

US EPA ARCHIVE DOCUMENT



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

Caswell #160
420

MAR 29 1995

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Dietary Exposure and Risk Estimates for Endosulfan.

FROM: Jennifer M. Wintersteen
Dietary Risk Evaluation Section
Science Analysis Branch/HED

Jennifer M. Wintersteen
(7509C)

TO: Sepehr Haddad, Chemical Manager
Special Review Branch
Special Review and Reregistration Division
and
Christina Scheltema, Chemical Manager
Special Review Section
RCAB/HED

THROUGH: Elizabeth A. Doyle, Ph.D., Section Head
Dietary Risk Evaluation Section
Science Analysis Branch/Health Effects Division

E.A. Doyle
W. Brinn

Action Requested

Provide a DRES analysis for endosulfan which includes estimates of dietary risk from chronic exposure and acute exposure. This analysis was prompted by a recent Agency decision that endosulfan was an acute dietary toxicant. This is the first time that acute exposure has been calculated for endosulfan using the DRES system.

Discussion

I. Toxicological Endpoints

Chronic Endpoint: The chronic risk analysis used a Reference Dose (RfD) of 0.006 mg/kg body weight/day, based on a no observed effect level (NOEL) of 0.6 mg/kg bwt/day and an uncertainty factor of 100. The NOEL is taken from a long term feeding study in rats. Toxicity was evident at 2.9 mg/kg bwt/day in male rats and included blood vessel aneurysms and other effects. A NOEL from a chronic study in dogs of 0.6 mg/kg bwt/day is considered a co-critical study and supportive of the NOEL in rats. (G. Ghali memo, 10/13/92).

Acute Endpoint: In an HED document, Endosulfan Toxicology Endpoint Selection



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

①

III. Results

Chronic Exposure

The DRES chronic analysis used tolerance level residues to calculate the Theoretical Maximum Residue Contribution (TMRC) for the overall U.S. population and 22 population subgroups. Refinements in residue and percent crop treated information were considered in calculating the Anticipated Residue Contribution (ARC) for those same population groups. The ARC is considered the more accurate estimate of dietary exposure. These exposure estimates were then compared to the RfD for endosulfan to get estimates of chronic dietary risk. Summaries of the TMRCs, ARCs, and their representations as percentages of the RfD are attached as Table 2.

Using Anticipated Residues:

<u>Subgroup</u>	<u>Exposure(mg/kg/day)</u>	<u>%Reference Dose</u>
U.S. population	0.001227	20
Females 13+, Nursing	0.001802	30
Children (1-6 yrs)	0.001718	29

The ARC for the U.S. population from published uses of endosulfan is 1.2×10^{-3} mg/kg bwt/day, which represents 20% of the RfD. The pending (poultry and eggs) and new tolerances (hops) in the DRES database for endosulfan contribute an insignificant amount to the percent of the Reference Dose, that is, < 1%.

The ARCs for the two most highly exposed DRES subgroups, females 13+ who are nursing and children (1-6), do not exceed the Reference Dose. Chronic dietary exposure from endosulfan seems to be of little concern for all DRES subgroups.

Acute Exposure

The DRES detailed acute exposure analysis evaluates individual food consumption as reported by respondents in the USDA 77-78 Nationwide Food Consumption Survey (NFCS) and estimates the distribution of single day exposures through the diet for the U.S. population and certain subgroups. The analysis assumes uniform distribution of endosulfan in the commodity supply. The toxicological effect seen in animal studies was neurotoxicity. All standard DRES subgroups, therefore, are of concern. The analysis includes the U.S. population-48 states and four subgroups: Infants (< 1 year), children (1-6 years), females (13+ years) and males (13+ years).

The Margin of Exposure (MOE) is a measure of how closely the high end exposure comes to the NOEL (the highest dose at which no effects were observed in the laboratory test), and is calculated as the ratio of the NOEL to the exposure ($\text{NOEL/exposure} = \text{MOE}$). The Agency is not generally concerned unless the MOE is below 100 when based upon data generated in animal studies.

In the analysis, tolerance level residues were used to calculate the high end and mean exposures for all subgroups. High end and mean exposures were compared to the NOEL of 0.7 mg/kg bwt/day from the rabbit developmental study to get both high end and mean Margins of Exposure (MOE). The table below provides the calculated MOEs for all subgroups.

Table 1.

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 420

PAGE: 1

DATE: 03/21/95

1



CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Endosulfan Caswell #420 CAS No. 115-29-7 A.I. CODE: 079401 CFR No. 180.182 185.2600	2yr feeding- rat NOEL= 0.6000 mg/kg 15.00 ppm LEL= 2.9000 mg/kg 75.00 ppm ONCO: Group E	Decr body wt gain M&F; incr incidence of progressive glomerulonephrosis & blood vessel aneurysms in M; No evidence of carcinogenicity in rats/mice	PADI UF -->100 OPP Rfd= 0.006000 EPA Rfd= 0.006000	Developmental tox- rat (core supplementary) 1yr dog co-principal - NOEL=0.57 mg/kg; LEL=1.9 mg/kg (decr wt gains M; neurologic findings M&F)	WHO reviewed 1989 Rfd/PR reviewed 03/20/92 Rfd/PR reviewed 10/01/92 EPA reviewed 11/04/92 Rfd/PR reviewed 03/25/93 EPA verified 03/31/93

