



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

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. *[Signature]*
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

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Table 1Commodity Contribution to Chlorothalonil TMRC and Oncogenic Risk

<u>Commodity</u>	U.S. Population	
	<u>TMRC</u> <u>(ug/kg/day)</u>	<u>Oncogenic</u> <u>Risk</u> <u>X 10⁶</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 X 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 CASWELL NUMBER 215B

PAGE: 1

DATE: 11/10/87

CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Chlorothalonil		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. WHO last reviewed 1987.	
Caswell #2158		NOEL= 1.5000 mg/kg 60.00 ppm		Evidence of oncogenicity in rats and mice (kidney)	WHO Rfd 0.003000						
A.I. CODE: 081901		LEI= 3.0000 mg/kg 120.00 ppm			Type: TADI						
CFR No. 180.275		ONCO: Class B2 (TOX NOTE)									
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)			
01010AA	CRANBERRIES	10 RAW-FRESH OR NFS	2E2939	P 5.000000	5.000000		100.00	5.000000			
01010AA	CRANBERRIES	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			
01010JA	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	CHERRIES-FRESH	10 RAW-FRESH OR NFS	5F3183	P 0.500000	0.500000		100.00	0.500000			
05002AA	CHERRIES-FRESH	21 COOKED-NFS	5F3183	P 0.500000	0.500000		8.00	0.040000			
05002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	5F3183	P 0.500000	0.500000		8.00	0.040000			
05002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	5F3183	P 0.500000	0.500000		8.00	0.040000			
05002DA	CHERRIES-DRIED	00 NOT SPECIFIED (NO CONSUMPTION)	5F3183	P 0.500000	0.500000		8.00	0.040000			
05002JA	CHERRIES-JUICE	15 RAW-FRESH OR CANNED	5F3183	P 0.500000	0.500000		8.00	0.040000			
05002JA	CHERRIES-JUICE	21 COOKED-NFS	5F3183	P 0.500000	0.500000		8.00	0.040000			
05003AA	NECTARINES	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			
05005DA	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			
06002AA	BANANAS-UNSPEC	22 COOKED-FRESH-BAKED	8F2067	P 0.050000	0.050000		100.00	0.050000			
06002AB	BANANAS-FRESH	10 RAW-FRESH OR NFS	8F2067	P 0.050000	0.050000		100.00	0.050000			
06002AB	BANANAS-FRESH	21 COOKED-NFS	8F2067	P 0.050000	0.050000		100.00	0.050000			
06002AB	BANANAS-FRESH	31 COOKED-FRESH OR CANNED	8F2067	P 0.050000	0.050000		100.00	0.050000			
06002DA	BANANAS-DRIED	10 RAW-FRESH OR NFS	8F2067	P 0.050000	0.050000		100.00	0.050000			
06002DA	BANANAS-DRIED	21 COOKED-NFS	8F2067	P 0.050000	0.050000		100.00	0.050000			
06010AA	PAPAYAS-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	6E1761	P 15.000000	15.000000		100.00	15.000000			
06010AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	6E1761	P 15.000000	15.000000		100.00	15.000000			
06010AB	PAPAYAS-PULP	51 COOKED-CANNED	6E1761	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	
FOOD CODE	FOOD	2yr feeding- dog	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)		
Chlorothalonil		Caswell #2158	1.5000 mg/kg	Renal tubular vacuolization.	100	OPP Rfd= 0.015000	Rabbit teratology (Core-Supplementary).	TOX complete 3/14/86.			
		C.I.S No. 1897-45-6	60.00 ppm	Evidence of oncogenicity in rats and mice (kidney)	100	EPA Rfd= 0.015000		ORD verified 4/8/86.			
		A.I. CODE: 081901	120.00 ppm			WHO Rfd 0.003500		WHO last reviewed 1987.			
		CFR No. 180.275	ONCO: Class B2 (TOX NOTE)			Type: TADI					
060100A	PAPAYAS-DRIED	10 RAW-FRESH OR NFS		6E1761	P 15.00000	15.000000		100.00	15.000000		
060101A	PAPAYAS-JUICE	10 RAW-FRESH OR NFS		631761	P 15.00000	15.000000		100.00	15.000000		
060140A	PASSION FRUIT	00 NOT SPECIFIED (NO CONSUMPTION)		5E1569	P 3.000000	3.000000		100.00	3.000000		
060160A	PLANTAINS	21 COOKED-NFS		8F2067	P 0.050000	0.050000		100.00	0.050000		
060160A	PLANTAINS	23 COOKED-FRESH-BOILED		8F2067	P 0.050000	0.050000		100.00	0.050000		
060160A	PLANTAINS	25 COOKED-FRESH-FRIED		8F2067	P 0.050000	0.050000		100.00	0.050000		
070011A	COCOA BUTTER	21 COOKED-NFS		2E2744	P 0.050000	0.050000		100.00	0.050000		
070011A	CHOCOLATE	10 RAW-FRESH OR NFS		2E2744	P 0.050000	0.050000		100.00	0.050000		
070011A	CHOCOLATE	21 COOKED-NFS		2E2744	P 0.050000	0.050000		100.00	0.050000		
070011A	CHOCOLATE	22 COOKED-FRESH-BAKED		2E2744	P 0.050000	0.050000		100.00	0.050000		
070020A	COFFEE	21 COOKED-NFS		2E2744	P 0.200000	0.200000		100.00	0.200000		
100020A	CANTALOUPE-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)		1F1024	P 5.000000	5.000000		1.00	0.050000		
100020A	CANTALOUPE-PULP	10 RAW-FRESH OR NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100020A	CANTALOUPE-PULP	21 COOKED-NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100030A	CASABAS	10 RAW-FRESH OR NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100040A	CRENSHAW	00 NOT SPECIFIED (NO CONSUMPTION)		1F1024	P 5.000000	5.000000		1.00	0.050000		
100050A	HONEYDEW MELONS	10 RAW-FRESH OR NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100070A	PERSON MELONS	00 NOT SPECIFIED (NO CONSUMPTION)		1F1024	P 5.000000	5.000000		1.00	0.050000		
100080A	WATERMELON	10 RAW-FRESH OR NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100080A	WATERMELON	21 COOKED-NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100100A	CUCUMBERS	10 RAW-FRESH OR NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100100A	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED		1F1024	P 5.000000	5.000000		1.00	0.050000		
100100A	CUCUMBERS	21 COOKED-NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100110A	PARSNIPS	21 COOKED-NFS		1F1024	P 5.000000	5.000000		1.00	0.050000		
100110A	PARSNIPS	22 COOKED-FRESH-BAKED		1F1024	P 5.000000	5.000000		1.00	0.050000		
100110A	PARSNIPS	62 COOKED-FRESH OR FROZEN-BAKED		1F1024	P 5.000000	5.000000		1.00	0.050000		
100130A	SQUASH-SUMMER	10 RAW-FRESH OR NFS		1F1024	P 5.000000	5.000000		1			

