



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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

Subject: Addendum to the Residue Chemistry Chapter for Chlorothalonil and the Technical Impurity Hexachlorobenzene (HCB) Registration Standard: Tolerance Assessment System Tolerance Reassessment.

To: Amy Rispin, Ph.D. *KARL*
Science Integration Staff
Hazard Evaluation Division
-and-
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From: Charles Frick *c. Frick 4/13/88*
Tolerance Assessment Program
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In conjunction with the Chlorothalonil Registration Standard, a Tolerance Assessment System (TAS) tolerance reassessment has been conducted. This includes an estimation of the dietary exposure to Chlorothalonil and its impurity HCB. The percent of the Reference Dose (RFD) occupied by the TMRC and the oncogenic risk have been calculated for both chemicals.

Discussion- Chlorothalonil

The Reference Dose (PADI, RFD) used in the analysis was 0.015 mg/kg/day, based on a NOEL of 1.5 mg/kg/day obtained in a two 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 by the Toxicology Branch Peer Review Committee. The upper bound potency estimate (Q^*) is 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. Data was available to RCB to determine Anticipated Residue values for several food crops, these values were utilized in this dietary exposure 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/day, corresponding to 84% of the RFD. The most highly exposed subgroups were children 1-6 years of age (TMRC = 0.022415 mg/kg/day, or 149% of the RFD) and non-nursing infants (TMRC = 0.015674 mg/kg/day, or 104% of the RFD).

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

$$\begin{aligned} \text{Exposure} \times Q^* &= \text{Risk} \\ 0.012609 \text{ mg/kg/day} \times 0.011 \text{ (mg/kg/day)}^{-1} &= 0.0001386 \\ \text{Risk} &= 1.4 \times 10^{-4} \end{aligned}$$

II. Exposure Analysis based on Anticipated Residue Values and adjusted for Percent of Crop Treated:

Percent of crop treated data, provided by the Benefits and Use Division (BUD), are incorporated in this dietary analysis. This data is in the form of a Preliminary Quantitative Usage Analysis (PQUA). This report summarizes the best estimates available regarding the pesticidal uses of Chlorothalonil. It should be noted that the quantity of pesticides used on crops that are grown on only a few acres and the quantity of infrequently used pesticides on more important crops are both difficult to ascertain. TAS did not use a percentage value of less than 10 for Chlorothalonil since reliable estimates of the percent of crop treated are not available for these situations.

Data was available to determine anticipated residue on the following crops: tomatoes and tomato products, celery, cabbage snap beans, for individual values see the anticipated residue printout. This data was derived from the Residue Chemistry Branch chapter for the Chlorothalonil Registration Standard and 10/24/83 memo to Ed Zager (Subject: 50534-8. Chlorothalonil Residue Estimates in Processed Foods) and studies conducted by SDS Biotech Corp. on celery and cabbage (Assession No. 262158.). These data showed the effects of washing and in some cases, trimming on the level of pesticide residue. For tomatoes, data were available that showed the effects of processing. The use of tomato processing data was discussed in the Residue Chemistry Branch Residue Committee, 3/31/88.

Based on the anticipated residues and percent of crop treated, the exposure for the U.S. population was calculated as 0.000838 mg/kg/day, corresponding to 5% of the RFD. For children 1-6 years the exposure was reduced to 0.001352 mg/kg/day (9% of the RFD), and for non-nursing infants it was reduced to 0.001561 mg/kg/day (10% of the RFD). For a summary of the analysis using both published tolerances and published tolerances factored by percent of crop treated and anticipated residues (see page 1.0 in printout).

Oncogenic risk for the overall U.S. population using percent of crop treated and anticipated residue values was calculated as follows:

$$0.000838 \text{ mg/kg/day} \times 0.011 \text{ (mg/kg/day)}^{-1} = 0.0000092$$

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

$$\text{Risk} = 9.2 \times 10^{-6}$$

The majority of the theoretical exposure and oncogenic risk is from tomatoes and celery (see Table 1a).

Discussion- Hexachlorobenzene (HCB)

As noted in the RCB Chapter for the Chlorothalonil Registration Standard, HCB has been identified as an impurity in technical Chlorothalonil. Data indicates that with the exception of soybean oil the residues of HCB resulting from the registered uses of Chlorothalonil were at or below 0.003ppm, which was the analytical limit of detection for this chemical. This theoretical value of 0.003ppm has been given to all food crops that have established tolerances for Chlorothalonil (an actual residue of 0.006ppm was reported for soybean oil). Using this theoretical value, an oncogenic risk assessment was conducted for HCB.

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

$$0.000006 \text{ mg/kg/day} \times 1.7 = 0.0000102$$

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

$$\text{Risk} = 1 \times 10^{-5}$$

The Q* value for HCB was generated by the Agency Cancer Assessment Group (CAG) date of determination not available).

The majority of the theoretical exposure and oncogenic risk is from tomatoes and soybeans (see Table 1b).

It is likely that this analysis over estimates the dietary exposure to HCB that results from the use of Chlorothalonil. However, we note that recent FDA market basket surveys consistently find detectable residues of HCB. It is difficult to estimate how much, if any, is due to the use of Chlorothalonil.

There are no tolerances for HCB and the ADI or RFD have not been determined (see the appended TAS printout for HCB).

When the analytical procedure for HCB is refined or changed to detect a smaller magnitude of this chemical, it is likely the theoretical oncogenic risk will be significantly lower.

cc.