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
01006AA	RASPBERRIES	10 RAW-FRESH OR NFS	7E1940	P 0.100000	0.030000	FDA MON.	100.00	0.030000
01006AA	RASPBERRIES	15 RAW-FRESH OR CANNED	7E1940	P 0.100000	0.030000	FDA MON.	100.00	0.030000
01006AA	RASPBERRIES	31 COOKED-FRESH OR CANNED	7E1940	P 0.100000	0.030000	FDA MON.	100.00	0.030000
01006AA	RASPBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	7E1940	P 0.100000	0.030000	FDA MON.	100.00	0.030000
01006AA	RASPBERRIES	70 RAW-FROZEN	7E1940	P 0.100000	0.030000	FDA MON.	100.00	0.030000
01009AA	BLUEBERRIES	10 RAW-FRESH OR NFS	1F1034	P 0.100000	0.023000	FDA MON.	100.00	0.023000
01009AA	BLUEBERRIES	21 COOKED-NFS	1F1034	P 0.100000	0.023000	FDA MON.	100.00	0.023000
01009AA	BLUEBERRIES	22 COOKED-FRESH-BAKED	1F1034	P 0.100000	0.023000	FDA MON.	100.00	0.023000
01009AA	BLUEBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	1F1034	P 0.100000	0.023000	FDA MON.	100.00	0.023000
01014AA	GRAPES-FRESH	10 RAW-FRESH OR NFS	238	P 2.000000	0.030000	FDA MON.	100.00	0.030000
01014AA	GRAPES-FRESH	21 COOKED-NFS	238	P 2.000000	0.030000	FDA MON.	100.00	0.030000
01014AA	GRAPES-FRESH	31 COOKED-FRESH OR CANNED	238	P 2.000000	0.030000	FDA MON.	100.00	0.030000
01014DA	GRAPES-RAISINS	10 RAW-FRESH OR NFS	238	P 2.000000	0.030000C	FDA MON + PROC	100.00	0.030000
01014DA	GRAPES-RAISINS	22 COOKED-FRESH-BAKED	238	P 2.000000	0.030000C	FDA MON + PROC	100.00	0.030000
01014DA	GRAPES-RAISINS	21 COOKED-NFS	238	P 2.000000	0.030000C	FDA MON + PROC	100.00	0.030000
01014JA	GRAPES-JUICE	10 RAW-FRESH OR NFS	238	P 2.000000	0.030000	FDA MON.	100.00	0.030000
01014JA	GRAPES-JUICE	15 RAW-FRESH OR CANNED	238	P 2.000000	0.030000	FDA MON.	100.00	0.030000
01014JA	GRAPES-JUICE	21 COOKED-NFS	237	P 2.000000	0.030000	FDA MON.	100.00	0.030000
01016AA	STRAWBERRIES	10 RAW-FRESH OR NFS	237	P 2.000000	0.240000	FDA MON.	100.00	0.240000
01016AA	STRAWBERRIES	21 COOKED-NFS	237	P 2.000000	0.240000	FDA MON.	100.00	0.240000
01016AA	STRAWBERRIES	70 RAW-FROZEN	237	P 2.000000	0.240000	FDA MON.	100.00	0.240000
03001AA	ALMONDS	10 RAW-FRESH OR NFS	3F1314	P 0.200000	0.200000	FDA MON.	1.00	0.002000
03001AA	ALMONDS	21 COOKED-NFS	3F1314	P 0.200000	0.200000	FDA MON.	1.00	0.002000
03001AA	ALMONDS	22 COOKED-FRESH-BAKED	3F1314	P 0.200000	0.200000	FDA MON.	1.00	0.002000
03005AA	FILBERTS	10 RAW-FRESH OR NFS	0F0922	P 0.200000	0.200000	FDA MON.	100.00	0.200000
03005AA	FILBERTS	21 COOKED-NFS	0F0922	P 0.200000	0.200000	FDA MON.	100.00	0.200000
03005AA	FILBERTS	22 COOKED-FRESH-BAKED	0F0922	P 0.200000	0.200000	FDA MON.	100.00	0.200000
03007AA	MACADAMIA NUTS	10 RAW-FRESH OR NFS	0F0922	P 0.200000	0.200000	FDA MON.	21.00	0.042000
03008AA	PECANS	10 RAW-FRESH OR NFS	0F0922	P 0.200000	0.200000	FDA MON.	21.00	0.042000
03008AA	PECANS	21 COOKED-NFS	0F0922	P 0.200000	0.200000	FDA MON.	21.00	0.042000
03008AA	PECANS	22 COOKED-FRESH-BAKED	0F0922	P 0.200000	0.200000	FDA MON.	21.00	0.042000
03008AA	PECANS	23 COOKED-FRESH-BOILED	0F0922	P 0.200000	0.200000	FDA MON.	21.00	0.042000
03008AA	PECANS	62 COOKED-FRESH OR FROZEN-BAKED	0F0922	P 0.200000	0.200000	FDA MON.	1.00	0.002000
03009AA	WALNUTS	10 RAW-FRESH OR NFS	0F0922	P 0.200000	0.200000	FDA MON.	1.00	0.002000
03009AA	WALNUTS	21 COOKED-NFS	0F0922	P 0.200000	0.200000	FDA MON.	1.00	0.002000
03009AA	WALNUTS	22 COOKED-FRESH-BAKED	0F0922	P 0.200000	0.200000	FDA MON.	1.00	0.002000
04001AA	APPLES-FRESH	10 RAW-FRESH OR NFS	NO PET#	P 2.000000	0.030000	FDA MON.	100.00	0.030000
04001AA	APPLES-FRESH	21 COOKED-NFS	NO PET#	P 2.000000	0.030000	FDA MON.	100.00	0.030000
04001AA	APPLES-FRESH	31 COOKED-FRESH OR CANNED	NO PET#	P 2.000000	0.030000	FDA MON.	100.00	0.030000
04001AA	APPLES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	NO PET#	P 2.000000	0.030000	FDA MON.	100.00	0.030000

Table 1.

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 420

PAGE: 3

DATE: 03/21/95

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Endosulfan Caswell #420 CAS No. 115-29-7 A.I. CODE: 079401 CFR No. 180.182 185.2600	2yr feeding- rat NOEL= LEL= ONCO: Group E	Decr body wt gain M&F; incr incidence of progre- ssive glomerulonephrosis & blood vessel aneurysms in M; No evidence of car- cinogenicity in rats/mice	PADI UF -->100 OPP RfD= 0.006000 EPA RfD= 0.006000	Developmental tox- rat (core supplementary) 1yr dog co-principal - NOEL=0.57 mg/kg; LEL=1.9 mg/kg (decr wt gains M; neurologic findings M&F	WHO reviewed 03/20/92 RfD/PR reviewed 10/01/92 EPA reviewed 11/04/92 RfD/PR reviewed 03/25/93 EPA verified 03/31/93

