



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

MEMORANDUM

APR 28 1992

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

SUBJECT: RfD Exceeders Project: Dietary Exposure Analysis
for Malathion

FROM: Stephen A. Schaible *SA Schaible*
Dietary Exposure Section
HED/SACB (H7509C) *SPK*

TO: Jack Housenger, Acting Chief *JH*
Special Review Branch
Special Review and Reregistration Division (H7508W)

As part of the RfD Exceeders Project, Dietary Exposure Section was requested by SRRD to conduct a DRES chronic exposure analysis for malathion, using anticipated residues generated by CBRS and percent of crop treated information supplied by BEAD.

Toxicological Endpoints

A Reference Dose (RfD) of 0.02 mg/kg body weight/day was used in this analysis, based on a no observed effect level (NOEL) of 0.23 mg/kg bwt/day and an uncertainty factor of 10. The RfD is based on a human cholinesterase study in which the effect was decreased cholinesterase activity. This RfD has been approved by both HED (3/06/87) and Agency (3/18/87) RfD committees.

Residue Information

Food uses evaluated in this analysis were most of the food uses listed in 40 CFR 180.111 and the food additive tolerances for raisins (12 ppm) and safflower oil (0.6 ppm) listed in 40 CFR 180.3850. The malathion tolerances listed in the CFR for "chayote fruit" and "chayote roots" were not included in the analysis because there is no comparable commodity listing in DRES. Tolerances for the commodities rhubarb, chicory, and upland cress, not present in the DRES file for malathion previously, were added for this analysis; these commodities belong to the "non-brassica leafy vegetables" crop group, for which there is a tolerance for malathion use in the CFR. Percent crop treated information used in this analysis was supplied by BEAD in the form of a Preliminary Quantitative Usage Analysis (PQUA) for malathion (B. Torla, 3/21/91). Anticipated residues used in the analysis were supplied by Chemistry Branch II-Reregistration Support (J. Smith, 3/2/92) and are based on FDA domestic and import surveillance data.



In calculating the anticipated residues, Chemistry Branch assumed a log normal distribution of the data. Utilizing the log normal distribution, anticipated residues were determined from the monitoring data such that no more than 5% of residues are predicted to be in excess of the AR values. One hundred percent crop treated was assumed in calculating the anticipated residues since the percentages of detectable residues from the monitoring data exceed the percent crop treated estimates supplied by BEAD (J. Smith memo). Since percent of crop treated information went in to the determination of the anticipated residues from the FDA monitoring data, 100 percent crop treated was assumed in the DRES analysis for those commodities where ARs were supplied. Where anticipated residues were not calculated for a commodity, tolerance level residues and percent crop treated estimates supplied in the BEAD PQUA (Torla, 3/21/91) were used.

Several assumptions were made in this analysis relating to the residue information. In the Chemistry memo, ARs are listed by commodity and the specific DRES food item to which they should apply (Table I, p.3, J. Smith memo, 3/2/92). However, in the DRES analysis, if an anticipated residue was reported for a commodity, it was applied to all DRES food items for that commodity, not just those that were listed in the Chemistry memo. For instance, in the Chemistry memo there is an AR of 0.005 ppm listed for "potatoes, whole" which in the DRES analysis was assumed for all of the potato "food items", including "pulp", "dry", "peel", and "unspecified", in addition to "whole". Other residue assumptions made in the DRES analysis were that the residues reported in the Chemistry memo for cattle and pork also applied to goats, horses, and sheep, and that the residue value given for "corn" in the Chemistry memo applied to all corn commodities in DRES (sweet corn, popcorn, and corn grain). All of these assumptions are supported by Chemistry Branch in the appendix of the malathion anticipated residue memo. Also, because the tolerance for milk in the CFR is specifically for "milk, fat", it was assumed that malathion concentrates in the fat solids of milk and therefore the DRES concentration factor for "milk, fat" was turned off. A summary of the residue information used in this analysis is attached as Table 1.

DRES Analysis

The DRES chronic exposure analysis used percent crop treated information and anticipated residues to estimate the Anticipated Residue Contribution (ARC) for the overall U.S. population and 22 population subgroups. The ARC for the overall U.S. population from published tolerances is 0.0011322 mg/kg bwt/day, which represents 57% of the RfD. Non nursing infants less than one year old is the subgroup most highly exposed and one of the two subgroups (the other being children age one through six) for which the ARC exceeds the RfD. The ARC for non-nursing infants less than one year old is 0.023542 mg/kg bwt/day, or 118% of the RfD, and the ARC for children one through six is 0.022016 mg/kg bwt/day, or 110% of the RfD. A summary of the TMRCs, the ARCs,

and their representations as percentages of the Reference Dose for the overall U.S. population and the 22 population subgroups is attached as Table 2.

Because of several assumptions made in calculating the anticipated residues and performing the DRES chronic analysis for malathion, it is expected that the ARCs are probably overestimates of dietary exposure. The assumption of 100 percent crop treated, both in the determination of the anticipated residues and in the DRES analysis for those commodities for which neither percent crop treated nor anticipated residues were supplied, serves to overestimate exposure, as does the assumption of tolerance level residues for all commodities for which ARs were not supplied. Nonetheless, using anticipated residues and percent crop treated for those commodities for which this information is available, it seems that the dietary exposure from malathion is no longer in exceedance of the RfD for most of the DRES subgroups.