Chlorothalonil RS
TAS File
C. Frick (RCB)
S. Rathman (TOX)
PMSD

COMMODITY CONTRIBUTION TO

CHLOROTHALONIL: ONCOGENIC RISK

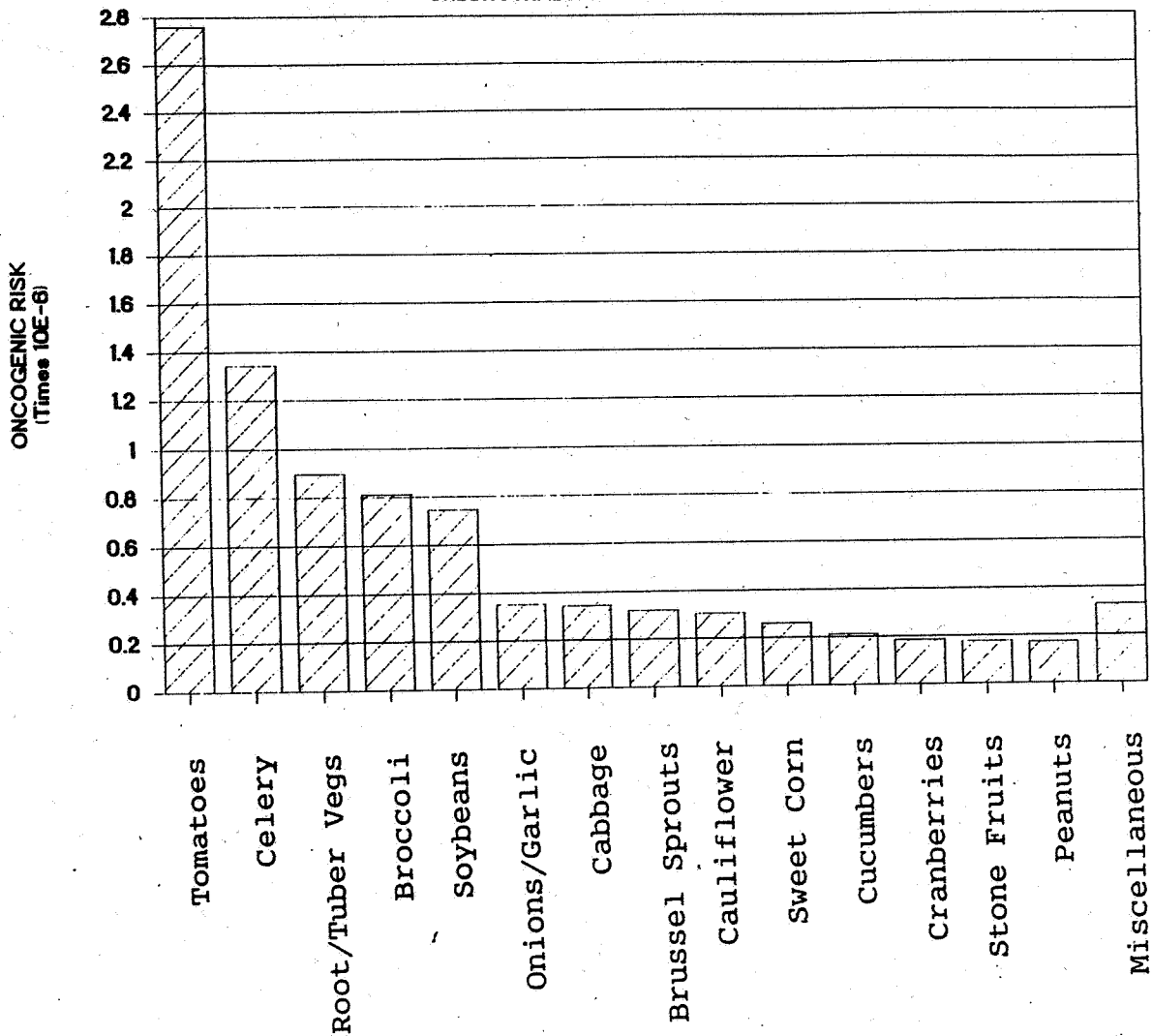


TABLE 1a

COMMODITY CONTRIBUTION TO CHLOROTHALONIL
ONCOGENIC RISK

COMMODITY	ONCOGENIC RISK (U.S.) X 10 ⁻⁶
Tomatoes ^C	2.8
Celery ^C	1.3
Root/Tuber Veggies ^b	0.90
Broccoli ^b	0.81
Soybeans ^a	0.75
Onions/Garlic ^{b/a}	0.35
Cabbage ^C	0.34
Brussel Sprouts ^b	0.32
Cauliflower ^b	0.30
Sweet Corn ^b	0.26
Cucumbers ^C	0.21
Cranberries ^b	0.19
Stone Fruits ^b	0.18
Peanuts ^b	0.17
Miscellaneous	0.33
Total	9.2 X 10 ⁻⁶

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

^bAnalysis based on tolerances adjusted for percent crop treated.

^CAnalysis based on tolerances adjusted for percent crop treated and anticipated residue.

Table 1b

Commodity Contribution To Oncogenic Risk From HCB
Contamination of Chlorothalonil

COMMODITY	ONCOGENIC RISK (U.S.) X 10 ⁻⁶
Tomatoes ^b	3.7
Soybeans ^a	3.5
Root/Tuber Veggies ^b	0.94
Legumes, ex. soybean ^b	0.71
Celery ^b	0.31
Onions/Garlic ^b	0.28
Stone Fruits ^b	0.19
Cole Crops ^b	0.19
Cucurbits ^b	0.14
Sweet Corn ^b	0.12
Cranberries ^b	0.017
Miscellaneous	0.16
Total	10 X 10 ⁻⁶ = 1 X 10 ⁻⁵

^aAnalysis based on anticipated residue values (no percent crop treated data available).

^bAnalysis based on anticipated residue values factored by percent crop treated.

DATE: 04/08/88

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Chlorothalonil	2yr feeding- dog	Renal tubular	PADI 100	Rabbit teratology	TOX complete 3/14/86.
Caswell #215B	NOEL= 1.5000 mg/kg	vacuolization.	OPP RfD= 0.015000	(Core-Supplementary).	EPA 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			
CFR No. 180.275	120.00 ppm	in rats and mice (kidney)	WHO RfD 0.003000		
	ONCO: Class B2 (TOX NOTE)		Type: TADI	Q* calculated.	On IRIS.