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
06013DA	PINEAPPLE-DRIED	10 RAW-FRESH OR NFS	7F0526	P 2.000000	0.023000	FDA MON.	100.00	0.023000
06013JA	PINEAPPLE-JUICE	10 RAW-FRESH OR NFS	7F0526	P 2.000000	0.005000C	FDA MON + PROC	100.00	0.005000
06013JA	PINEAPPLE-JUICE	15 RAW-FRESH OR CANNED	7F0526	P 2.000000	0.005000C	FDA MON + PROC	100.00	0.005000
06013JA	PINEAPPLE-JUICE	21 COOKED-NFS	7F0526	P 2.000000	0.005000C	FDA MON + PROC	100.00	0.005000
06013JA	PINEAPPLE-JUICE	31 COOKED-FRESH OR CANNED	7F0526	P 2.000000	0.005000C	FDA MON + PROC	100.00	0.005000
07003AA	TEA	21 COOKED-NFS	NO PET#	P 24.000000	24.000000	IMPORT TOL	100.00	24.000000
08020AA	HOPS	21 COOKED-NFS	9H5579	N 10.000000	10.000000	IMPORT TOL	49.00	4.900000
10002AA	CANTALOUPE-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	338	P 2.000000	0.140000	FDA MON.	100.00	0.140000
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	338	P 2.000000	0.140000	FDA MON.	100.00	0.140000
10002AB	CANTALOUPE-PULP	21 COOKED-NFS	338	P 2.000000	0.140000	FDA MON.	100.00	0.140000
10003AA	CASABAS	10 RAW-FRESH OR NFS	338	P 2.000000	0.190000	FDA MON TRANSL.	100.00	0.190000
10004AA	CRENSHAWNS	00 NOT SPECIFIED (NO CONSUMPTION)	338	P 2.000000	2.000000	FDA MON.	24.00	0.480000
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	338	P 2.000000	0.190000	FDA MON.	100.00	0.190000
10007AA	PERSTON MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	338	P 2.000000	2.000000	FDA MON.	24.00	0.480000
10008AA	WATERMELON	10 RAW-FRESH OR NFS	338	P 2.000000	0.030000	FDA MON.	100.00	0.030000
10010AA	CUCUMBERS	21 COOKED-NFS	338	P 2.000000	0.030000	FDA MON.	100.00	0.030000
10010AA	CUCUMBERS	11 RAW-FRESH OR NFS	338	P 2.000000	0.150000	FDA MON.	100.00	0.150000
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED	338	P 2.000000	0.150000	FDA MON.	100.00	0.150000
10010AA	CUCUMBERS	21 COOKED-NFS	338	P 2.000000	0.150000	FDA MON.	100.00	0.150000
10011AA	PUMPKIN	21 COOKED-NFS	338	P 2.000000	0.030000	FDA MON.	100.00	0.030000
10011AA	PUMPKIN	22 COOKED-FRESH-BAKED	338	P 2.000000	0.030000	FDA MON.	100.00	0.030000
10011AA	PUMPKIN	62 COOKED-FRESH OR FROZEN-BAKED	338	P 2.000000	0.110000	FDA MON.	100.00	0.110000
10013AA	SQUASH-SUMMER	21 COOKED-NFS	338	P 2.000000	0.030000	FDA MON.	100.00	0.030000
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	338	P 2.000000	0.110000	FDA MON.	100.00	0.110000
10014AA	SQUASH-WINTER	21 COOKED-NFS	338	P 2.000000	0.110000	FDA MON.	100.00	0.110000
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	338	P 2.000000	0.110000	FDA MON.	100.00	0.110000
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	338	P 2.000000	0.110000	FDA MON.	100.00	0.110000
10017AA	BITTER MELON	21 COOKED-NFS	338	P 2.000000	0.030000	FDA MON.	100.00	0.030000
10020AA	TOWELGOURD	00 NOT SPECIFIED (NO CONSUMPTION)	338	P 2.000000	2.000000	FDA MON.	100.00	2.000000
11001AA	EGGPLANT	10 RAW-FRESH OR NFS	280	P 2.000000	0.040000	FDA MON.	100.00	0.040000
11001AA	EGGPLANT	21 COOKED-NFS	280	P 2.000000	0.040000	FDA MON.	100.00	0.040000
11001AA	EGGPLANT	25 COOKED-FRESH-FRIED	280	P 2.000000	0.040000	FDA MON.	100.00	0.040000
11003AA	PEPPERS,SWEET	10 RAW-FRESH OR NFS	280	P 2.000000	0.070000	FDA MON.	100.00	0.070000
11003AA	PEPPERS,SWEET	21 COOKED-NFS	280	P 2.000000	0.070000	FDA MON.	100.00	0.070000
11003AB	PEPPERS-OTHER	00 NOT SPECIFIED (NO CONSUMPTION)	280	P 2.000000	0.090000	FDA MON.	100.00	0.090000
11003AD	PEPPERS-OTHER	10 RAW-FRESH OR NFS	280	P 2.000000	0.070000	FDA MON.	100.00	0.070000
11003AD	PEPPERS-OTHER	21 COOKED-NFS	280	P 2.000000	0.070000	FDA MON.	100.00	0.070000
11003AD	PEPPERS-OTHER	51 COOKED-CANNED	280	P 2.000000	0.070000	FDA MON.	100.00	0.070000
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	280	P 2.000000	0.030000	FDA MON.	100.00	0.030000
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	280	P 2.000000	0.030000	FDA MON.	100.00	0.030000

Table 1.