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ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 215B

DATE: 11/10/87

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Table 2 (cont.)

ANTICIPATED RESIDUE INFORMATION FOR CASSELL NUMBER 215B

PAGE: 4

DATE: 11/10/87

CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
Chlorothalonil		2yr feeding- dog		Renal tubular vacuolization.		PADI 100		Rabbit teratology (Core-Supplementary).		TOX complete 3/14/86.
CAS No. 1897-45-6		NOEL= 1.5000 mg/kg				OPP RfD= 0.015000				ORD verified 4/8/86.
A.I. CODE: 081901		LEL= 3.0000 mg/kg		Evidence of oncogenicity in rats and mice (kidney)		EPA RfD= 0.015000				WHO last reviewed 1987.
CFR No. 180.275		OMCO: Class B2 (TOX NOTE)				WHO RfD 0.003000				
						Type: TADI				
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)		
14013AC	POTATO(UH)-PULP	22 COOKED-FRESH-BAKED	9F0743	P 0.100000	0.100000		11.00	0.011000		
14013AC	POTATO(UH)-PULP	23 COOKED-FRESH-BOILED	9F0743	P 0.100000	0.100000		11.00	0.011000		
14013AC	POTATO(UH)-PULP	25 COOKED-FRESH-FRIED	9F0743	P 0.100000	0.100000		11.00	0.011000		
14013DA	POTATO(UH)-DRY	10 RAW-FRESH OR NFS	9F9743	P 0.100000	0.100000		11.00	0.010000		
14013DA	POTATO(UH)-DRY	31 COOKED-FRESH OR CANNED	9F9743	P 0.100000	0.100000		11.00	0.010000		
14013DA	POTATO(UH)-DRY	22 COOKED-FRESH-BAKED	9F0743	P 0.100000	0.100000		11.00	0.011000		
14013HA	POTATO(UH)-PEEL	00 NOT SPECIFIED (NO CONSUMPTION)	4E1502	P 0.500000	0.500000		51.00	0.011000		
14017AA	SHALLOTS	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		
15006AA	PEANUTS-WHOLE	22 COOKED-FRESH-BAKED	1F1024	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		
15013AA	MUNG BEANS	21 COOKED-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		
15022AA	BEANS-DRY-BROAD	21 COOKED-NFS	4F2980	P 0.100000	0.100000		24.00	0.024000		
15023AA	BEANS-DRY-PIGEON	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-HYAC	00 NOT SPECIFIED (NO CONSUMPTION)	4F2980	P 0.100000	0.100000		24.00	0.024000		
15031AA	BLUKEYE 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		
270070A	PEANUTS-OIL	18 PROCESSED OIL	1F1024	P 0.300000	0.300000		70.00	0.210000		
270100A	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 CASWELL NUMBER 2158