EFFECT OF ANTICIPATED RESIDUES

POPULATION SUBGROUP	TOTAL TMRC (MG/KG BODY WEIGHT/DAY)		NEW TMRC		DIFFERENCE		EFFECT OF ANTICIPATED RESIDUES	
	CURRENT TMRC*	NEW TMRC**	AS PERCENT OF RFD	AS PERCENT OF RFD	AS PERCENT OF RFD	ARC (MG/KG/DAY)	\$RFD	
U.S. POPULATION - 48 STATES	0.012609	0.012609	84.063260	0.000000	0.000000	0.000838	5.584687	
U.S. POPULATION - SPRING SEASON	0.012335	0.012335	82.235187	0.000000	0.000000	0.000814	5.426700	
U.S. POPULATION - SUMMER SEASON	0.014354	0.014354	95.690233	0.000000	0.000000	0.000921	6.137787	
U.S. POPULATION - FALL SEASON	0.012029	0.012029	80.196120	0.000000	0.000000	0.000799	5.324947	
U.S. POPULATION - WINTER SEASON	0.011706	0.011706	78.041820	0.000000	0.000000	0.000818	5.452133	
NORTHEAST REGION	0.012814	0.012814	85.429900	0.000000	0.000000	0.000899	5.995160	
NORTH CENTRAL REGION	0.012712	0.012712	84.744387	0.000000	0.000000	0.000806	5.374907	
SOUTHERN REGION	0.011687	0.011687	77.913340	0.000000	0.000000	0.000727	4.848320	
WESTERN REGION	0.013758	0.013758	91.722033	0.000000	0.000000	0.000993	6.617573	
HISPANICS	0.012588	0.012588	83.922953	0.000000	0.000000	0.000835	5.567840	
NON-HISPANIC WHITES	0.012977	0.012977	86.512847	0.000000	0.000000	0.000869	5.793033	
NON-HISPANIC BLACKS	0.010032	0.010032	66.876733	0.000000	0.000000	0.000620	4.135760	
NON-HISPANIC OTHERS	0.014167	0.014167	94.445707	0.000000	0.000000	0.000987	6.576847	
NURSING INFANTS (< 1 YEAR OLD)	0.006351	0.006351	42.338580	0.000000	0.000000	0.000736	4.907920	
NON-NURSING INFANTS (< 1 YEAR OLD)	0.015674	0.015674	104.495627	0.000000	0.000000	0.001561	10.408807	
FEMALES (13+ YEARS, PREGNANT)	0.010286	0.010286	68.571260	0.000000	0.000000	0.000655	4.367527	
FEMALES 13+ YEARS, NURSING	0.012008	0.012008	80.055707	0.000000	0.000000	0.000912	6.083320	
CHILDREN (1-6 YEARS OLD)	0.022415	0.022415	149.432887	0.000000	0.000000	0.001352	9.010153	
CHILDREN (7-12 YEARS OLD)	0.017967	0.017967	119.779633	0.000000	0.000000	0.001059	7.060913	
MALES (13-19 YEARS OLD)	0.012309	0.012309	82.061260	0.000000	0.000000	0.000705	4.697833	
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.011108	0.011108	74.051567	0.000000	0.000000	0.000691	4.606153	
MALES (20 YEARS AND OLDER)	0.010222	0.010222	68.148180	0.000000	0.000000	0.000696	4.641073	
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)	0.010616	0.010616	70.775300	0.000000	0.000000	0.000779	5.192873	

*Current TMRC does not include new or pending tolerances.

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

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 215B

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

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
0101010AA	CRANBERRIES	10 RAW-FRESH OR NFS	2E2939	P 5.000000	5.000000		10.00	0.500000
0101010AA	CRANBERRIES	21 COOKED-NFS	2E2939	P 5.000000	5.000000		10.00	0.500000
0101010AA	CRANBERRIES	31 COOKED-FRESH OR CANNED	2E2939	P 5.000000	5.000000		10.00	0.500000
0101010JA	CRANBERRY-JUICE	15 RAW-FRESH OR CANNED	2E2939	P 5.000000	5.000000		10.00	0.500000
0101010JA	CRANBERRY-JUICE	31 COOKED-FRESH OR CANNED	2E2939	P 5.000000	5.000000		10.00	0.500000
0101010JA	CRANBERRY-JUICE	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050001AA	APRICOTS-FRESH	21 COOKED-NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	3F1382	P 0.500000	0.500000		10.00	0.050000
050001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	3F1382	P 0.500000	0.500000		10.00	0.050000
050001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	5F3183	P 0.500000	0.500000		10.00	0.050000
050002AA	CHERRIES-FRESH	21 COOKED-NFS	5F3183	P 0.500000	0.500000		10.00	0.050000
050002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	5F3183	P 0.500000	0.500000		10.00	0.050000
050002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	5F3183	P 0.500000	0.500000		10.00	0.050000
050002AA	CHERRIES-DRIED	00 NOT SPECIFIED (NO CONSUMPTION)	5F3183	P 0.500000	0.500000		10.00	0.050000
050002JA	CHERRIES-JUICE	15 RAW-FRESH OR CANNED	5F3183	P 0.500000	0.500000		10.00	0.050000
050002JA	CHERRIES-JUICE	21 COOKED-NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050003AA	NECTARINES	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050004AA	PEACHES-FRESH	21 COOKED-NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	3F1382	P 0.500000	0.500000		10.00	0.050000
050004AA	PEACHES-FRESH	51 COOKED-CANNED	3F1382	P 0.500000	0.500000		10.00	0.050000
050004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.500000		10.00	0.050000
050004DA	PEACHES-DRIED	21 COOKED-NFS	2F2602	P 0.200000	0.200000		10.00	0.020000
050005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	2F2602	P 0.200000	0.200000		10.00	0.020000
050005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	2F2602	P 0.200000	0.200000		10.00	0.020000
050005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	2F2602	P 0.200000	0.200000		10.00	0.020000
050005DA	PLUMS-PRUNES	21 COOKED-NFS	2F2602	P 0.200000	0.200000		10.00	0.020000
050005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	2F2602	P 0.200000	0.200000		10.00	0.020000
050005JA	PRUNE-JUICE	10 RAW-FRESH OR NFS	2F2602	P 0.200000	0.200000		10.00	0.020000
050005JA	PRUNE-JUICE	62 COOKED-FRESH OR FROZEN-BAKED	2F2602	P 0.200000	0.200000		10.00	0.020000
060002AA	BANANAS-UNSPEC	22 COOKED-FRESH-BAKED	8F2067	P 0.050000	0.050000		10.00	0.005000
060002AB	BANANAS-FRESH	10 RAW-FRESH OR NFS	8F2067	P 0.050000	0.050000		10.00	0.005000
060002AB	BANANAS-FRESH	21 COOKED-NFS	8F2067	P 0.050000	0.050000		10.00	0.005000
060002AB	BANANAS-FRESH	31 COOKED-FRESH OR CANNED	8F2067	P 0.050000	0.050000		10.00	0.005000
060002DA	BANANAS-DRIED	10 RAW-FRESH OR NFS	8F2067	P 0.050000	0.050000		10.00	0.005000
060002DA	BANANAS-DRIED	21 COOKED-NFS	8F2067	P 0.050000	0.050000		10.00	0.005000
060002DA	BANANAS-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	6E1761	P 15.000000	15.000000		10.00	1.500000
060100AA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS	6E1761	P 15.000000	15.000000		10.00	1.500000
060100AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	6E1761	P 15.000000	15.000000		10.00	1.500000
060100AB	PAPAYA "P	51 COOKED-CANNED	6E1761	P 15.000000	15.000000		10.00	1.500000