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 420

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Endosulfan Caswell #420 CAS No. 115-29-7 A.I. CODE: 079401 CFR No. 180.182 185.2600	2yr feeding- rat NOEL= 0.6000 mg/kg 15.00 ppm LEL= 2.9000 mg/kg 75.00 ppm ONCO: Group E	Decr body wt gain M&F; incr incidence of progressive glomerulonephrosis & blood vessel aneurysms in M; No evidence of carcinogenicity in rats/mice	PADI UF -->100 OPP RfD= 0.006000 EPA RfD= 0.006000	Developmental tox- rat (core supplementary) 1yr dog co-principal - NOEL=0.57 mg/kg; LEL=1.9 mg/kg (decr wt gains M; neurologic findings M&F)	WHO reviewed 03/20/92 RfD/PR reviewed 10/01/92 EPA reviewed 11/04/92 RfD/PR reviewed 03/25/93 EPA verified 03/31/93

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
13045AA	LETTUCE-HEAD	10 RAW-FRESH OR NFS	8F0723	P 2.000000	0.070000	FDA MON.	100.00	0.070000
13045AA	LETTUCE-HEAD	21 COOKED-NFS	8F0723	P 2.000000	0.070000	FDA MON.	100.00	0.070000
14003AA	CARROTS	10 RAW-FRESH OR NFS	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14003AA	CARROTS	21 COOKED-NFS	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14003AA	CARROTS	23 COOKED-FRESH-BOILED	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14003AA	CARROTS	31 COOKED-FRESH OR CANNED	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14003AA	CARROTS	51 COOKED-CANNED	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14013AA	POTATO(WH)-WHOLE	10 RAW-FRESH OR NFS	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AA	POTATO(WH)-WHOLE	21 COOKED-NFS	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AA	POTATO(WH)-WHOLE	22 COOKED-FRESH-BAKED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AB	POTATO(WH)-UNSP	22 COOKED-FRESH-BAKED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AC	POTATO(WH)-PULP	21 COOKED-NFS	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AC	POTATO(WH)-PULP	22 COOKED-FRESH-BAKED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AC	POTATO(WH)-PULP	23 COOKED-FRESH-BOILED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013AC	POTATO(WH)-PULP	25 COOKED-FRESH-FRIED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14013DA	POTATO(WH)-PEEL	22 COOKED-FRESH-BAKED	0F0925	P 0.200000	0.030000	FDA MON TRANS	100.00	0.030000
14018AA	SWEETPOTATOES	21 COOKED-NFS	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14018AA	SWEETPOTATOES	31 COOKED-FRESH OR CANNED	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
14018AA	SWEETPOTATOES	51 COOKED-CANNED	7F0526	P 0.200000	0.030000	FDA MON.	100.00	0.030000
15001AA	BEANS-DRY-GRN NO	00 NOT SPECIFIED (NO CONSUMPTION)	7F0526	P 2.000000	2.000000	FDA MON TRANS	100.00	2.000000
15001AB	BEANS-DRY-KIDNEY	21 COOKED-NFS	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AB	BEANS-DRY-KIDNEY	31 COOKED-FRESH OR CANNED	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AC	BEANS-DRY-LIMA	21 COOKED-NFS	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AD	BEANS-DRY-NAVY	21 COOKED-NFS	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AD	BEANS-DRY-NAVY	31 COOKED-FRESH OR CANNED	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AE	BEANS-DRY-OTHER	21 COOKED-NFS	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AE	BEANS-DRY-OTHER	25 COOKED-FRESH-FRIED	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AE	BEANS-DRY-OTHER	31 COOKED-FRESH OR CANNED	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15001AF	BEANS-DRY-PINTO	21 COOKED-NFS	7F0526	P 2.000000	0.023000	FDA MON TRANS	100.00	0.023000
15002AA	BEANS-SUCC-LIMA	10 RAW-FRESH OR NFS	7F0526	P 2.000000	0.180000	FDA MON TRANS	100.00	0.180000
15002AA	BEANS-SUCC-LIMA	21 COOKED-NFS	7F0526	P 2.000000	0.180000	FDA MON TRANS	100.00	0.180000
15003AA	BEANS-SUCC-LIMA	21 COOKED-NFS	7F0526	P 2.000000	0.180000	FDA MON TRANS	100.00	0.180000
15003AB	BEANS-SUCC-OTH	10 RAW-FRESH OR NFS	7F0526	P 2.000000	0.180000	FDA MON TRANS	100.00	0.180000
15003AB	BEANS-SUCC-OTH	21 COOKED-NFS	7F0526	P 2.000000	0.180000	FDA MON TRANS	100.00	0.180000
15003AB	BEANS-SUCC-OTH	21 COOKED-NFS	7F0526	P 2.000000	0.180000	FDA MON TRANS	100.00	0.180000
15003AC	BEANS-SUCC-WAX	21 COOKED-NFS	7F0526	P 0.200000	0.110000	FIELD TRIAL	100.00	0.110000
15005AA	CORN, SWEET	10 RAW-FRESH OR NFS	7F0526	P 0.200000	0.110000	FIELD TRIAL	100.00	0.110000
15005AA	CORN, SWEET	21 COOKED-NFS	7F0526	P 0.200000	0.110000	FIELD TRIAL	100.00	0.110000
15005AA	CORN, SWEET	31 COOKED-FRESH OR CANNED	7F0526	P 0.200000	0.110000	FIELD TRIAL	100.00	0.110000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Endosulfan Caswell #420 CAS No. 115-29-7 A.I. CODE: 079401 CFR No. 180.182 185.2600	2yr feeding- rat NOEL= 0.6000 mg/kg 15.00 ppm LEL= 2.9000 mg/kg 75.00 ppm ONCO: Group E	Decr body wt gain M&F; incr incidence of progressive glomerulonephrosis & blood vessel aneurysms in M; No evidence of carcinogenicity in rats/mice	PADI UF -->100 OPP Rfd= 0.006000 EPA Rfd= 0.006000	Developmental tox- rat (core supplementary) 1yr dog co-principal - NOEL=0.57 mg/kg; LEL=1.9 mg/kg (decr wt gains M; neurologic findings M&F)	WHO reviewed 1989 Rfd/PR reviewed 03/20/92 Rfd/PR reviewed 10/01/92 EPA reviewed 11/04/92 Rfd/PR reviewed 03/25/93 EPA verified 03/31/93