DATE: 11/10/87

PAGE: 5

CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
Chlorothalonil Caswell #2158 CAS No. 1997-45-6 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.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)		
28023AB	SOYBEANS-DRY	10 RAW-FRESH OR NFS	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AB	SOYBEANS-DRY	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AB	SOYBEANS-DRY	23 COOKED-FRESH-BOILED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AB	SOYBEANS-DRY	25 COOKED-FRESH-FRIED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AB	SOYBEANS-DRY	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AA	SOY-FL, FULL FAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AA	SOY-FL, FULL FAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AA	SOY-FL, FULL FAT	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AB	SOY-FL, LOW FAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AC	SOY-FL,DEFAT	10 RAW-FRESH OR NFS	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AC	SOY-FL,DEFAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AC	SOY-FL,DEFAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AC	SOY-FL,DEFAT	51 COOKED-CANNED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28023AC	SOY-FL,DEFAT	53 COOKED-CANNED-BOILED	6F1799	P 0.200000	0.200000		100.00	0.200000		
28080AA	PEPPERMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000		100.00	2.000000		
28080AA	PEPPERMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000		100.00	2.000000		
28081AA	SPEARMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000		100.00	2.000000		
28081AA	SPEARMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000		100.00	2.000000		

Table 3

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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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 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)	PAD1 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.				
POPULATION SUBGROUP												
U.S. POPULATION - 48 STATES			TOTAL TMRC (MG/KG BODY WEIGHT/DAY)	NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES ARC (MG/KG/DAY)	%RFD					
U.S. POPULATION - SPRING SEASON			0.012609	0.012609	84.063260	0.000000	0.005610	37.397640				
U.S. POPULATION - SUMMER SEASON			0.012335	0.012335	82.235187	0.000000	0.005417	36.113740				
U.S. POPULATION - FALL SEASON			0.014354	0.014354	95.690233	0.000000	0.005794	38.628480				
U.S. POPULATION - WINTER SEASON			0.012029	0.012029	80.196120	0.000000	0.005626	37.507453				
			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	32.842440				
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			0.010032	0.010032	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	68.571260	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	36.868053				
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 TMRC does not include new or pending tolerances.

**New TMRC includes new, pending, and published tolerances.

Table 3 (con't.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 11/10/87

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CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Chlorothalonil		2yr feeding- dog		Renal tubular vacuolization.		PAD1 100		Rabbit teratology (Core-Supplementary).		TOX complete 3/14/86. ORD verified 4/8/86. WHO last reviewed 1987.	
Caswell #2158		NOEL= 1.5000 mg/kg		Evidence of oncogenicity in rats and mice (kidney)		OPP Rfd= 0.015000					
CAS No. 1897-45-6		60.00 ppm				EPA Rfd= 0.015000					
A.I. CODE: 081901		LEL= 3.0000 mg/kg				WHO Rfd 0.003000					
CFR No. 180.275		120.00 ppm				Type: TAD1					
		ONCO: Class B2 (TOX NOTE)									
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES											
FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	THRC (UG/KG/DAY)	ZRFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	ZRFD			
06002AA	BANANAS-UNSPECIFIED	0.050000	P	0.000165	0.001100	0.050000	0.000165	0.001100			
06002AB	22 COOKED-FRESH-BAKED	0.050000	P	0.011202	0.074680	0.050000	0.009888	0.065920			
	BANANAS-FRESH					0.050000	0.000270	0.001800			
	10 RAW-FRESH OR NFS					0.050000	0.001044	0.006960			
06002DA	21 COOKED-NFS	0.050000	P	0.000088	0.000587	0.050000	0.000027	0.000180			
	31 COOKED-FRESH OR CANNED					0.050000	0.000060	0.000400			
	BANANAS-DRIED					15.000000	0.000000	0.000000			
06010AA	10 RAW-FRESH OR NFS	15.000000	P	0.000015	0.000100	0.050000	0.000027	0.000180			
06010AB	21 COOKED-NFS	15.000000	P	0.020084	0.133893	0.050000	0.000060	0.000400			
	PAPAYAS-UNSPECIFIED					15.000000	0.000000	0.000000			
	00 NOT SPECIFIED (NO CONSUMPTION)					15.000000	0.019500	0.130000			
06010DA	PAPAYAS-PULP	15.000000	P	0.025915	0.172767	0.050000	0.000583	0.003887			
	10 RAW-FRESH OR NFS					15.000000	0.025915	0.172767			
	51 COOKED-CANNED					15.000000	0.068706	0.458040			
06010DA	PAPAYAS-DRIED	15.000000	P	0.068706	0.458040	0.050000	0.000000	0.000000			
	10 RAW-FRESH OR NFS					15.000000	0.000000	0.000000			
	PAPAYAS-JUICE					3.000000	0.000003	0.000020			
06014AA	10 RAW-FRESH OR NFS	0.050000	P	0.000003	0.000020	0.050000	0.000000	0.000000			
	PASSION FRUIT (GRANADILLA)					0.050000	0.000000	0.000000			
	00 NOT SPECIFIED (NO CONSUMPTION)					0.050000	0.000082	0.000547			
06016AA	PLANTAINS	0.050000	P	0.000082	0.000547	0.050000	0.000000	0.000000			
	21 COOKED-NFS					0.050000	0.000268	0.001787			
	23 COOKED-FRESH-BOILED					0.050000	0.000040	0.000267			
07001FA	25 COOKED-FRESH-FRIED	0.050000	P	0.000268	0.001787	0.050000	0.000042	0.000280			
	COCOA BUTTER					0.050000	0.000268	0.001787			
	21 COOKED-NFS					0.050000	0.000000	0.000000			
07001SA	CHOCOLATE	0.050000	P	0.001802	0.012013	0.050000	0.000268	0.001787			
	10 RAW-FRESH OR NFS					0.050000	0.000000	0.000000			
	21 COOKED-NFS					0.050000	0.000359	0.002393			
07002AA	22 COOKED-FRESH-BAKED	0.200000	P	0.009263	0.061753	0.050000	0.000628	0.004187			
	COFFEE					0.050000	0.000815	0.005433			
	21 COOKED-NFS					0.200000	0.009263	0.061753			
13016AA	FENNEL	15.000000	P	0.003315	0.022100	0.200000	0.009263	0.061753			
	00 NOT SPECIFIED (NO CONSUMPTION)					14.550000	0.009263	0.061753			
						14.550000	0.000000	0.000000			
CROP GROUP TOTALS FOR UNSPECIFIED:					0.140908	0.939387	0.137573	0.917153			