CHEMICAL	STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
	2yr feeding- dog	NOEL=	Renal tubular	vacuolization.	PADI	100	Rabbit teratology	(Core-Supplementary).	
Chlorothalonil					OPP RfD=	0.015000			TOX complete 3/14/86.
Caswell #215B		1.5000 mg/kg			EPA RfD=	0.015000			EPA 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=		Evidence of oncogenicity					
CFR No. 180.275		120.00 ppm		in rats and mice (kidney)					
		ONCO: Class B2 (TOX NOTE)			WHO RfD	0.003000			On IRIS.
					Type: TADI				

RES. VALUE USED
IN TAS RUN (ppm)

% CROP TREATED

AR TYPE

ANTICIPATED
RESIDUE (ppm)

TOLERANCE
(ppm)

PET. #

FOOD FORM

FOOD

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
06010DA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS	6E1761	P 15.00000	15.000000		10.00	1.500000
06010JA	PAPAYAS-JUICE	10 RAW-FRESH OR NFS	631761	P 15.00000	15.000000		10.00	1.500000
06014AA	PASSION FRUIT	00 NOT SPECIFIED (NO CONSUMPTION)	SE1569	P 3.000000	3.000000		10.00	0.300000
06016AA	PLANTAINS	21 COOKED-NFS	8F2067	P 0.050000	0.050000		10.00	0.005000
06016AA	PLANTAINS	23 COOKED-FRESH-BOILED	8F2067	P 0.050000	0.050000		10.00	0.005000
06016AA	PLANTAINS	25 COOKED-FRESH-FRIED	8F2067	P 0.050000	0.050000		10.00	0.005000
06016AA	PLANTAINS	21 COOKED-NFS	2E2744	P 0.050000	0.050000		10.00	0.005000
07001FA	COCOA BUTTER	10 RAW-FRESH OR NFS	2E2744	P 0.050000	0.050000		10.00	0.005000
07001SA	CHOCOLATE	21 COOKED-NFS	2E2744	P 0.050000	0.050000		10.00	0.005000
07001SA	CHOCOLATE	22 COOKED-FRESH-BAKED	2E2744	P 0.050000	0.050000		10.00	0.005000
07001SA	CHOCOLATE	21 COOKED-NFS	2E2744	P 0.050000	0.050000		10.00	0.005000
07002AA	COFFEE	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10002AA	CANTALOUPE-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.200000		10.00	0.020000
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10002AB	CANTALOUPE-PULP	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10003AA	CASABAS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10004AA	CRENSHAW	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.200000		10.00	0.020000
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10007AA	PERSON MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.200000		10.00	0.020000
10008AA	WATERMELON	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10008AA	WATERMELON	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10010AA	CUCUMBERS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	1.000000		10.00	0.100000
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED	1F1024	P 5.000000	1.000000		10.00	0.100000
10010AA	CUCUMBERS	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10011AA	PUMPKIN	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10011AA	PUMPKIN	22 COOKED-FRESH-BAKED	1F1024	P 5.000000	0.200000		10.00	0.020000
10011AA	PUMPKIN	62 COOKED-FRESH OR FROZEN-BAKED	1F1024	P 5.000000	0.200000		10.00	0.020000
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10013AA	SQUASH-SUMMER	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10014AA	SQUASH-WINTER	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	0.200000		10.00	0.020000
10017AA	BITTER MELON	21 COOKED-NFS	1F1024	P 5.000000	0.200000		10.00	0.020000
10020AA	TOMELGOURD	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.200000		10.00	0.020000
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	1F1024	P 5.000000	1.000000		50.00	0.500000
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	1F1024	P 5.000000	1.000000		50.00	0.500000
11005AA	TOMATOES-WHOLE	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	1.000000		50.00	0.500000
11005JA	TOMATOES-JUICE	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.010000		50.00	0.005000
11005JA	TOMATOES-JUICE	21 COOKED-NFS	1F1024	P 5.000000	0.010000		50.00	0.005000
11005RA	TOMATOES-PUREE	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.010000		50.00	0.005000
11005RA	TOMATOES-PUREE	21 COOKED-NFS	1F1024	P 5.000000	0.010000		50.00	0.005000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Chlorothalonil	2yr feeding- dog	Renal tubular	PADI 100	Rabbit teratology	TOX complete 3/14/86.
Caswell #215B	NOEL= 1.5000 mg/kg	vacuolization.	OPP RfD= 0.015000	(Core-Supplementary).	EPA 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			
CFR No. 180.275	120.00 ppm	in rats and mice (kidney)	WHO RfD 0.003000		
	ONCO: Class B2 (TOX WOTE)		Type: TADI	Q* calculated.	On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
11005RA	TOMATOES-PUREE	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	0.010000	50.00	0.005000
11005RA	TOMATOES-PUREE	32 COOKED-FRESH OR CANNED-BAKED	1F1024	P 5.000000	0.010000	50.00	0.005000
11005RA	TOMATOES-PUREE	51 COOKED-CANNED	1F1024	P 5.000000	0.010000	50.00	0.005000
11005TA	TOMATOES-PASTE	21 COOKED-NFS	1F1024	P 5.000000	0.010000	50.00	0.005000
11005TA	TOMATOES-PASTE	22 COOKED-FRESH-BAKED	1F1024	P 5.000000	0.010000	50.00	0.005000
11005TA	TOMATOES-PASTE	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	0.010000	50.00	0.005000
11005TA	TOMATOES-PASTE	21 COOKED-NFS	1F1024	P 5.000000	0.010000	50.00	0.005000
11005UA	TOMATOES-CATSUP	21 COOKED-FRESH OR NFS	7F0599	P 15.000000	2.000000	100.00	0.005000
13002AA	CELERY	21 COOKED-NFS	7F0599	P 15.000000	2.000000	100.00	2.000000
13002AA	CELERY	21 COOKED-NFS	7F0599	P 5.000000	5.000000	30.00	1.500000
13005AA	BROCCOLI	21 COOKED-NFS	7F0599	P 5.000000	5.000000	30.00	1.500000
13005AA	BROCCOLI	31 COOKED-FRESH OR CANNED	7F0599	P 5.000000	5.000000	30.00	1.500000
13005AA	BROCCOLI	63 COOKED-FRESH OR FROZEN-BOILED	7F0599	P 5.000000	5.000000	85.00	4.250000
13006AA	BRUSSEL SPROUTS	21 COOKED-NFS	7F0599	P 5.000000	5.000000	10.00	0.500000
13006AA	BRUSSEL SPROUTS	23 COOKED-FRESH-BOILED	7F0599	P 5.000000	5.000000	10.00	0.200000
13007AA	CABBAGE	10 RAW-FRESH OR NFS	7F0599	P 5.000000	2.000000	10.00	0.200000
13007AA	CABBAGE	11 RAW-FRESH-PICKLED, CORNED, OR CURED	7F0599	P 5.000000	2.000000	35.00	1.750000
13007AA	CABBAGE	21 COOKED-NFS	7F0599	P 5.000000	5.000000	10.00	0.500000
13008AA	CAULIFLOWER	10 RAW-FRESH OR NFS	7F0599	P 5.000000	5.000000	10.00	0.500000
13008AA	CAULIFLOWER	21 COOKED-NFS	7F0599	P 5.000000	5.000000	35.00	1.750000
13010AA	CABBAGE-CHINESE	10 RAW-FRESH OR NFS	7F0599	P 5.000000	5.000000	10.00	0.500000
13010AA	CABBAGE-CHINESE	21 COOKED-NFS	7F0599	P 5.000000	2.000000	100.00	2.000000
13016AA	FENNEL	00 NOT SPECIFIED (NO CONSUMPTION)	7E1887	P 1.000000	1.000000	40.00	0.400000
14003AA	CARROTS	10 RAW-FRESH OR NFS	7E1887	P 1.000000	1.000000	40.00	0.400000
14003AA	CARROTS	21 COOKED-NFS	7E1887	P 1.000000	1.000000	40.00	0.400000
14003AA	CARROTS	23 COOKED-FRESH-BOILED	7E1887	P 1.000000	1.000000	40.00	0.400000
14003AA	CARROTS	31 COOKED-FRESH OR CANNED	7E1887	P 1.000000	1.000000	40.00	0.400000
14003AA	CARROTS	51 COOKED-CANNED	7E1887	P 1.000000	1.000000	40.00	0.400000
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	50.00	0.250000
14011AA	ONIONS-DRY-BULB	21 COOKED-NFS	4E1502	P 0.500000	0.500000	50.00	0.250000
14011AA	ONIONS-DRY-BULB	22 COOKED-FRESH-BAKED	4E1502	P 0.500000	0.500000	50.00	0.250000
14011AA	ONIONS-DRY-BULB	31 COOKED-FRESH OR CANNED	4E1502	P 0.500000	0.500000	50.00	0.250000
14011AA	ONIONS-DRY-BULB	12 RAW-FRESH-DRIED	9F0743	P 0.100000	0.100000	10.00	0.010000
14013AA	POTATO(WH)-WHOLE	10 RAW-FRESH OR NFS	9F0743	P 0.100000	0.100000	10.00	0.010000
14013AA	POTATO(WH)-WHOLE	21 COOKED-NFS	9F0743	P 0.100000	0.100000	10.00	0.010000
14013AA	POTATO(WH)-WHOLE	22 COOKED-FRESH-BAKED	9F0743	P 0.100000	0.100000	10.00	0.010000
14013AB	POTATO(WH)-UNSE	22 COOKED-FRESH-BAKED	9F0743	P 0.100000	0.100000	10.00	0.010000
14013AC	POTATO(WH)-PULP	21 COOKED-NFS	9F0743	P 0.100000	0.100000	10.00	0.010000