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
25003SA	CANE SUGAR	21 COOKED-NFS	7F0526	P 0.500000	0.140000	REHMANITOL PROP	100.00	0.140000
25003SA	CANE SUGAR	22 COOKED-FRESH-BAKED	7F0526	P 0.500000	0.140000	REHMANITOL PROP	100.00	0.140000
25003SA	CANE SUGAR	31 COOKED-FRESH OR CANNED	7F0526	P 0.500000	0.140000	REHMANITOL PROP	100.00	0.140000
25003SB	SUGAR-MOLASSES	10 RAW-FRESH OR NFS	7F0526	P 0.500000	0.140000C	REHMANITOL PROC	100.00	0.140000
25003SB	SUGAR-MOLASSES	21 COOKED-NFS	7F0526	P 0.500000	0.140000C	REHMANITOL PROC	100.00	0.140000
25003SB	SUGAR-MOLASSES	22 COOKED-FRESH-BAKED	7F0526	P 0.500000	0.140000C	REHMANITOL PROC	100.00	0.140000
25003SB	SUGAR-MOLASSES	31 COOKED-FRESH OR CANNED	7F0526	P 0.500000	0.140000C	REHMANITOL PROC	100.00	0.140000
270030A	COTTONSEED-OIL	18 PROCESSED OIL	0F0929	P 1.000000	1.000000		1.00	0.010000
27003WA	COTTONSEED-MEAL	18 PROCESSED OIL	0F0929	P 1.000000	1.000000		1.00	0.010000
27008AA	SAFFLOWER-SEED	00 NOT SPECIFIED (NO CONSUMPTION)	0F0929	P 0.200000	0.130000	FIELD TRIAL	100.00	0.130000
270080A	SAFFLOWER-OIL	18 PROCESSED OIL	0F0929	P 0.200000	0.130000	FIELD TRIAL	100.00	0.130000
270110A	SUNFLOWER-OIL	18 PROCESSED OIL	7F0526	P 2.000000	2.000000		100.00	2.000000
27017AA	RAPE SEED	00 NOT SPECIFIED (NO CONSUMPTION)	3E1300	P 0.200000	0.200000		100.00	0.200000
500000B	MILK-NON-FAT SOL	10 RAW-FRESH OR NFS	8F0632	P 0.100000	0.001000		100.00	0.001000
500000B	MILK-NON-FAT SOL	21 COOKED-NFS	8F0632	P 0.100000	0.001000		100.00	0.001000
500000B	MILK-NON-FAT SOL	51 COOKED-CANNED	8F0632	P 0.100000	0.001000		100.00	0.001000
50000FA	MILK-FAT SOLIDS	10 RAW-FRESH OR NFS	8F0632	P 0.500000	0.001000		100.00	0.001000
50000FA	MILK-FAT SOLIDS	21 COOKED-NFS	8F0632	P 0.500000	0.001000		100.00	0.001000
50000FA	MILK-FAT SOLIDS	51 COOKED-CANNED	8F0632	P 0.500000	0.001000		100.00	0.001000
50000SA	MILK SUG (LACT)	21 COOKED-NFS	8F0632	P 0.100000	0.001000		100.00	0.001000
50000SA	MILK SUG (LACT)	51 COOKED-CANNED	8F0632	P 0.100000	0.001000		100.00	0.001000
53001BA	BEEF-MEAT BYP	21 COOKED-NFS	8F0632	P 0.200000	0.002000		100.00	0.002000
53001BA	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	8F0632	P 0.200000	0.002000		100.00	0.002000
53001BB	BEEF-MEAT BYP	21 COOKED-NFS	8F0632	P 0.200000	0.002000		100.00	0.002000
53001BB	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	8F0632	P 0.200000	0.002000		100.00	0.002000
53001DB	BEEF-OTH ORGAN	21 COOKED-NFS	8F0632	P 0.200000	0.002000		100.00	0.002000
53001DA	BEEF-DRIED	21 COOKED-NFS	8F0632	P 0.200000	0.002000		100.00	0.002000
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS	8F0632	P 0.200000	0.003000		100.00	0.003000
53001FA	BEEF-FAT	21 COOKED-NFS	8F0632	P 0.200000	0.003000		100.00	0.003000
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED	8F0632	P 0.200000	0.003000		100.00	0.003000
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED	8F0632	P 0.200000	0.003000		100.00	0.003000
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED	8F0632	P 0.200000	0.003000		100.00	0.003000
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED	8F0632	P 0.200000	0.003000		100.00	0.003000
53001FA	BEEF-FAT	21 COOKED-NFS	8F0632	P 0.200000	0.001000		100.00	0.001000
53001KA	BEEF-KIDNEY	21 COOKED-NFS	8F0632	P 0.200000	0.002000		100.00	0.002000
53001LA	BEEF-LIVER	25 COOKED-FRESH-FRIED	8F0632	P 0.200000	0.002000		100.00	0.002000
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED	8F0632	P 0.200000	0.002000		100.00	0.002000
53001LA	BEEF-LIVER	10 RAW-FRESH OR NFS	8F0632	P 0.200000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	21 COOKED-NFS	8F0632	P 0.200000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	22 COOKED-FRESH-BAKED	8F0632	P 0.200000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	23 COOKED-FRESH-BOILED	8F0632	P 0.200000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	24 COOKED-FRESH-BROILED	8F0632	P 0.200000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	21 COOKED-FRESH-FRIED	8F0632	P 0.200000	0.001000		100.00	0.001000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			PADI UF -->100 OPP Rfd= 0.006000 EPA Rfd= 0.006000	Developmental tox- rat (core supplementary) 1yr dog co-principal - NOEL=0.57 mg/kg; LEL=1.9 mg/kg (decr wt gains M; neurologic findings M&F		
Endosulfan Caswell #420 CAS No. 115-29-7 A.I. CODE: 079401 CFR No. 180.182 185.2600	2yr feeding- rat NOEL= 0.6000 mg/kg 15.00 ppm LEL= 2.9000 mg/kg 75.00 ppm ONCO: Group E	Decr body wt gain M&F; incr incidence of progre- ssive glomerulonephrosis & blood vessel aneurysms in M; No evidence of car- cinogenicity in rats/mice				