Attachments

cc: DES, CBRS, Tox 1, P. Parsons, E. Budd, Caswell # 535

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TABLE 1

ANTICIPATED RESIDUE INFORMATION FOR CASSELL NUMBER 535

DATE: 03/03/92

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CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Malathion	Caswell #555 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human CHE Study	NOEL= 0.2300 mg/kg 0.00 ppm LEL= 0.3400 mg/kg 0.00 ppm ONCO: Class D (HED WOTE).	Decreased CHE activity. No evidence of oncogenicity in rats, mouse study equivocal.	PADI UF -->10 OPP RfD = 0.020000 EPA RfD = 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.				

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
01002AA	BLACKBERRIES	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		100.00	8.000000
01002AA	BLACKBERRIES	21 COOKED-NFS	89	P 8.000000	8.000000		100.00	8.000000
01002AA	BLACKBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	89	P 8.000000	8.000000		100.00	8.000000
01003AA	BOYSENBERRIES	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		100.00	8.000000
01004AA	DEARBERRIES	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 8.000000	8.000000		100.00	8.000000
01005AA	LOGANBERRIES	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 8.000000	8.000000		100.00	8.000000
01006AA	RASPBERRIES	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		100.00	8.000000
01006AA	RASPBERRIES	15 RAW-FRESH OR CANNED	89	P 8.000000	8.000000		100.00	8.000000
01006AA	RASPBERRIES	31 COOKED-FRESH OR CANNED	89	P 8.000000	8.000000		100.00	8.000000
01006AA	RASPBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	89	P 8.000000	8.000000		100.00	8.000000
01009AA	RASPBERRIES	70 RAW-FROZEN	89	P 8.000000	8.000000		100.00	8.000000
01009AA	BLUEBERRIES	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		100.00	8.000000
01009AA	BLUEBERRIES	21 COOKED-NFS	19	P 8.000000	8.000000		100.00	8.000000
01009AA	BLUEBERRIES	22 COOKED-FRESH-BAKED	19	P 8.000000	8.000000		100.00	8.000000
01009AA	BLUEBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	19	P 8.000000	8.000000		100.00	8.000000
01010AA	CRANBERRIES	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		100.00	8.000000
01010AA	CRANBERRIES	21 COOKED-NFS	19	P 8.000000	8.000000		100.00	8.000000
01010AA	CRANBERRIES	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		100.00	8.000000
01010AA	CRANBERRY-JUICE	15 RAW-FRESH OR CANNED	19	P 8.000000	8.000000		100.00	8.000000
01010AA	CRANBERRY-JUICE	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		100.00	8.000000
01011AA	CURRANTS	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		100.00	8.000000
01011AA	CURRANTS	21 COOKED-NFS	89	P 8.000000	8.000000		100.00	8.000000
01011AA	CURRANTS	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		100.00	8.000000
01013AA	GOOSEBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	89	P 8.000000	8.000000		100.00	8.000000
01014AA	GRAPES-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	8.000000
01014AA	GRAPES-FRESH	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	8.000000
01014AA	GRAPES-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	8.000000
01014AA	GRAPES-RAISINS	10 RAW-FRESH OR NFS	9H2348	P 12.00000	12.000000C		10.00	1.200000
01014AA	GRAPES-RAISINS	21 COOKED-NFS	9H2348	P 12.00000	12.000000C		10.00	1.200000
01014AA	GRAPES-RAISINS	22 COOKED-FRESH-BAKED	9H2348	P 12.00000	12.000000C		10.00	1.200000
01014AA	GRAPES-JUICE	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	8.000000
01014AA	GRAPES-JUICE	15 RAW-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	8.000000
01014AA	GRAPES-JUICE	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	8.000000
01014AA	GRAPES-JUICE	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		100.00	8.000000
01014AA	GRAPES-JUICE	21 COOKED-NFS	19	P 8.000000	8.000000		100.00	8.000000
01016AA	STRAWBERRIES	70 RAW-FROZEN	19	P 8.000000	8.000000		100.00	8.000000
02002AA	GRAPEFRUIT-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	64	P 8.000000	8.000000		2.00	0.160000
02002AA	GRAPEFRUIT-PULP	10 RAW-FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02002AA	GRAPEFRUIT-PULP	21 COOKED-NFS	64	P 8.000000	8.000000		2.00	0.160000
02002AA	GRAPEFRUIT-JUICE	15 RAW-FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000