Table 3 (cont.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)		THRC (UG/KG/DAY)		XRFD		ANTICIPATED RESIDUE (PPM)		ARC (UG/KG/DAY)		XRFD
		TYPE	VALUE	TYPE	VALUE	TYPE	VALUE	TYPE	VALUE	TYPE	VALUE	
14003AA	CARROTS											
	10 RAW-FRESH OR NFS	1.000000	P	0.173479		1.156527		0.410000		0.016457		0.109713
	21 COOKED-NFS							0.410000		0.020825		0.138833
	23 COOKED-FRESH-BOILED							0.410000		0.003727		0.024847
	31 COOKED-FRESH OR CANNED							0.410000		0.013600		0.090667
	51 COOKED-CANNED							0.410000		0.016517		0.110113
14013AA	POTATOES(WHITE)-WHOLE	0.100000	P	0.034006		0.226707		0.110000		0.000501		0.003340
	10 RAW-FRESH OR NFS							0.110000		0.001649		0.010993
	21 COOKED-NFS							0.110000		0.001591		0.010607
	22 COOKED-FRESH-BAKED							0.110000		0.000001		0.000007
14013AB	POTATOES(WHITE)-UNSPECIFIED	0.100000	P	0.000008		0.000053		0.110000		0.000793		0.005287
	22 COOKED-FRESH-BAKED							0.110000		0.000470		0.003133
14013AC	POTATOES(WHITE)-PEELED	0.100000	P	0.078426		0.522840		0.110000		0.004767		0.031780
	21 COOKED-NFS							0.110000		0.002597		0.017313
140130A	POTATOES(WHITE)-DRY	0.100000	P	0.000845		0.005633		0.110000		0.000040		0.000267
	10 RAW-FRESH OR NFS							0.110000		0.000053		0.000353
	31 COOKED-FRESH OR CANNED							0.110000		0.000000		0.000000
14013HA	POTATOES(WHITE)-PEEL ONLY	0.100000	P	0.000002		0.000013		0.110000		0.000000		0.000000
14021AA	PARSNIPS	1.000000	P	0.000697		0.004647		1.000000		0.000697		0.004647
	21 COOKED-NFS											
CROP GROUP TOTALS FOR ROOT AND TUBER VEGETABLES:												
				0.287463		1.916420		0.084285				0.561900
14007AA	GARLIC											
	10 RAW-FRESH OR NFS	0.500000	P	0.000381		0.002540		0.500000		0.000015		0.000100
	21 COOKED-NFS							0.500000		0.000237		0.001580
	32 COOKED-FRESH OR CANNED-BAKED							0.500000		0.000129		0.000860
14011AA	ONIONS-DRY-BULB (CIPOLLINI)	0.500000	P	0.053031		0.353540		0.255000		0.004730		0.031533
	10 RAW-FRESH OR NFS							0.255000		0.018056		0.120373
	21 COOKED-NFS							0.255000		0.002625		0.017500
	22 COOKED-FRESH-BAKED							0.255000		0.001635		0.010900
14011DA	ONIONS-DEHYDRATED OR DRIED	0.500000	P	0.000536		0.003573		0.255000		0.000274		0.001827
	12 RAW-FRESH-BAKED							0.255000		0.000000		0.000000
14017AA	SHALLOTS	0.500000	P	0.000153		0.001020		0.255000		0.000000		0.000000
	00 NOT SPECIFIED (NO CONSUMPTION)							0.255000		0.000000		0.000000
16004AA	ONIONS-GREEN	5.000000	P	0.009778		0.045187		2.550000		0.004417		0.029447
	10 RAW-FRESH OR NFS											