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
55013BA	POULTRY, OTH-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	NO TOL	A 0.001000	0.001000		100.00	0.001000
55013LA	POULTRY, ORGAN	25 COOKED-FRESH-FRIED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55013MA	POULTRY, OTHER	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AA	EGGS-WHOLE	10 RAW-FRESH OR NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AA	EGGS-WHOLE	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AA	EGGS-WHOLE	22 COOKED-FRESH-BAKED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AA	EGGS-WHOLE	23 COOKED-FRESH-BOILED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AA	EGGS-WHOLE	25 COOKED-FRESH-FRIED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AB	EGGS-WHOLE	10 RAW-FRESH OR NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AB	EGGS-WHITE ONLY	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AB	EGGS-WHITE ONLY	22 COOKED-FRESH-BAKED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AB	EGGS-WHITE ONLY	62 COOKED-FRESH OR FROZEN-BAKED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AB	EGGS-WHITE ONLY	81 COOKED-FROZEN	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AC	EGGS-YOLK ONLY	10 RAW-FRESH OR NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AC	EGGS-YOLK ONLY	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AC	EGGS-YOLK ONLY	25 COOKED-FRESH-FRIED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55014AC	EGGS-YOLK ONLY	31 COOKED-FRESH OR CANNED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015BA	CHICKEN-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015LA	CHICKEN-ORGAN	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015LA	CHICKEN-ORGAN	25 COOKED-FRESH-FRIED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015LA	CHICKEN-ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MA	CHICKEN-W/O SKIN	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MA	CHICKEN-W/O SKIN	22 COOKED-FRESH-BAKED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MA	CHICKEN-W/O SKIN	25 COOKED-FRESH-FRIED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MA	CHICKEN-W/O SKIN	31 COOKED-FRESH OR CANNED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MA	CHICKEN-W/O SKIN	53 COOKED-CANNED-BOILED	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MB	CHICKEN+SKIN	21 COOKED-NFS	NO TOL	A 0.001000	0.001000		100.00	0.001000
55015MB	CHICKEN+SKIN	25 COOKED-FRESH-FRIED	NO TOL	A 0.001000	0.001000		100.00	0.001000

Table 3: Acute Dietary Exposure Distribution for Endosulfan

DETAILED ACUTE ANALYSIS INCLUDING AR'S: ALL STATISTICS BASED ON USERS' DAILY CONSUMPTION 16:38 Thursday, March 23, 1995 69
 *NAME: ENDOSULFAN
 *CASWELL NO: 420 CFR NO: CFR180.182
 *CAS NO: 00115-29-7 SHAUGHNESSY NO: 079401 B
 *STATUS CODES: C
 *RDV INFO: The LD value used in this analysis is 0.007
 *FILE INFO: No Tolerance Data Are Used--Without User Modifications.
 *RDV INFO: The LD value used in this analysis is 0.007
 *FILE INFO: No Tolerance Data Are Used--Without User Modifications.
 *RDV INFO: The LD value used in this analysis is 0.007
 *FILE INFO: No Tolerance Data Are Used--Without User Modifications.

U.S. POP.---48 STATES
 ESTIMATED % OF POTENTIAL
 MEAN DAILY RESIDUE CONTRIBUTION PER USER-DAY

ESTIMATES BASED ON TOLERANCES:	PERSON DAYS THAT ARE USER-DAYS	MG/KG BODY WEIGHT/DAY	AS PERCENT OF RDV
0.00	0	0.000000	0.00
99.82	99	0.012197	174.24
ESTIMATED % OF POPULATION USER-DAYS WITH RESIDUE CONTRIBUTION EXCEEDING X TIMES THE RDV, FOR X=			
0	0	1	2
	.2	.4	.6
	.8	1	1.2
	1	1.4	1.6
	1.8	2	3
	2	3	4
	3	4	5
	4	5	10
	15	20	

TOLERANCES:
 ANTICIPATED RESIDUES:
 MOE = 0.7 mg/kg/day ÷ 0.105 mg/kg/day = 7
 41st Percentile consumer MOE = 100
 Mean MOE = 57

INFANTS(<1 YEAR)

ESTIMATES BASED ON TOLERANCES:	PERSON DAYS THAT ARE USER-DAYS	MG/KG BODY WEIGHT/DAY	AS PERCENT OF RDV
0.00	0	0.000000	0.00
93.57	93	0.040594	579.92
ESTIMATED % OF POPULATION USER-DAYS WITH RESIDUE CONTRIBUTION EXCEEDING X TIMES THE RDV, FOR X=			
0	0	1	2
	.2	.4	.6
	.8	1	1.2
	1	1.4	1.6
	1.8	2	3
	2	3	4
	3	4	5
	4	5	10
	15	20	

TOLERANCES:
 ANTICIPATED RESIDUES:
 MOE = ?
 14th Percentile consumer MOE = 100
 Mean MOE = 17
 CHILDREN(1-6 YRS)

ESTIMATES BASED ON TOLERANCES:	PERSON DAYS THAT ARE USER-DAYS	MG/KG BODY WEIGHT/DAY	AS PERCENT OF RDV
0.00	0	0.000000	0.00
99.96	99	0.026311	375.87
ESTIMATED % OF POPULATION USER-DAYS WITH RESIDUE CONTRIBUTION EXCEEDING X TIMES THE RDV, FOR X=			
0	0	1	2
	.2	.4	.6
	.8	1	1.2
	1	1.4	1.6
	1.8	2	3
	2	3	4
	3	4	5
	4	5	10
	15	20	

TOLERANCES:
 ANTICIPATED RESIDUES:
 MOE = 0.7 mg/kg/day ÷ 0.14 mg/kg/day = 5
 14th Percentile Consumer MOE = 100
 Mean MOE = 27