DATE: 04/08/88

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 215B

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

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
28023WA	SOY-FL, FULL FAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WA	SOY-FL, FULL FAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WA	SOY-FL, FULL FAT	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WB	SOY-FL, LOW FAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WC	SOY-FL, DEFAT	10 RAW-FRESH OR NFS	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WC	SOY-FL, DEFAT	21 COOKED-NFS	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WC	SOY-FL, DEFAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WC	SOY-FL, DEFAT	51 COOKED-CANNED	6F1799	P 0.200000	0.200000		100.00	0.200000
28023WC	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	SPERMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000		100.00	2.000000
28081AA	SPERMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	2.000000		100.00	2.000000

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION			STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS		STATUS	
Hexachlorobenzene	NOEL=	0.0000 mg/kg	THERE ARE NO TOLERANCES FOR HCB. THE LISTED TOLERANCES ARE FOR CHLOROTHALONIL. THE ANTICIPATED RESIDUES ARE HCB ANTICIPATED RESIDUES.	0	OPP RfD=	0.010000	AN ADI IS REQUIRED FOR A TAs ANALYSIS. THERE IS NO ADI FOR HCB. THE ONE SHOWN IS NOT REAL, BUT WAS MADE UP IN ORDER TO CONDUCT ONCO RISK ASSESS.	ALL EXPOSURE VALUES AS A PERCENT OF THE ADI ARE MEANINGLESS. THERE IS NO ADI FOR HCB. THE ARC ESTIMATE IS THE ONLY VALID STATISTIC.	
Caswell #999A	LEL=	0.00 ppm			EPA RfD=	0.000000			
CAS No.		0.0000 mg/kg			WHO RfD	0.000000			
A.I. CODE:		0.00 ppm			Type:				
CFR No. 180.	ONCO:								
TOTAL TMRC (MG/KG BODY WEIGHT/DAY)									
CURRENT TMRC*			NEW TMRC**	NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES ARC (MG/KG/DAY)		%RFD	
POPULATION SUBGROUP									
U.S. POPULATION - 48 STATES			0.012609	0.012609	126.094890	0.000000	0.000006	0.060170	
U.S. POPULATION - SPRING SEASON			0.012335	0.012335	123.352780	0.000000	0.000006	0.057890	
U.S. POPULATION - SUMMER SEASON			0.014354	0.014354	143.535350	0.000000	0.000006	0.062190	
U.S. POPULATION - FALL SEASON			0.012029	0.012029	120.294180	0.000000	0.000006	0.060510	
U.S. POPULATION - WINTER SEASON			0.011706	0.011706	117.062730	0.000000	0.000006	0.059910	
NORTHEAST REGION			0.012814	0.012814	128.144850	0.000000	0.000006	0.058630	
NORTH CENTRAL REGION			0.012712	0.012712	127.116580	0.000000	0.000006	0.061430	
SOUTHERN REGION			0.011687	0.011687	116.870010	0.000000	0.000006	0.056950	
WESTERN REGION			0.013758	0.013758	137.583050	0.000000	0.000007	0.065810	
HISPANICS			0.012588	0.012588	125.884430	0.000000	0.000007	0.066530	
NON-HISPANIC WHITES			0.012977	0.012977	129.769270	0.000000	0.000006	0.061410	
NON-HISPANIC BLACKS			0.010032	0.010032	100.315100	0.000000	0.000005	0.049030	
NON-HISPANIC OTHERS			0.014167	0.014167	141.668560	0.000000	0.000006	0.058200	
NURSING INFANTS (< 1 YEAR OLD)			0.006351	0.006351	63.507870	0.000000	0.000005	0.053110	
NON-NURSING INFANTS (< 1 YEAR OLD)			0.015674	0.015674	156.743440	0.000000	0.000016	0.159090	
FEMALES (13+ YEARS, PREGNANT)			0.010286	0.010286	102.856890	0.000000	0.000005	0.046230	
FEMALES 13+ YEARS, NURSING			0.012008	0.012008	120.083560	0.000000	0.000006	0.055870	
CHILDREN (1-6 YEARS OLD)			0.022415	0.022415	224.149330	0.000000	0.000012	0.115370	
CHILDREN (7-12 YEARS OLD)			0.017967	0.017967	179.669450	0.000000	0.000009	0.089050	
MALES (13-19 YEARS OLD)			0.012309	0.012309	123.091890	0.000000	0.000006	0.061510	
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)			0.011108	0.011108	111.077350	0.000000	0.000005	0.051990	
MALES (20 YEARS AND OLDER)			0.010222	0.010222	102.222270	0.000000	0.000005	0.047810	
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)			0.010616	0.010616	106.162950	0.000000	0.000005	0.045250	