Table 3 (con't.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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CHEMICAL INFORMATION			STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS		
Chlorothalonil Caswell 22158 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.		
CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES													
FOOD CODE	FOODNAME/FOODFORM		TOLERANCE (PPM)	TWRC TYPE (UG/KG/DAY)	%RFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD					
CROP GROUP TOTALS FOR BULB VEGETABLES:													
13002AA	CELERY 10 RAW-FRESH OR NFS 21 COOKED-NFS		15.00000	P	0.914416	6.096107			2.550000 2.550000	0.000254 0.000315	0.001693 0.002100		
CROP GROUP TOTALS FOR LEAFY VEGETABLES (EXCL. BRASSICAE):													
13005AA	BROCCOLI 21 COOKED-NFS 31 COOKED-FRESH OR CANNED 63 COOKED-FRESH OR FROZEN-BOILED		5.000000	P	0.245647	1.637647			1.550000 1.550000 1.550000	0.005284 0.062775 0.008092	0.035227 0.418500 0.053947		
13006AA	BRUSSEL SPROUTS 21 COOKED-NFS 23 COOKED-FRESH-BOILED		5.000000	P	0.034240	0.228267			4.150000 4.150000	0.004709 0.023710	0.031393 0.158067		
13007AA	CABBAGE-GREEN AND RED 10 RAW-FRESH OR NFS 11 RAW-FRESH-PICKLED, CORNED, OR CURED 21 COOKED-NFS		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		
13008AA	CAULIFLOWER 10 RAW-FRESH OR NFS 21 COOKED-NFS		5.000000	P	0.079184	0.527893			1.700000 1.700000	0.001612 0.025311	0.010747 0.168740		
13010AA	CABBAGE-CHINESE/CELERY, INC. BOX CHOY 10 RAW-FRESH OR NFS 21 COOKED-NFS		5.000000	P	0.022816	0.152107			0.200000 0.200000	0.000044 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 21 COOKED-NFS 31 COOKED-FRESH OR CANNED		0.100000	P	0.001363	0.009087			0.024000 0.024000	0.000283 0.000044	0.001887 0.000293		
15001AC	BEANS-DRY-LIMA 21 COOKED-NFS		0.100000	P	0.000799	0.005327			0.024000	0.000192	0.001280		
15001AD	BEANS-DRY-NAVY (PEA) 21 COOKED-NFS 31 COOKED-FRESH OR CANNED		0.100000	P	0.003741	0.024940			0.024000 0.024000	0.000212 0.000689	0.001413 0.004567		

Table 3 (con't.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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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 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)		PAD1 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	TOLERANCE (PPM)	TYPE	THRC (UG/KG/DAY)	XRFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	XRFD			
15001AE	BEANS-DRY-OTHER 21 COOKED-NFS	0.100000	P	0.003983	0.026553	0.024000	0.000419	0.002793			
	25 COOKED-FRESH-FRIED					0.024000	0.000154	0.001027			
15001AF	31 COOKED-FRESH OR CANNED					0.024000	0.000383	0.002553			
	BEANS-DRY-PINTO										
15003AA	21 COOKED-NFS	0.100000	P	0.003635	0.024233	0.024000	0.000872	0.005813			
	BEANS-SUCCULENT-GREEN										
15006AA	21 COOKED-NFS	5.000000	P	1.000250	6.668333	1.200000	0.240060	1.600400			
	PEANUTS-WHOLE										
	10 RAW-FRESH OR NFS	0.300000	P	0.020873	0.139153	0.210000	0.000221	0.001473			
	21 COOKED-NFS					0.210000	0.013506	0.090040			
15013AA	22 COOKED-FRESH-BAKED					0.210000	0.000885	0.005900			
	MUNG BEANS (SPROUTS)										
	10 RAW-FRESH OR NFS	0.100000	P	0.000665	0.004433	0.024000	0.000018	0.000120			
	21 COOKED-NFS					0.024000	0.000141	0.000940			
15022AA	BEANS-DRY-BROADBEANS(MATURE SEED)	0.100000	P	0.000000	0.000000	0.024000	0.000000	0.000000			
	00 NOT SPECIFIED (NO CONSUMPTION)										
15023AA	BEANS-DRY-PIGEON BEANS	0.100000	P	0.000004	0.000027	0.024000	0.000001	0.000007			
	21 COOKED-NFS										
15029AA	SOYBEANS-SPROUTED SEEDS	0.200000	P	0.000000	0.000000	0.200000	0.000000	0.000000			
	00 NOT SPECIFIED (NO CONSUMPTION)										
15030AA	BEANS-DRY-HYACINTH(MATURE SEEDS)	0.100000	P	0.000000	0.000000	0.024000	0.000000	0.000000			
	00 NOT SPECIFIED (NO CONSUMPTION)										
15031AA	BEANS-DRY-BLACK EYE PEAS(COPEAS)	0.100000	P	0.000247	0.001647	0.024000	0.000059	0.000393			
	21 COOKED-NFS					0.024000	0.000010	0.000067			
15032AA	BEANS-DRY-GARBANZO(CHICK PEA)	0.100000	P	0.000053	0.000353	0.024000	0.000003	0.000020			
	21 COOKED-NFS										
	31 COOKED-FRESH OR CANNED										
270070A	PEANUTS-OIL	0.300000	P	0.001568	0.010453	0.210000	0.001097	0.007313			
270100A	SOYBEANS-OIL	0.200000	P	0.064431	0.429540	0.200000	0.064431	0.429540			
	18 PROCESSED OIL										
28023AA	SOYBEANS-UNSPECIFIED	0.200000	P	0.000104	0.000693	0.200000	0.000104	0.000693			
	21 COOKED-NFS										
28023AB	SOYBEANS-MATURE, SEEDS DRY	0.200000	P	0.000180	0.001200	0.200000	0.000057	0.000380			
	10 RAW-FRESH OR NFS					0.200000	0.000027	0.000180			
	21 COOKED-NFS					0.200000	0.000024	0.000160			
	23 COOKED-FRESH-BOILED					0.200000	0.000050	0.000333			
	25 COOKED-FRESH-FRIED					0.200000	0.000022	0.000147			
	31 COOKED-FRESH OR CANNED										
28023WA	SOYBEANS-FLOUR, FULL FAT	0.200000	P	0.000584	0.003893	0.200000	0.000181	0.001207			
	21 COOKED-NFS										