Residues for Endosulfan Acute DRES Analysis

420	01006AA10	0.1000	RASPBERRIES	05002DA00	2.0000	CHERRIES-DRIED
420	01006AA15	0.1000	RASPBERRIES	05002JA15	2.0000	CHERRIES-JUICE
420	01006AA31	0.1000	RASPBERRIES	05002JA21	2.0000	CHERRIES-JUICE
420	01006AA62	0.1000	RASPBERRIES	05003AA10	2.0000	NECTARINES
420	01006AA70	0.1000	RASPBERRIES	05004AA10	2.0000	PEACHES-FRESH
420	01009AA10	0.1000	BLUEBERRIES	05004AA21	2.0000	PEACHES-FRESH
420	01009AA21	0.1000	BLUEBERRIES	05004AA31	2.0000	PEACHES-FRESH
420	01009AA22	0.1000	BLUEBERRIES	05004AA51	2.0000	PEACHES-FRESH
420	01009AA62	0.1000	BLUEBERRIES	05004DA10	2.0000	PEACHES-DRIED
420	01014AA10	2.0000	GRAPES-FRESH	05004DA21	2.0000	PEACHES-DRIED
420	01014AA21	2.0000	GRAPES-FRESH	05005AA10	2.0000	PLUMS-FRESH
420	01014AA31	2.0000	GRAPES-FRESH	05005AA31	2.0000	PLUMS-FRESH
420	01014DA10	2.0000	GRAPES-RAISINS	05005DA10	2.0000	PLUMS-PRUNES
420	01014DA21	2.0000	GRAPES-RAISINS	05005DA21	2.0000	PLUMS-PRUNES
420	01014DA22	2.0000	GRAPES-RAISINS	05005DA31	2.0000	PLUMS-PRUNES
420	01014JA10	2.0000	GRAPES-JUICE	05005JA10	2.0000	PRUNE-JUICE
420	01014JA15	2.0000	GRAPES-JUICE	05005JA62	2.0000	PRUNE-JUICE
420	01014JA21	2.0000	GRAPES-JUICE	06013AA10	2.0000	PINEAPPLE-PULP
420	01016AA10	2.0000	STRAWBERRIES	06013AA21	2.0000	PINEAPPLE-PULP
420	01016AA21	2.0000	STRAWBERRIES	06013AA31	2.0000	PINEAPPLE-PULP
420	01016AA70	2.0000	STRAWBERRIES	06013DA10	2.0000	PINEAPPLE-DRIED
420	03001AA10	0.2000	ALMONDS	06013JA10	2.0000	PINEAPPLE-JUICE
420	03001AA21	0.2000	ALMONDS	06013JA15	2.0000	PINEAPPLE-JUICE
420	03001AA22	0.2000	ALMONDS	06013JA21	2.0000	PINEAPPLE-JUICE
420	03005AA10	0.2000	FILBERTS	06013JA31	2.0000	PINEAPPLE-JUICE
420	03005AA21	0.2000	FILBERTS	07003AA21	24.0000	TEA
420	03005AA22	0.2000	FILBERTS	10002AA00	2.0000	CANTALOUPE-UNSP
420	03007AA10	0.2000	FILBERTS	10002AB10	2.0000	CANTALOUPE-PULP
420	03008AA10	0.2000	MACADAMIA NUTS	10002AB21	2.0000	CANTALOUPE-PULP
420	03008AA21	0.2000	PECANS	10003AA10	2.0000	CASABAS
420	03008AA22	0.2000	PECANS	10004AA00	2.0000	CRENSHAW
420	03008AA23	0.2000	PECANS	10005AA10	2.0000	HONEYDEW MELONS
420	03008AA62	0.2000	PECANS	10007AA00	2.0000	PERSION MELONS
420	03009AA10	0.2000	WALNUTS	10008AA10	2.0000	WATERMELON
420	03009AA21	0.2000	WALNUTS	10008AA21	2.0000	WATERMELON
420	03009AA22	0.2000	WALNUTS	10010AA10	2.0000	CUCUMBERS
420	04001AA10	2.0000	APPLES-FRESH	10010AA11	2.0000	CUCUMBERS
420	04001AA21	2.0000	APPLES-FRESH	10010AA21	2.0000	CUCUMBERS
420	04001AA31	2.0000	APPLES-FRESH	10011AA21	2.0000	CUCUMBERS
420	04001DA10	2.0000	APPLES-DRIED	10011AA22	2.0000	PUMPKIN
420	04001DA22	2.0000	APPLES-DRIED	10011AA62	2.0000	PUMPKIN
420	04001DA62	2.0000	APPLES-DRIED	10013AA10	2.0000	SQUASH-SUMMER
420	04001JA15	2.0000	APPLES-JUICE	10013AA21	2.0000	SQUASH-SUMMER
420	04003AA10	2.0000	PEARS-FRESH	10014AA10	2.0000	SQUASH-WINTER
420	04003AA31	2.0000	PEARS-FRESH	10014AA21	2.0000	SQUASH-WINTER
420	04003AA51	2.0000	PEARS-FRESH	10014AA31	2.0000	SQUASH-WINTER
420	04003DA10	2.0000	PEARS-DRIED	10017AA21	2.0000	SQUASH-WINTER
420	04003DA21	2.0000	PEARS-DRIED	10017AA31	2.0000	BITTER MELON
420	05001AA10	2.0000	APRICOTS-FRESH	10020AA00	2.0000	TOMEGOURD
420	05001AA21	2.0000	APRICOTS-FRESH	11001AA10	2.0000	EGGPLANT
420	05001DA10	2.0000	APRICOTS-DRIED	11001AA21	2.0000	EGGPLANT
420	05001DA22	2.0000	APRICOTS-DRIED	11001AA25	2.0000	EGGPLANT
420	05002AA10	2.0000	CHERRIES-FRESH	11003AA10	2.0000	PEPPERS,SWEET
420	05002AA21	2.0000	CHERRIES-FRESH	11003AA21	2.0000	PEPPERS,SWEET
420	05002AA31	2.0000	CHERRIES-FRESH	11003AB00	2.0000	CHILI PEPPERS
420	05002AA62	2.0000	CHERRIES-FRESH	11003AD10	2.0000	PEPPERS-OTHER
420				11003AD21	2.0000	PEPPERS-OTHER
420				11003AD51	2.0000	PEPPERS-OTHER
420				11005AA10	2.0000	TOMATOES-WHOLE
420				11005AA21	2.0000	TOMATOES-WHOLE
420				11005AA31	2.0000	TOMATOES-WHOLE

10

Table 4.