*Current TMRC does not include new or pending tolerances.

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

PAGE: 1

CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)	ALL EXPOSURE VALUES AS A PERCENT OF THE ADI ARE MEANINGLESS. THERE IS NO ADI FOR HCB. THE ONE SHOWN IS NOT REAL, BUT WAS MADE UP IN ORDER TO ESTIMATE IS THE ONLY VALID STATISTIC.		
		NOEL=			OPP Rfd= 0.010000						
		0.00 ppm			EPA Rfd= 0.000000						
		0.0000 mg/kg			WHO Rfd 0.000000						
		0.00 ppm			Type:						
		ONCO:									
0101010AA	CRANBERRIES	10 RAW-FRESH OR NFS	2E2939	P 5.000000	0.003000	10.00	10.00	0.000300			
0101010AA	CRANBERRIES	21 COOKED-NFS	2E2939	P 5.000000	0.003000	10.00	10.00	0.000300			
0101010AA	CRANBERRIES	31 COOKED-FRESH OR CANNED	2E2939	P 5.000000	0.003000	10.00	10.00	0.000300			
0101010JA	CRANBERRY-JUICE	15 RAW-FRESH OR CANNED	2E2939	P 5.000000	0.003000	10.00	10.00	0.000300			
0101010JA	CRANBERRY-JUICE	31 COOKED-FRESH OR CANNED	2E2939	P 5.000000	0.003000	10.00	10.00	0.000300			
050001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050001AA	APRICOTS-FRESH	21 COOKED-NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002AA	CHERRIES-FRESH	10 RAW-FRESH OR NFS	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002AA	CHERRIES-FRESH	21 COOKED-NFS	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002JA	CHERRIES-DRIED	00 NOT SPECIFIED (NO CONSUMPTION)	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002JA	CHERRIES-DRIED	15 RAW-FRESH OR CANNED	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050002JA	CHERRIES-DRIED	21 COOKED-NFS	5F3183	P 0.500000	0.003000	10.00	10.00	0.000300			
050003AA	NECTARINES	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050004AA	PEACHES-FRESH	21 COOKED-NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050004AA	PEACHES-FRESH	51 COOKED-CANNED	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050004DA	PEACHES-DRIED	21 COOKED-NFS	3F1382	P 0.500000	0.003000	10.00	10.00	0.000300			
050005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
050005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
050005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
050005DA	PLUMS-PRUNES	21 COOKED-NFS	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
050005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
050005JA	PRUNE-JUICE	10 RAW-FRESH OR NFS	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
050005JA	PRUNE-JUICE	62 COOKED-FRESH OR FROZEN-BAKED	2F2602	P 0.200000	0.003000	10.00	10.00	0.000300			
060002AA	BANANAS-UNSPEC	22 COOKED-FRESH-BAKED	8F2067	P 0.050000	0.003000	10.00	10.00	0.000300			
060002AB	BANANAS-FRESH	10 RAW-FRESH OR NFS	8F2067	P 0.050000	0.003000	10.00	10.00	0.000300			
060002AB	BANANAS-FRESH	21 COOKED-NFS	8F2067	P 0.050000	0.003000	10.00	10.00	0.000300			
060002AB	BANANAS-FRESH	31 COOKED-FRESH OR CANNED	8F2067	P 0.050000	0.003000	10.00	10.00	0.000300			
060002DA	BANANAS-DRIED	10 RAW-FRESH OR NFS	8F2067	P 0.050000	0.003000	10.00	10.00	0.000300			
060002DA	BANANAS-DRIED	21 COOKED-NFS	8F2067	P 0.050000	0.003000	10.00	10.00	0.000300			
060100AA	PAPAYAS-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	6E1761	P 15.00000	0.003000	10.00	10.00	0.000300			
060100AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	6E1761	P 15.00000	0.003000	10.00	10.00	0.000300			
060100AB	PAPAYAS-PULP	51 COOKED-CANNED	6E1761	P 15.00000	0.003000	10.00	10.00	0.000300			