Table 3 (cont.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 11/10/87

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CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Chlorothalonil		2yr feeding-dog		Renal tubular vacuolization.		PADI 100		Rabbit teratology (Core-Supplementary).		TOX complete 3/14/86.	
Caswell #2158		NOEL= 1.5000 mg/kg		Evidence of oncogenicity in rats and mice (kidney)		OPP RfD= 0.015000				ORD verified 4/8/86.	
CAS No. 1897-45-6		60.00 ppm				EPA RfD= 0.015000				WHO last reviewed 1987.	
A.I. CODE: 081901		LEL= 3.0000 mg/kg				WHO RfD 0.003000					
CFR No. 180.275		120.00 ppm				Type: TAD1					
		ONCO: Class B2 (TOX NOTE)									
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES											
FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	THRC (UG/KG/DAY)	2RFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	2RFD			
280234B	22 COOKED-FRESH-BAKED 31 COOKED-FRESH OR CANNED SOY BEANS-FLOUR, LOW FAT	0.200000	P	0.000190	0.001267	0.200000	0.000284	0.001893			
280234C	21 COOKED-NFS SOY BEANS-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	2.500000	0.627936	4.186240			
	10 RAW-FRESH OR NFS										
	21 COOKED-NFS										
11005JA	31 COOKED-FRESH OR CANNED TOMATOES-JUICE	5.000000	P	0.413513	2.756753	2.500000	0.484077	3.227180			
	10 RAW-FRESH OR NFS										
	21 COOKED-NFS										
11005RA	10 RAW-FRESH OR NFS TOMATOES-PUREE	5.000000	P	2.808813	18.725420	2.500000	0.118028	0.786853			
	21 COOKED-NFS										
	31 COOKED-FRESH OR CANNED										
	32 COOKED-FRESH OR CANNED-BAKED										
	51 COOKED-CANNED										
11005TA	TOMATOES-PASTE	5.000000	P	1.065871	7.105807	2.500000	0.007544	0.050293			
	21 COOKED-NFS										
	22 COOKED-FRESH-BAKED										
	31 COOKED-FRESH OR CANNED										
11005UA	TOMATOES-CATSUP	5.000000	P	0.525400	3.502667	2.500000	0.00471	0.03140			
	21 COOKED-NFS										
	22 COOKED-FRESH-BAKED										
	31 COOKED-FRESH OR CANNED										
CROP GROUP TOTALS FOR FRUITING VEGETABLES (EXCL. CUCURBITS):					7.273679	48.491193	3.636840	24.245600			

