALES (13-19 YEARS OLD)	0.012309	0.012309	82.061260	0.000000	0.005530	36.858053
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.011108	0.011108	74.051567	0.000000	0.005042	33.613753
MALES (20 YEARS AND OLDER)	0.010222	0.010222	68.148180	0.000000	0.004513	30.085813
FEMALES (20 YEARS AND OLDER)	0.010616	0.010616	70.775300	0.000000	0.004660	31.067793

*Current THRC does not include new or pending tolerances.
**New THRC includes new, pending, and published tolerances.

Table 3 (con't.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		STATUS
Food Code	Food Name/Food Form			PADI OPP Rfd= 0.015000 EPA Rfd= 0.015000 WHO Rfd 0.003000 Type: TADI	Rabbit teratology (Core-Supplementary).	TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.	
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES							
Food Code	Food Name/Food Form	TOLERANCE (PPM)	TYPE (UG/KG/DAY)	THRC 2RFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	2RFD
06002AA	BANANAS-UNSPECIFIED	0.050000	P	0.000165	0.001100	0.050000	0.000165
06002AB	22 COOKED FRESH -BAKED	0.050000	P	0.011202	0.074680	0.050000	0.009888
	10 RAW -FRESH OR NFS					0.050000	0.000270
	21 COOKED-NFS					0.050000	0.001800
	31 COOKED-FRESH OR CANNED					0.050000	0.003960
06002DA	BANANAS-DRIED	0.050000	P	0.000088	0.000587	0.050000	0.001044
	10 RAW -FRESH OR NFS					0.050000	0.000027
	21 COOKED-NFS					0.050000	0.000060
06010AA	PAPAYA-UNSPECIFIED	15.000000	P	0.000015	0.001000	15.000000	0.000180
	00 NOT SPECIFIED (NO CONSUMPTION)					15.000000	0.000400
06010AB	PAPAYA-PULP	15.000000	P	0.029084	0.133893	15.000000	0.000000
	10 RAW -FRESH OR NFS					15.000000	0.019500
	51 COOKED -CANNED					15.000000	0.000583
06010DA	PAPAYA-DRIED	15.000000	P	0.025915	0.172767	15.000000	0.000000
	10 RAW -FRESH OR NFS					15.000000	0.025915
06010JA	PAPAYA-JUICE	15.000000	P	0.068706	0.458040	15.000000	0.172767
	10 RAW -FRESH OR NFS					15.000000	0.068706
06014AA	PASSION FRUIT (GRANADILLA)	3.000000	P	0.000003	0.000020	3.000000	0.000000
	00 NOT SPECIFIED (NO CONSUMPTION)					3.000000	0.000000
06016AA	PLANTAINS	0.050000	P	0.000082	0.000547	0.050000	0.000000
	21 COOKED-NFS					0.050000	0.000000
	23 COOKED -FRESH -BOILED					0.050000	0.000040
	25 COOKED -FRESH -FRIED					0.050000	0.000267
07001FA	COCOA BUTTER	0.050000	P	0.000268	0.001787	0.050000	0.000042
	21 COOKED -NFS					0.050000	0.0001787
07001SA	CHOCOLATE	0.050000	P	0.001802	0.012013	0.050000	0.000268
	10 RAW -FRESH OR NFS					0.050000	0.000359
	21 COOKED -NFS					0.050000	0.000628
	22 COOKED -FRESH -BAKED					0.050000	0.000815
07002AA	COFFEE	0.200000	P	0.009233	0.061753	0.200000	0.009233
	21 COOKED -NFS					0.200000	0.061753
13016AA	FENNEL	15.000000	P	0.003335	0.022100	14.550000	0.000000
	00 NOT SPECIFIED (NO CONSUMPTION)					14.550000	0.000000
CROP GROUP TOTALS FOR UNSPECIFIED:							
						0.140908	0.939387
						0.137573	0.917153

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Table 3 (con't.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION				STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Chlorophenol Caswell #2158 CAS No. 1897-45-6 A.T. CODE: 081901 CFR No. 180.275		2yr feeding-dog NOEL= 1.5000 mg/kg LEL= 60.00 ppm ONCO: Class B2 (TOX NOTE)		Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)		PADI 100 OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.003000 Type: TADI		Rabbit teratology (core-supplementary).		TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.			

COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOODNAME/FOODFORM	TOLERENCE (PPM)		THRC TYPE (UG/KG/DAY)		XRFD		ANTICIPATED RESIDUE (PPM)		ARC (UG/KG/DAY)		XRFD	
		TOLERANCE (PPM)	TYPE	THRC (UG/KG/DAY)	XRFD	RESIDUE (PPM)	ARC (UG/KG/DAY)	XRFD	RESIDUE (PPM)	ARC (UG/KG/DAY)	XRFD	RESIDUE (PPM)	XRFD
14003AA	CARROTS	1.000000	P	0.173479	1.156527								
		10 RAW-FRESH OR NFS											
		21 COOKED-NFS											
		23 COOKED-FRESH-BOILED											
		31 COOKED-FRESH OR CANNED											
		51 COOKED-CANNED											
		10 RAW-FRESH OR NFS											
		21 COOKED-NFS											
		22 COOKED-FRESH-BAKED											
		0.100000 P 0.034006		0.226707									
14013AA	POTATOES(WHITE)-WHOLE	0.100000 P 0.000053											
		10 RAW-FRESH OR NFS											
		21 COOKED-FRESH-BAKED											
		22 COOKED-FRESH-BOILED											
		22 COOKED-FRESH-FRIED											
		0.100000 P 0.000045		0.005633									
		23 COOKED-FRESH-BOILED											
		25 COOKED-FRESH-FRIED											
		10 RAW-FRESH OR NFS											
		31 COOKED-FRESH OR CANNED											
14013AB	POTATOES(WHITE)-DRY	0.100000 P 0.000013											
		10 RAW-FRESH OR NFS											
		25 COOKED-FRESH-PEEL ONLY											
		22 COOKED FRESH-BAKED											
		1.000000 P 0.000697		0.004647									
		1.000000 P 0.000000											
		21 COOKED-NFS											
		CROP GROUP TOTALS FOR ROOT AND TUBER VEGETABLES:		0.287463	1.916420								
		0.500000 P 0.000381		0.002540									
		0.500000 P 0.000000											
14007AA	GARLIC	0.500000 P 0.00015		0.000100									
		10 RAW-FRESH OR NFS											
		21 COOKED-NFS											
		32 COOKED-FRESH OR CANNED-BAKED											
		0.500000 P 0.053031		0.353540									
		10 RAW-BULB (CIPOLLINI)											
		10 RAW-FRESH OR NFS											
		21 COOKED-FRESH-BAKED											
		31 COOKED-FRESH OR CANNED											
		0.500000 P 0.000536		0.003573									
14011AA	ONIONS-DRY	0.500000 P 0.000153		0.001020									
		12 RAW-FRESH-DRY											
14017AA	SHALLOTS	0.500000 P 0.009778		0.065187									
		10 RAW-FRESH OR NFS											
16004AA	ONIONS-GREEN	5.000000 P 0.000000											
		10 RAW-FRESH OR NFS											

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS
Table 3 (con't.)

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CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Chlorothalonil Caswell 2125B CAS No. 1897-45-6 A.T. CODE: 081901 CFR No. 180.275		2yr feeding-dog NOEL= 1.5000 mg/kg LEL= 60.00 ppm LEL= 3.0000 mg/kg LEL= 120.00 ppm ONCO: Class B2 (TOX WOTE)		Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)		PADI 100 OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.003000 Type: TAD1		Rabbit teratology (Core-Supplementary).		TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.	

CONSIDERITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOOD NAME/FOOD FORM	TOLERANCE (PPM)	TMRC TYPE (UG/KG/DAY)	%RFD	ANTICIPATED RESIDUE (PPM)		ARC (UG/KG/DAY)	%RFD						
					TYPE	(UG/KG/DAY)								
21 COOKED-NFS 25 COOKED-FRESH-FRIED														
CROP GROUP TOTALS FOR BULB VEGETABLES:														
13002AA	CELERI	10 RAW-FRESH OR NFS 21 COOKED-NFS	0.063879	0.425860	2.550000 2.550000	0.000254 0.000315	0.695555 0.191429	0.001693 0.002100						
CROP GROUP TOTALS FOR LEAFY VEGETABLES (EXCL. BRASSICA):														
13005AA	BROCCOLI	5.000000 P	0.245667	1.637647	1.550000 1.550000 1.550000	0.005284 0.062775 0.008092	0.035227 0.418500 0.053947							
21 COOKED-NFS 31 COOKED-FRESH OR CANNED 63 COOKED-FRESH OR FROZEN-BOILED														
13006AA	BRUSSEL SPROUTS	5.000000 P	0.034240	0.228267	4.150000 4.150000	0.004709 0.023710	0.031393 0.158067							
21 COOKED-NFS 23 COOKED-FRESH-BOILED														
13007AA	CABBAGE-GREEN AND RED	5.000000 P	0.468201	3.121340	0.200000 0.200000 0.200000	0.007683 0.002377 0.008668	0.051220 0.015847 0.057787							
10 RAW-FRESH OR NFS 11 RAW-FRESH-PICKLED, CORNED, OR CURED														
13008AA	CAULIFLOWER	5.000000 P	0.079184	0.527893	1.700000 1.700000	0.001612 0.025311	0.010747 0.168740							
10 RAW-FRESH OR NFS 21 COOKED-NFS														
13010AA	CABBAGE-CHINESE CELERY, INC. BOK CHOY	5.000000 P	0.022816	0.152107	0.200000 0.200000	0.000446 0.000869	0.000293 0.005793							
CROP GROUP TOTALS FOR BRASSICA (COLE) LEAFY VEGETABLES:														
15001AA	BEANS-DRY-GREAT NORTHERN 00 NOT SPECIFIED (NO CONSUMPTION)	0.100000 P	0.000000	0.000000	0.024000	0.000000	0.000000							
15001AB	BEANS-DRY KIDNEY	0.100000 P	0.001363	0.009087	0.024000 0.024000	0.000283 0.000044	0.001887 0.000293							
21 COOKED-NFS 31 COOKED-FRESH OR CANNED														
15001AC	BEANS-DRY-LIMA	0.100000 P	0.000799	0.005327	0.024000	0.000192	0.001280							
21 COOKED-NFS 31 COOKED-FRESH OR CANNED														
15001AD	BEANS-DRY-NAVY (PEA)	0.100000 P	0.003741	0.024940	0.024000 0.024000	0.000212 0.000685	0.001413 0.004567							

Table 3 (con't.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS	
Chlorothalonil Cassell #215B CAS No. 1897-45-6 A.J. CODE: 081901 CFR No. 180-275	2yr feeding-dog NOEL= 1.5000 mg/kg 60.00 ppm LEL= 3.0000 mg/kg 120.00 ppm ONCO: Class B2 (TOX MOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)	PADI 100 OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.003000 Type: TAD1	Rabbit teratology (Core-Supplementary).	TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.	TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.	
FOOD CODE	FOODNAME/FOOD FORM	TOXICITY (PPM)	TYPE (UG/KG/DAY)	TMRC	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD
15001AE	BEANS-DRY-OTHER 21 COOKED-NFS 25 COOKED-FRESH-FRIED 31 COOKED-FRESH OR CANNED	0.100000 P	0.003983	0.025553	0.024000 0.024000 0.024000	0.000419 0.000154 0.000383	0.002793 0.001027 0.002553
15001AF	BEANS-DRY-PINTO 21 COOKED-NFS	0.100000 P	0.003635	0.024233	0.024000	0.000872	0.005813
15003AA	BEANS-SUCCULENT-GREEN 21 COOKED-NFS	5.000000 P	1.000250	6.668333	1.200000	0.240060	1.600400
15006AA	PEANUTS-WHOLE 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED	0.300000 P	0.020873	0.139153	0.210000 0.210000	0.000221 0.000221	0.001473 0.001473
15013AA	MUNG BEANS (SPROUTS) 10 RAW-FRESH OR NFS 21 COOKED-NFS	0.100000 P	0.000665	0.004433	0.024000 0.024000	0.000040 0.000040	0.000040 0.000040
15022AA	BEANS-DRY-BROADBEANS(NATURE SEED) 00 NOT SPECIFIED (NO CONSUMPTION)	0.100000 P	0.000000	0.000000	0.024000	0.000000	0.000000
15023AA	BEANS-DRY-PIGEON BEANS 21 COOKED-NFS	0.100000 P	0.000004	0.000027	0.024000	0.000001	0.000007
15029AA	SOYBEANS-SPROUTED SEEDS 00 NOT SPECIFIED (NO CONSUMPTION)	0.200000 P	0.000000	0.000000	0.024000	0.000000	0.000000
15030AA	BEANS-DRY-HYACINTH(NATURE SEEDS) 00 NOT SPECIFIED (NO CONSUMPTION)	0.100000 P	0.000000	0.000000	0.024000	0.000000	0.000000
15031AA	BEANS-DRY-BLACKEYE PEAS(COMPARES) 21 COOKED-NFS 21 COOKED-NFS	0.100000 P	0.000247	0.001647	0.024000	0.000059	0.000393
15032AA	BEANS-DRY-GARBANZO(CHICK PEA) 31 COOKED-FRESH OR CANNED	0.100000 P	0.000053	0.000353	0.024000 0.024000	0.000010 0.000003	0.000067 0.000020
27007AA	PEANUTS-OIL 18 PROCESSED OIL	0.300000 P	0.001568	0.010453	0.210000	0.001097	0.007313
27010AA	SOYBEANS-OIL 18 PROCESSED OIL	0.200000 P	0.064431	0.429540	0.200000	0.064431	0.429540
28023AA	SOYBEANS-UNSPECIFIED 21 COOKED-NFS	0.200000 P	0.000104	0.000693	0.200000	0.000104	0.000693
28023AB	SOYBEANS-NATURE, SEEDS DRY 10 RAW-FRESH OR NFS 21 COOKED-NFS 23 COOKED-FRESH-BOILED 25 COOKED-FRESH-FRIED 31 COOKED-FRESH OR CANNED	0.200000 P	0.000180	0.001200	0.200000 0.200000 0.200000 0.200000	0.000057 0.000027 0.000024 0.000050	0.000380 0.000180 0.000160 0.000333
28023WA	SOYBEANS FLOUR, FULL FAT 21 COOKED-NFS	0.200000 P	0.000584	0.003893	0.200000	0.000181	0.001207