DATE: 04/07/88

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 999A

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
			NO TOLERANCES	0	AN ADI IS REQUIRED FOR A TAS ANALYSIS. THERE IS NO ADI FOR HCB. THE ONE SHOWN IS NOT REAL, BUT WAS MADE UP IN ORDER TO CONDUCT ONCO RISK ASSESS.	ALL EXPOSURE VALUES AS A PERCENT OF THE ADI ARE MEANINGLESS. THERE IS NO ADI FOR HCB. THE ARC ESTIMATE IS THE ONLY VALID STATISTIC.		
Hexachlorobenzene	NOEL=	FOR HCB. THE LISTED TOLERANCES ARE FOR CHLOROTHALONIL. THE ANTICIPATED RESIDUES ARE HCB ANTICIPATED RESIDUES.	OPP RfD= 0.010000	WHO RfD 0.000000				
Caswell #999A	0.0000 mg/kg		EPA RfD= 0.000000	Type:				
CAS No.	0.00 ppm							
A.I. CODE:	0.0000 mg/kg							
CFR No. 180.	0.00 ppm							
ONCO:								
FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
06010DA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS	6E1761	P 15.00000	0.003000		10.00	0.000300
06010JA	PAPAYAS-JUICE	10 RAW-FRESH OR NFS	631761	P 15.00000	0.003000		10.00	0.000300
06014AA	PASSION FRUIT	00 NOT SPECIFIED (NO CONSUMPTION)	5E1569	P 3.000000	0.003000		10.00	0.000300
06016AA	PLANTAINS	21 COOKED-NFS	8F2067	P 0.050000	0.003000		10.00	0.000300
06016AA	PLANTAINS	23 COOKED-FRESH-BOILED	8F2067	P 0.050000	0.003000		10.00	0.000300
06016AA	PLANTAINS	25 COOKED-FRESH-FRIED	8F2067	P 0.050000	0.003000		10.00	0.000300
06016AA	PLANTAINS	21 COOKED-NFS	2E2744	P 0.050000	0.003000		10.00	0.000300
07001FA	COCOA BUTTER	10 RAW-FRESH OR NFS	2E2744	P 0.050000	0.003000		10.00	0.000300
07001SA	CHOCOLATE	21 COOKED-NFS	2E2744	P 0.050000	0.003000		10.00	0.000300
07001SA	CHOCOLATE	22 COOKED-FRESH-BAKED	2E2744	P 0.050000	0.003000		10.00	0.000300
07001SA	CHOCOLATE	21 COOKED-NFS	2E2744	P 0.200000	0.003000		10.00	0.000300
07002AA	COFFEE	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10002AA	CANTALOUPE-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.003000		10.00	0.000300
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10002AB	CANTALOUPE-PULP	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10003AA	CASABAS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10004AA	CRENSHAW	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.003000		10.00	0.000300
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10007AA	PERSION MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.003000		10.00	0.000300
10008AA	WATERMELON	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10008AA	WATERMELON	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10010AA	CUCUMBERS	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED	1F1024	P 5.000000	0.003000		10.00	0.000300
10010AA	CUCUMBERS	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10011AA	PUMPKIN	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10011AA	PUMPKIN	22 COOKED-FRESH-BAKED	1F1024	P 5.000000	0.003000		10.00	0.000300
10011AA	PUMPKIN	62 COOKED-FRESH OR FROZEN-BAKED	1F1024	P 5.000000	0.003000		10.00	0.000300
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10014AA	SQUASH-WINTER	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10014AA	SQUASH-WINTER	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	0.003000		10.00	0.000300
10017AA	BITTER MELON	21 COOKED-NFS	1F1024	P 5.000000	0.003000		10.00	0.000300
10020AA	TOMEGOURD	00 NOT SPECIFIED (NO CONSUMPTION)	1F1024	P 5.000000	0.003000		50.00	0.001500
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		50.00	0.001500
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	1F1024	P 5.000000	0.003000		50.00	0.001500
11005AA	TOMATOES-WHOLE	31 COOKED-FRESH OR CANNED	1F1024	P 5.000000	0.003000		50.00	0.001500
11005JA	TOMATOES-JUICE	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		50.00	0.001500
11005JA	TOMATOES-JUICE	21 COOKED-NFS	1F1024	P 5.000000	0.003000		50.00	0.001500
11005RA	TOMATOES-PUREE	10 RAW-FRESH OR NFS	1F1024	P 5.000000	0.003000		50.00	0.001500
11005RA	TOMATOES-PUREE	21 COOKED-NFS	1F1024	P 5.000000	0.003000		50.00	0.001500

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 999A

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)	EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
									STUDY TYPE	NOEL=	THE LISTED TOLERANCES ARE FOR	CHLOROTHALONIL. THE ANTICIPATED RESIDUES ARE	HCB ANTICIPATED RESIDUES.	0	
	Hexachlorobenzene														
	Caswell #999A														
	CAS No.														
	A.I. CODE:														
	CFR No. 180.														
	ONCO:														