Residues for Endosulfan Acute DRES Analysis

420	25003SA21	0.5000	CANE SUGAR	420	53006FA21	0.2000	PORK-FAT
420	25003SA22	0.5000	CANE SUGAR	420	53006FA23	0.2000	PORK-FAT
420	25003SA31	0.5000	CANE SUGAR	420	53006FA25	0.2000	PORK-FAT
420	25003SB10	0.5000	SUGAR-MOLASSES	420	53006KA21	0.2000	PORK-KIDNEY
420	25003SB22	0.5000	SUGAR-MOLASSES	420	53006LA21	0.2000	PORK-LIVER
420	25003SB22	0.5000	SUGAR-MOLASSES	420	53006LA25	0.2000	PORK-LIVER
420	25003SB31	0.5000	SUGAR-MOLASSES	420	53006MA21	0.2000	PORK-LEAN
420	27003OA18	1.0000	COTTONSEED-OIL	420	53006MA25	0.2000	PORK-LEAN
420	27003MA18	1.0000	COTTONSEED-MEAL	420	53006MA26	0.2000	PORK-LEAN
420	27008AA00	0.2000	SAFFLOWER-SEED	420	55008BA21	0.0010	TURKEY-BYP
420	27008OA18	0.2000	SAFFLOWER-OIL	420	55008BA26	0.0010	TURKEY-BYP
420	27011OA18	2.0000	SUNFLOWER-OIL	420	55008LA21	0.0010	TURKEY ORGAN
420	27017AA00	0.2000	RAPE SEED	420	55008LA25	0.0010	TURKEY ORGAN
420	50000DB10	0.1000	MILK-NON-FAT SOL	420	55008MA21	0.0010	TURKEY W/O SKIN
420	50000DB21	0.1000	MILK-NON-FAT SOL	420	55008MA31	0.0010	TURKEY W/O SKIN
420	50000DB51	0.1000	MILK-NON-FAT SOL	420	55008MA62	0.0010	TURKEY W/O SKIN
420	50000FA10	0.5000	MILK-FAT SOLIDS	420	55008MA25	0.0010	TURKEY+SKIN
420	50000FA21	0.5000	MILK-FAT SOLIDS	420	55008MB25	0.0010	TURKEY+SKIN
420	50000FA51	0.5000	MILK-FAT SOLIDS	420	55008MC21	0.0010	TURKEY-UNSPEC
420	50000SA21	0.1000	MILK SUG (LACT)	420	55013BA00	0.0010	POULTRY,OTH-BYP
420	50000SA51	0.1000	MILK SUG (LACT)	420	55013LA25	0.0010	POULTRY,ORGAN
420	53001BA21	0.2000	BEEF-MEAT BYP	420	55014AA10	0.0010	POULTRY,OTHER
420	53001BA26	0.2000	BEEF-MEAT BYP	420	55014AA21	0.0010	EGGS-WHOLE
420	53001BB21	0.2000	BEEF-OTH ORGAN	420	55014AA22	0.0010	EGGS-WHOLE
420	53001BB51	0.2000	BEEF-OTH ORGAN	420	55014AA23	0.0010	EGGS-WHOLE
420	53001DA21	0.2000	BEEF-DRIED	420	55014AA25	0.0010	EGGS-WHOLE
420	53001FA10	0.2000	BEEF-FAT	420	55014AB10	0.0010	EGGS-WHITE ONLY
420	53001FA21	0.2000	BEEF-FAT	420	55014AB21	0.0010	EGGS-WHITE ONLY
420	53001FA22	0.2000	BEEF-FAT	420	55014AB22	0.0010	EGGS-WHITE ONLY
420	53001FA23	0.2000	BEEF-FAT	420	55014AB62	0.0010	EGGS-WHITE ONLY
420	53001FA24	0.2000	BEEF-FAT	420	55014AB81	0.0010	EGGS-WHITE ONLY
420	53001FA25	0.2000	BEEF-FAT	420	55014AC10	0.0010	EGGS-YOLK ONLY
420	53001KA21	0.2000	BEEF-KIDNEY	420	55014AC21	0.0010	EGGS-YOLK ONLY
420	53001LA25	0.2000	BEEF-LIVER	420	55014AC25	0.0010	EGGS-YOLK ONLY
420	53001LA31	0.2000	BEEF-LIVER	420	55014AC31	0.0010	EGGS-YOLK ONLY
420	53001MA10	0.2000	BEEF-LEAN	420	55015BA00	0.0010	CHICKEN-BYP
420	53001MA21	0.2000	BEEF-LEAN	420	55015LA21	0.0010	CHICKEN-ORGAN
420	53001MA22	0.2000	BEEF-LEAN	420	55015LA25	0.0010	CHICKEN-ORGAN
420	53001MA23	0.2000	BEEF-LEAN	420	55015LA26	0.0010	CHICKEN-ORGAN
420	53001MA24	0.2000	BEEF-LEAN	420	55015MA21	0.0010	CHICKEN-W/O SKIN
420	53002BA00	0.2000	GOAT-MEAT BYP	420	55015MA25	0.0010	CHICKEN-W/O SKIN
420	53002BB00	0.2000	GOAT-OTH ORGAN	420	55015MA31	0.0010	CHICKEN-W/O SKIN
420	53002FA23	0.2000	GOAT-FAT	420	55015MA53	0.0010	CHICKEN-W/O SKIN
420	53002KA00	0.2000	GOAT-KIDNEY	420	55015MB21	0.0010	CHICKEN+SKIN
420	53002LA00	0.2000	GOAT-LIVER	420	55015MB25	0.0010	CHICKEN+SKIN
420	53002MA23	0.2000	GOAT-LEAN				
420	53002MA25	0.2000	GOAT-LEAN				
420	53003AA00	0.2000	HORSE				
420	53005BA21	0.2000	SHEEP-MEAT BYP				
420	53005BB21	0.2000	SHEEP-OTH ORGAN				
420	53005FA21	0.2000	SHEEP-FAT				
420	53005KA21	0.2000	SHEEP-KIDNEY				
420	53005LA00	0.2000	SHEEP-LIVER				
420	53005MA21	0.2000	SHEEP-LEAN				
420	53005MA31	0.2000	SHEEP-LEAN				
420	53006BA21	0.2000	PORK-MEAT BYP				
420	53006BB21	0.2000	PORK-OTH ORGAN				
420	53006BB26	0.2000	PORK-OTH ORGAN				
420	53006FA10	0.2000	PORK-FAT				