Table 3 (con't.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		DATE: 11/10/87
Food Code...	Food Name / Food Form			PADI OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.003000 Type: TADI	Rabbit teratology (Cone-Supplementary).	TOX complete 3/14/86. ORD Verified 4/8/86. WHO last reviewed 1987.	
Chlorothalonil Casewell #2158 CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding- dog NOEL = 1.5000 mg/kg 60.00 ppm LEL = 3.0000 mg/kg 120.00 ppm ONCO: Class B2 (TOX NOTE)		Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (k/deny)				

COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE...	FOOD NAME / FOOD FORM	TOLERENCE (PPM)	TYPE (UG/KG/DAY)	TMRC (%)	TOLERENCE (PPM)	TYPE (UG/KG/DAY)	%RFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD
280234B	SOYBEANS-FLOUR, LOW FAT	0.200000	P	0.000190	0.001267			0.200000	0.000284	0.001893
280234C	SOYBEANS-FLOUR, DEFATTED	0.200000	P	0.002492	0.016613			0.200000	0.000119	0.000793
	10 RAW-FRESH OR NFS									
	21 COOKED-NFS									
	22 COOKED-FRESH-BAKED									
	51 COOKED-CANNED									
	53 COOKED-CANNED-BOILED									
CROP GROUP TOTALS FOR LEGUME VEGETABLES:					1.105162	7.367747			0.327226	2.181507
11005AA	TOMATOES-WHOLE	5.000000	P	2.460082	16.400547					
	10 RAW-FRESH OR NFS									
	21 COOKED-NFS									
	31 COOKED-FRESH OR CANNED									
11005JA	TOMATOES-JUICE	5.000000	P	0.413513	2.756753					
	10 RAW-FRESH OR NFS									
	21 COOKED-NFS									
11005RA	TOMATOES-PUREE	5.000000	P	2.808813	18.725420					
	10 RAW-FRESH OR NFS									
	21 COOKED-NFS									
	31 COOKED-FRESH OR CANNED									
	32 COOKED-FRESH OR CANNED-BAKED									
11005TA	TOMATOES-PASTE	5.000000	P	1.065871	7.105807					
	21 COOKED-NFS									
	22 COOKED-FRESH-BAKED									
	31 COOKED-FRESH OR CANNED									
11005UA	TOMATOES-CATSUP	5.000000	P	0.525400	3.502667					
	21 COOKED-NFS									
CROP GROUP TOTALS FOR FRUITING VEGETABLES (EXCL. CUCURBITS):7.273679					48.491193				3.636840	24.265600

Table 3 (cont'd.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		STATUS
Food Code	Foodname/Foodform			PADI OPP RfD= 0.015000 EPA RfD= 0.015000 WHO RfD 0.003000 Type: TADI	100 (core-Supplementary).	Rabbit teratology	TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.
Chlorothalonil Caswell #215B CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding-dog NOEL = 1.5000 mg/kg 60.00 ppm LEL = 3.0000 mg/kg 120.00 ppm ONCO: Class B2 (TOX NOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)					

COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TWC TYPE (UG/KG/DAY)	XRFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	XRFD
10002AA	CANTALOUPES-UNSPECIFIED 00 NOT SPECIFIED (NO CONSUMPTION)	5.000000 P	0.000005	0.000033	0.050000	0.000000	0.000000
10002AB	CANTALOUPES-PULP 10 RAW-FRESH OR NFS 21 COOKED-NFS	5.000000 P	0.222110	1.480733	0.050000 0.050000	0.002210 0.000011	0.014733 0.000073
10003AA	CASABAS 10 RAW-FRESH OR NFS	5.000000 P	0.003852	0.025680	0.050000	0.000039	0.000260
10004AA	CRENSHAW 00 NOT SPECIFIED (NO CONSUMPTION)	5.000000 P	0.000005	0.000033	0.050000	0.000000	0.000000
10005AA	HONEYDEW MELONS 10 RAW-FRESH OR NFS 00 NOT SPECIFIED (NO CONSUMPTION)	5.000000 P	0.091814	0.612093	0.050000	0.000918	0.006120
10007AA	PERSIM MELONS 00 NOT SPECIFIED (NO CONSUMPTION)	5.000000 P	0.000005	0.000033	0.050000	0.000000	0.000000
10008AA	WATERMELON 10 RAW-FRESH OR NFS 21 COOKED-NFS	5.000000 P	0.382527	2.550180	0.050000 0.050000	0.033821 0.000004	0.025473 0.000027
10010AA	CUCUMBERS 10 RAW-FRESH OR NFS 11 RAW-FRESH-PICKLED, CANNED, OR CURED 21 COOKED-NFS	5.000000 P	0.360410	2.402733	0.050000 0.050000 0.050000	0.011924 0.001564 0.000116	0.012627 0.010427 0.000073
10011AA	PUMPKIN 21 COOKED-NFS 22 COOKED-FRESH-BAKED 62 COOKED-FRESH OR FROZEN-BAKED	5.000000 P	0.022091	0.147273	0.050000 0.050000 0.050000	0.000018 0.000029 0.000174	0.000120 0.000193 0.001160
10013AA	SQUASH-SUMMER 10 RAW-FRESH OR NFS 21 COOKED-NFS	5.000000 P	0.158240	1.054933	0.050000 0.050000	0.000065 0.001517	0.000433 0.010113
10014AA	SQUASH-WINTER 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	5.000000 P	0.162208	1.081387	0.050000 0.050000 0.050000	0.000001 0.001415 0.000206	0.000007 0.000433 0.001373
10017AA	BITTER MELON 21 COOKED 00 NOT SPECIFIED (NO CONSUMPTION)	5.000000 P	0.000016	0.000773	0.050000	0.000001	0.000007
10020AA	TOMATO CROP GROUP TOTALS FOR FRUITING VEGETABLES (CUCURBITS):	5.000000 P	0.000005	0.000033	0.050000	0.000000	0.000000
				1.403388	9.355920	0.014033	0.093553

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Table 3 (con't.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		STATUS
Chlorothalonil Cawell #215B CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding-dog NOEL= 1.5000 mg/kg LEL= 3.0000 mg/kg ONCO: Class B2 (TOX NOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)	Pad-I OPP Rfd= 0.015000 EPA Rfd= 0.015000 WHO Rfd 0.003000 Type: TAD1	100 OPP Rfd= 0.015000 EPA Rfd= 0.015000 WHO Rfd 0.003000 Type: TAD1	Rabbit teratology (Core-Supplementary).		TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES							
FOOD CODE	FOOD NAME/FOOD FORM	TOLERANCE (PPM)	THRC TYPE (UG/KG/DAY)	XRFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD
05001AA	APRICOTS-FRESH 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	0.500000 P	0.016845	0.112300	0.500000 0.500000 0.500000	0.002857 0.003891 0.010097	0.019047 0.025940 0.067313
05001DA	APRICOTS-DRIED	0.500000 P	0.001212	0.008080	0.500000 0.500000	0.001028 0.000184	0.006853 0.001227
05002AA	CHEERIES-FRESH 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED 62 COOKED-FRESH OR FROZEN-BAKED	0.500000 P	0.016088	0.107253	0.040000 0.040000 0.040000 0.040000	0.000295 0.000176 0.000502 0.000314	0.001967 0.001173 0.003347 0.002093
05002DA	CHEERIES-DRIED 00 NOT SPECIFIED (NO CONSUMPTION)	0.500000 P	0.000002	0.000013	0.040000	0.000000	0.000000
05002JA	CHEERIES-JUICE 15 RAW-FRESH OR CANNED	0.500000 P	0.002556	0.017040	0.040000 0.040000	0.000188 0.000017	0.001253 0.000113
05003AA	NECTARINES 10 RAW-FRESH OR NFS	0.500000 P	0.006483	0.043220	0.500000	0.006483	0.043220
05004AA	PEACHES-FRESH 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED 51 COOKED-CANNED	0.500000 P	0.107696	0.717973	0.500000 0.500000 0.500000 0.500000	0.050237 0.04918 0.03942 0.012599	0.334913 0.032787 0.266280 0.083993
05004DA	PEACHES-DRIED	0.500000 P	0.000174	0.001160	0.500000 0.500000	0.000092 0.000081	0.000613 0.000540
05005AA	PLUMS(DAMSONS)-FRESH 10 RAW-FRESH OR NFS 31 COOKED-FRESH OR CANNED	0.200000 P	0.004973	0.033153	0.200000 0.200000	0.035722 0.01250	0.024813 0.008333
05005DA	PLUMS PRUNES(DRIED) 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	0.200000 P	0.003484	0.023227	0.200000 0.200000 0.200000	0.000369 0.002803 0.00512	0.02460 0.017353 0.003413
05005JA	PLUMS PRUNE-JUICE 10 RAW-FRESH OR NFS 62 COOKED-FRESH OR FROZEN-BAKED	0.200000 P	0.003551	0.025673	0.200000 0.200000	0.003845 0.000006	0.025633 0.000040
CROP GROUP TOTALS FOR STONE FRUITS:							
					0.163364	1.083093	0.146208