DATE: 04/07/88

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 999A

FOOD CODE	FOOD	FOOD FORM	EFFECTS		TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
			STUDY TYPE	NO TOLERANCES					
			CHEMICAL	NOEL=	0.0000 mg/kg	FOR HCB. THE LISTED TOLERANCES ARE FOR CHLOROTHALONIL. THE ANTICIPATED RESIDUES ARE HCB ANTICIPATED RESIDUES.	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
				CAS No.	0.00 ppm		OPP RED= 0.0100000 EPA RED= 0.0000000 WHO RED 0.0000000 Type:	AN ADI IS REQUIRED FOR A TAS ANALYSIS. THERE IS NO ADI FOR HCB. THE ONE SHOWN IS NOT REAL, BUT WAS MADE UP IN ORDER TO CONDUCT ONCO RISK ASSESS.	ALL EXPOSURE VALUES AS A PERCENT OF THE ADI ARE MEANINGLESS. THERE IS NO ADI FOR HCB. THE ARC ESTIMATE IS THE ONLY VALID STATISTIC.
				A.I. CODE:	0.0000 mg/kg				
				CFR No. 180.	0.00 ppm				
				ONCO:					
14013AC	POTATO(WH)-PULP	22 COOKED-FRESH-BAKED	9F0743	P	0.100000	0.003000	10.00	0.000300	
14013AC	POTATO(WH)-PULP	23 COOKED-FRESH-BOILED	9F0743	P	0.100000	0.003000	10.00	0.000300	
14013AC	POTATO(WH)-PULP	25 COOKED-FRESH-FRIED	9F0743	P	0.100000	0.003000	10.00	0.000300	
14013DA	POTATO(WH)-DRY	10 RAW-FRESH OR NFS	9F9743	P	0.100000	0.003000	10.00	0.000300	
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	9F9743	P	0.100000	0.003000	10.00	0.000300	
14013HA	POTATO(WH)-PEEL	22 COOKED-FRESH-BAKED	9F0743	P	0.100000	0.003000	10.00	0.000300	
14017AA	SHALLOTS	00 NOT SPECIFIED (NO CONSUMPTION)	4E1502	P	0.500000	0.003000	50.00	0.001500	
14021AA	PARSNIPS	21 COOKED-NFS	7E1887	P	1.000000	0.003000	100.00	0.003000	
15001AA	BEANS-DRY-GRY NO	00 NOT SPECIFIED (NO CONSUMPTION)	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AB	BEANS-DRY-KIDNEY 21	COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AB	BEANS-DRY-KIDNEY 31	COOKED-FRESH OR CANNED	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AC	BEANS-DRY-LIMA	21 COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AD	BEANS-DRY-NAVY	21 COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AD	BEANS-DRY-NAVY 31	COOKED-FRESH OR CANNED	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AE	BEANS-DRY-OTHER	21 COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AE	BEANS-DRY-OTHER 25	COOKED-FRESH-FRIED	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AE	BEANS-DRY-OTHER 31	COOKED-FRESH OR CANNED	4F2980	P	0.100000	0.003000	25.00	0.000750	
15001AF	BEANS-DRY-PINTO 21	COOKED-NFS	1F1024	P	5.000000	0.003000	25.00	0.000750	
15003AA	BEANS-SUC-GREEN	21 COOKED-NFS	1F1024	P	5.000000	0.003000	10.00	0.000300	
15005AA	CORN, SWEET	10 RAW-FRESH OR NFS	7F0599	P	1.000000	0.003000	10.00	0.000300	
15005AA	CORN, SWEET	21 COOKED-NFS	7F0599	P	1.000000	0.003000	10.00	0.000300	
15005AA	CORN, SWEET	31 COOKED-FRESH OR CANNED	7F0599	P	1.000000	0.003000	10.00	0.000300	
15006AA	PEANUTS-WHOLE	10 RAW-FRESH OR NFS	1F1024	P	0.300000	0.003000	70.00	0.002100	
15006AA	PEANUTS-WHOLE	21 COOKED-NFS	1F1024	P	0.300000	0.003000	70.00	0.002100	
15006AA	PEANUTS-WHOLE	22 COOKED-FRESH-BAKED	1F1024	P	0.300000	0.003000	70.00	0.002100	
15013AA	MUNG BEANS	10 RAW-FRESH OR NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15013AA	MUNG BEANS	21 COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15022AA	BEANS-DRY-BROAD	00 NOT SPECIFIED (NO CONSUMPTION)	4F2980	P	0.100000	0.003000	25.00	0.000750	
15023AA	BEANS-DRY-PIGEON 21	COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15029AA	SOYBEAN-SPROUTED	00 NOT SPECIFIED (NO CONSUMPTION)	6F1799	P	0.200000	0.006000	100.00	0.006000	
15030AA	BEANS-DRY-HYAC	00 NOT SPECIFIED (NO CONSUMPTION)	4F2980	P	0.100000	0.003000	25.00	0.000750	
15031AA	BLKVE PEAS-DRY	21 COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15032AA	BEANS-DRY	21 COOKED-NFS	4F2980	P	0.100000	0.003000	25.00	0.000750	
15032AA	BEANS-DRY	31 COOKED-FRESH OR CANNED	4F2980	P	0.100000	0.003000	25.00	0.000750	
16004AA	ONIONS-GREEN	10 RAW-FRESH OR NFS	4E1502	P	5.000000	0.003000	50.00	0.001500	
16004AA	ONIONS-GREEN	21 COOKED-NFS	4E1502	P	5.000000	0.003000	50.00	0.001500	
16004AA	ONIONS-GREEN	25 COOKED-FRESH-FRIED	4E1502	P	5.000000	0.003000	70.00	0.002100	
27007OA	PEANUTS-OIL	18 PROCESSED OIL	1F1024	P	0.300000	0.003000	100.00	0.006000	
27010OA	SOYBEANS-OIL	18 PROCESSED OIL	6F1799	P	0.200000	0.006000	100.00	0.006000	
28023AA	SOYBEF	21 COOKED-NFS	6F1799	P	0.200000	0.006000	100.00	0.006000	

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
			TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED		
Hexachlorobenzene	NOEL= 0.0000 mg/kg	THERE ARE NO TOLERANCES FOR HCB. THE LISTED TOLERANCES ARE FOR CHLOROTHALONIL. THE ANTICIPATED RESIDUES ARE HCB ANTICIPATED RESIDUES.	P 0.200000	OPP RfD= 0.010000	AN ADI IS REQUIRED FOR A TAS ANALYSIS. THERE IS NO ADI FOR HCB. THE ONE SHOWN IS NOT REAL, BUT WAS MADE UP IN ORDER TO CONDUCT ONCO RISK ASSESS.	100.00	ALL EXPOSURE VALUES AS A PERCENT OF THE ADI ARE MEANINGLESS. THERE IS NO ADI FOR HCB. THE ARC ESTIMATE IS THE ONLY VALID STATISTIC.	
Caswell #999A	0.00 ppm		P 0.200000	EPA RfD= 0.000000		100.00		
CAS No.	LEL= 0.0000 mg/kg		P 0.200000	WHO RfD 0.000000		100.00		
A.I. CODE:	0.00 ppm		P 0.200000	Type:		100.00		
CFR No. 180.	ONCO:		P 0.200000			100.00		
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	0.006000		100.00	0.006000
28023AB	SOYBEANS-DRY	21 COOKED-NFS	6F1799	P 0.200000	0.006000		100.00	0.006000
28023AB	SOYBEANS-DRY	23 COOKED-FRESH-BOILED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023AB	SOYBEANS-DRY	25 COOKED-FRESH-FRIED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023AB	SOYBEANS-DRY	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WA	SOY-FL, FULL FAT	21 COOKED-NFS	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WA	SOY-FL, FULL FAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WA	SOY-FL, FULL FAT	31 COOKED-FRESH OR CANNED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WB	SOY-FL, LOW FAT	21 COOKED-NFS	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WC	SOY-FL,DEFAT	10 RAW-FRESH OR NFS	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WC	SOY-FL,DEFAT	21 COOKED-NFS	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WC	SOY-FL,DEFAT	22 COOKED-FRESH-BAKED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WC	SOY-FL,DEFAT	51 COOKED-CANNED	6F1799	P 0.200000	0.006000		100.00	0.006000
28023WC	SOY-FL,DEFAT	53 COOKED-CANNED-BOILED	6F1799	P 0.200000	0.006000		100.00	0.006000
28080AA	PEPPERMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	0.003000		100.00	0.003000
28080AA	PEPPERMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	0.003000		100.00	0.003000
28081AA	PEPPERMINT	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	0.003000		100.00	0.003000
28081AA	PEPPERMINT-OIL	00 NOT SPECIFIED (NO CONSUMPTION)	1E2473	P 2.000000	0.003000		100.00	0.003000