Table 3 (cont.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)		TNRC TYPE (UG/KG/DAY)		XRFD	ANTICIPATED RESIDUE (PPM)		ARC (UG/KG/DAY)	XRFD
10002AA	CANTALOUPE-UNSPECIFIED	5.000000	P	0.000005		0.000033	0.050000	0.000000	0.000000	0.000000
	00 NOT SPECIFIED (NO CONSUMPTION)									
10002AB	CANTALOUPE-PULP	5.000000	P	0.222110		1.480733	0.050000	0.002210	0.014733	0.000073
	10 RAW-FRESH OR NFS						0.050000	0.000011		
	21 COOKED-NFS						0.050000	0.000039		0.000260
10003AA	CASABAS	5.000000	P	0.003852		0.025680	0.050000	0.000000	0.000000	0.000000
	10 RAW-FRESH OR NFS						0.050000	0.000000		
10004AA	CRENSHAW	5.000000	P	0.000005		0.000033	0.050000	0.000918	0.006120	
	00 NOT SPECIFIED (NO CONSUMPTION)						0.050000	0.000000		
10005AA	HONEYDEW MELONS	5.000000	P	0.091814		0.612093	0.050000	0.000000	0.000000	0.000000
	10 RAW-FRESH OR NFS						0.050000	0.000000		
10007AA	PEARSON MELONS	5.000000	P	0.000005		0.000033	0.050000	0.000000	0.000000	0.000000
	00 NOT SPECIFIED (NO CONSUMPTION)						0.050000	0.000000		
10008AA	WATERMELON	5.000000	P	0.382527		2.550180	0.050000	0.001924	0.012827	0.000027
	10 RAW-FRESH OR NFS						0.050000	0.001564	0.010427	0.000773
	21 COOKED-NFS						0.050000	0.000116		
10010AA	CUCUMBERS	5.000000	P	0.360410		2.402733	0.050000	0.000018	0.000120	0.000193
	10 RAW-FRESH OR NFS						0.050000	0.000029	0.000174	0.001160
	11 RAW-FRESH-PICKLED, CORNED, OR CURED						0.050000	0.000065	0.000433	0.010113
	21 COOKED-NFS						0.050000	0.001517		
10011AA	PUMPKIN	5.000000	P	0.022091		0.147273	0.050000	0.000000	0.000000	0.000000
	21 COOKED-NFS						0.050000	0.000000	0.000000	0.000000
	22 COOKED-FRESH-BAKED						0.050000	0.000000	0.000000	0.000000
10013AA	SQUASH-SUMMER	5.000000	P	0.158240		1.054933	0.050000	0.000000	0.000000	0.000000
	10 RAW-FRESH OR NFS						0.050000	0.000000	0.000000	0.000000
	21 COOKED-NFS						0.050000	0.000000	0.000000	0.000000
10014AA	SQUASH-WINTER	5.000000	P	0.162208		1.081387	0.050000	0.000000	0.000000	0.000000
	10 RAW-FRESH OR NFS						0.050000	0.000000	0.000000	0.000000
	21 COOKED-NFS						0.050000	0.000000	0.000000	0.000000
10017AA	BITTER MELON	5.000000	P	0.000116		0.000773	0.050000	0.000000	0.000000	0.000000
	31 COOKED-FRESH OR CANNED						0.050000	0.000000	0.000000	0.000000
10020AA	TOMELGOURD	5.000000	P	0.000005		0.000033	0.050000	0.000000	0.000000	0.000000
	00 NOT SPECIFIED (NO CONSUMPTION)						0.050000	0.000000	0.000000	0.000000
CROP GROUP TOTALS FOR FRUITING VEGETABLES (CUCURBITS):				1.403388		9.355920		0.014033		0.093553