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Table 3 (con't.)
TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION				STUDY TYPE	EFFECTS	REFERENCE	DOSES	DATA GAPS/COMMENTS	STATUS
Chlorothalonil Caswell #2158 CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding- dog NOEL = 1.5000 mg/kg LEL = 60.00 ppm LEL = 3.0000 mg/kg ONCO: Class B2 (TOX NOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)	PADI OPP Rfd= 0.015000 EPA Rfd= 0.015000 WHO Rfd 0.003000 Type: TAD I	100 OPP Rfd= 0.015000 EPA Rfd= 0.015000 WHO Rfd 0.003000 Type: TAD I	Rabbit teratology (Core-Supplementary).		TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.		
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES									

FOOD CODE	FOOD NAME/FOOD FORM	TOLERANCE (PPM)	TMRC TYPE (UG/KG/DAY)	%RFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD
CROPGROUP TOTALS FOR SMALL FRUITS AND BERRIES:							
01010AA	CRANBERRIES	5.000000 P	0.075068	0.500453	5.000000	0.003200	0.021333
	10 RAW-FRESH OR NFS				5.000000	0.000104	0.000693
	21 COOKED-NFS				5.000000	0.071765	0.478433
01010JA	CRANBERRIES-JUICE	5.000000 P	0.053937	0.626247	5.000000	0.093514	0.623427
	15 RAW-FRESH OR CANNED				5.000000	0.000422	0.002813
	31 COOKED-FRESH OR CANNED						
CROPGROUP TOTALS FOR CEREAL GRAINS:							
15005AA	CORN, SWEET	1.000000 P	0.236707	1.578047	0.169005	0.169005	1.126700
	10 RAW-FRESH OR NFS				0.100000	0.000010	0.000067
	21 COOKED-NFS				0.100000	0.019931	0.132873
	31 COOKED-FRESH OR CANNED				0.100000	0.003730	0.024867
CROPGROUP TOTALS FOR HERBS AND SPICES:							
26080AA	PEPPERMINT 00 NOT SPECIFIED (NO CONSUMPTION)	2.000000 P	0.000002	0.000013	2.000000	0.000000	0.000000
26080CA	PEPPERMINT-OIL 00 NOT SPECIFIED (NO CONSUMPTION)	2.000000 P	0.000510	0.003400	2.000000	0.000000	0.000000
26081AA	SPEARMINT 00 NOT SPECIFIED (NO CONSUMPTION)	2.000000 P	0.000002	0.000013	2.000000	0.000000	0.000000
26081OA	SPEARMINT-OIL 00 NOT SPECIFIED (NO CONSUMPTION)	2.000000 P	0.000916	0.006107	2.000000	0.000000	0.000000

TOLERANCE TYPE: N=NEW; A=PENDING; P=PUBLISHED
 TMRC=THEORETICAL MAXIMUM RESIDUE CONTRIBUTION
 ARC = ANTICIPATED RESIDUE CONTRIBUTION
 RFD = REFERENCE DOSE