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Table 3 (cont.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Chlorothalonil		2yr feeding- dog		Renal tubular		PA01		Rabbit teratology		TOX complete	
Caswell #2158		NOEL=	1.5000 mg/kg	vacuolization.		OPP Rfd=	0.015000	(Core-Supplementary).		ORD verified	
CAS No. 1897-45-6		LEL=	60.00 ppm	Evidence of oncogenicity		EPA Rfd=	0.015000			4/8/86.	
A.I. CODE: 081901			3.0000 mg/kg	in rats and mice (kidney)		WHO Rfd=	0.003000			WHO last reviewed	
CFR No. 180.275		ONCO: Class B2 (TOX NOTE)	120.00 ppm			Type: TADI				1987.	
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES											
FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	THWC (UG/KG/DAY)	ZRFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	ZRFD			
05001AA	APRICOTS-FRESH 10 RAW-FRESH OR NFS 21 COOKED-NFS	0.500000	P	0.016845	0.112300	0.500000	0.002857	0.019047			
	31 COOKED-FRESH OR CANNED					0.500000	0.003891	0.025940			
05001DA	APRICOTS-DRIED 10 RAW-FRESH OR NFS	0.500000	P	0.001212	0.008080	0.500000	0.010097	0.067313			
	22 COOKED-FRESH-BAKED					0.500000	0.001028	0.006853			
05002AA	CHERRIES-FRESH 10 RAW-FRESH OR NFS	0.500000	P	0.016088	0.107253	0.500000	0.000184	0.001227			
	21 COOKED-NFS					0.040000	0.000295	0.001967			
	31 COOKED-FRESH OR CANNED					0.040000	0.000176	0.001173			
	62 COOKED-FRESH OR FROZEN-BAKED					0.040000	0.000502	0.003347			
05002DA	CHERRIES-DRIED	0.500000	P	0.000002	0.000013	0.040000	0.000314	0.002093			
05002JA	CHERRIES-JUICE 00 NOT SPECIFIED (NO CONSUMPTION)	0.500000	P	0.002556	0.017040	0.040000	0.000000	0.000000			
	15 RAW-FRESH OR CANNED					0.040000	0.000188	0.001253			
	21 COOKED-NFS					0.040000	0.000017	0.000113			
05003AA	NECTARINES 10 RAW-FRESH OR NFS	0.500000	P	0.006483	0.043220	0.500000	0.006483	0.043220			
	21 COOKED-NFS					0.500000	0.050237	0.334913			
05004AA	PEACHES-FRESH 10 RAW-FRESH OR NFS	0.500000	P	0.107696	0.717973	0.500000	0.004918	0.032787			
	21 COOKED-NFS					0.500000	0.039942	0.266280			
	31 COOKED-FRESH OR CANNED					0.500000	0.012599	0.083993			
	51 COOKED-CANNED					0.500000	0.000092	0.000613			
05004DA	PEACHES-DRIED 10 RAW-FRESH OR NFS	0.500000	P	0.000174	0.001160	0.500000	0.000081	0.000540			
	21 COOKED-NFS					0.500000	0.003722	0.024813			
05005AA	PLUMS(DANSONS)-FRESH 10 RAW-FRESH OR NFS	0.200000	P	0.004973	0.033153	0.200000	0.001250	0.008333			
	31 COOKED-FRESH OR CANNED					0.200000	0.000369	0.002460			
	PLUMS-PRUNES(DRIED)	0.200000	P	0.003484	0.023227	0.200000	0.002603	0.017353			
	10 RAW-FRESH OR NFS					0.200000	0.000512	0.003413			
	21 COOKED-NFS					0.200000	0.000369	0.002460			
	31 COOKED-FRESH OR CANNED					0.200000	0.002603	0.017353			
05005JA	PLUMS, PRUNE-JUICE 10 RAW-FRESH OR NFS	0.200000	P	0.003851	0.025673	0.200000	0.003845	0.025633			
	62 COOKED-FRESH OR FROZEN-BAKED					0.200000	0.000006	0.000040			
CROP GROUP TOTALS FOR STONE FRUITS:					0.163364	1.089093	0.146208	0.974720			

Table 3 (cont.)

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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CHEMICAL INFORMATION			STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS		
Chlorothalonil			2yr feeding- dog		Renal tubular		PAD1 100		Rabbit teratology		TOX complete 3/14/86.		
Caswell #2158			NOEL= 1.5000 mg/kg		vacuolization.		OPP Rfd= 0.015000		(Core-Supplementary).		ORD verified 4/8/86.		
CAS No. 1897-45-6			60.00 ppm		Evidence of oncogenicity		EPA Rfd= 0.015000				WHO last reviewed 1987.		
A.I. CODE: 081901			LEL= 3.0000 mg/kg		in rats and mice (kidney)		WHO Rfd 0.003000						
CFR No. 180.275			120.00 ppm				Type: IADI						
			ONCO: Class B2 (TOX NOTE)										
COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES													
FOOD CODE	FOODNAME/FOODFORM		TOLERANCE (PPM)		THRC TYPE	THRC (UG/KG/DAY)	%RFD	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD			
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	0.093937		0.626247						
	15 RAW-FRESH OR CANNED							5.000000	0.093514	0.623427			
	31 COOKED-FRESH OR CANNED							5.000000	0.000422	0.002813			
CROP GROUP TOTALS FOR SMALL FRUITS AND BERRIES:													
						0.169005	1.126700		0.169005	1.126700			
15005AA	CORN, SWEET		1.000000	P	0.236707		1.578047						
	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			
CROP GROUP TOTALS FOR CEREAL GRAINS:													
						0.236707	1.578047		0.236707	1.578047			
28080AA	PEPPERMINT		2.000000	P	0.000002		0.000013						
	00 NOT SPECIFIED (NO CONSUMPTION)							2.000000	0.000000	0.000000			
280800A	PEPPERMINT-OIL		2.000000	P	0.000510		0.003400						
	00 NOT SPECIFIED (NO CONSUMPTION)							2.000000	0.000000	0.000000			
28081AA	SPEARMINT		2.000000	P	0.000002		0.000013						
	00 NOT SPECIFIED (NO CONSUMPTION)							2.000000	0.000000	0.000000			
280810A	SPEARMINT-OIL		2.000000	P	0.000916		0.006107						
	00 NOT SPECIFIED (NO CONSUMPTION)							2.000000	0.000000	0.000000			
CROP GROUP TOTALS FOR HERBS AND SPICES:													
						0.001430	0.009533		0.000000	0.000000			

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