ANTICIPATED RESIDUE INFORMATION FOR CASSELL NUMBER 535

DATE: 03/03/92

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human Che Study NOEL= 0.2500 mg/kg 0.00 ppm LEL= 0.3400 mg/kg 0.00 ppm OMCO: Class D (HED NOTE).	Decreased Che activity. No evidence of oncogeni- city in rats, mouse study equivocal.	PADI UF -->10 OPP RfD= 0.020000 EPA RfD= 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
02002JA	GRAPEFRUIT- JUICE	31 COOKED- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02003AA	KUMQUATS	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02004AA	LEMONS- UNSPEC	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02004AA	LEMONS- UNSPEC	22 COOKED- FRESH- BAKED	64	P 8.000000	8.000000		2.00	0.160000
02004AB	LEMONS- PULP	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02004AB	LEMONS- PULP	31 COOKED- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02004HA	LEMONS- PEEL	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02004JA	LEMONS- JUICE	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02004JA	LEMONS- JUICE	15 RAW- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02004JA	LEMONS- JUICE	21 COOKED- NFS	64	P 8.000000	8.000000		2.00	0.160000
02004JA	LEMONS- JUICE	31 COOKED- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02005AB	LIMES- UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	64	P 8.000000	8.000000		2.00	0.160000
02005HA	LIMES- PULP	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02005HA	LIMES- PEEL	21 COOKED- NFS	64	P 8.000000	8.000000		2.00	0.160000
02005JA	LIMES- JUICE	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02005JA	LIMES- JUICE	15 RAW- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02005JA	LIMES- JUICE	31 COOKED- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02006AA	ORANGES- UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	64	P 8.000000	8.000000		2.00	0.160000
02006AB	ORANGES- PULP	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02006AB	ORANGES- PULP	21 COOKED- NFS	64	P 8.000000	8.000000		2.00	0.160000
02006HA	ORANGES- PEEL	22 COOKED- FRESH- BAKED	64	P 8.000000	8.000000		2.00	0.160000
02006HA	ORANGES- PEEL	31 COOKED- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02006JA	ORANGES- JUICE	15 RAW- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02006JA	ORANGES- JUICE	31 COOKED- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
02008AA	TANGERINES	10 RAW- FRESH OR NFS	64	P 8.000000	8.000000		2.00	0.160000
02008JA	TANGERINE- JUICE	15 RAW- FRESH OR CANNED	64	P 8.000000	8.000000		2.00	0.160000
03001AA	ALMONDS	10 RAW- FRESH OR NFS	0F0942	P 8.000000	8.000000		10.00	0.800000
03001AA	ALMONDS	21 COOKED- NFS	0F0942	P 8.000000	8.000000		10.00	0.800000
03001AA	ALMONDS	22 COOKED- FRESH- BAKED	0F0942	P 8.000000	8.000000		10.00	0.800000
03004AA	CHESTNUTS	21 COOKED- NFS	8F0634	P 1.000000	1.000000		10.00	0.100000
03005AA	FILBERTS	10 RAW- FRESH OR NFS	8F0634	P 1.000000	1.000000		10.00	0.100000
03005AA	FILBERTS	21 COOKED- NFS	8F0634	P 1.000000	1.000000		10.00	0.100000
03005AA	FILBERTS	22 COOKED- FRESH- BAKED	8F0634	P 1.000000	1.000000		10.00	0.100000
03007AA	MACADAMIA NUTS	10 RAW- FRESH OR NFS	8F0634	P 1.000000	1.000000		10.00	0.100000
03008AA	PECANS	10 RAW- FRESH OR NFS	128	P 8.000000	8.000000		10.00	0.800000
03008AA	PECANS	21 COOKED- NFS	128	P 8.000000	8.000000		10.00	0.800000
03008AA	PECANS	22 COOKED- FRESH- BAKED	128	P 8.000000	8.000000		10.00	0.800000
03008AA	PECANS	23 COOKED- FRESH- BOILED	128	P 8.000000	8.000000		10.00	0.800000

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 535

DATE: 03/03/92

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
			PADI	UF	Chronic feeding- dog	Reproduction- rat	
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human Che Study NOEL = 0.2300 mg/kg 0.00 ppm LEL = 0.3400 mg/kg 0.00 ppm ONCO: Class D (HED NOTE).	Decreased Che activity. No evidence of oncogenicity in rats, mouse study equivocal.	OPP RfD = 0.020000 EPA RfD = 0.020000	-->10	Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966.	On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
03008AA	PECANS	62 COOKED-FRESH OR FROZEN-BAKED	128	P 8.000000	8.000000		10.00	0.800000
03009AA	WALNUTS	10 RAW-FRESH OR NFS	128	P 8.000000	8.000000		10.00	0.800000
03009AA	WALNUTS	21 COOKED-NFS	128	P 8.000000	8.000000		10.00	0.800000
03009AA	WALNUTS	22 COOKED-FRESH-BAKED	128	P 8.000000	8.000000		10.00	0.800000
04001AA	APPLES-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
04001AA	APPLES-FRESH	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
04001AA	APPLES-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
04001AA	APPLES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	19	P 8.000000	8.000000		5.00	0.400000
04001DA	APPLES-DRIED	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
04001DA	APPLES-DRIED	22 COOKED-FRESH-BAKED	19	P 8.000000	8.000000		5.00	0.400000
04001DA	APPLES-DRIED	62 COOKED-FRESH OR FROZEN-BAKED	19	P 8.000000	8.000000		5.00	0.400000
04001JA	APPLES-JUICE	15 RAW-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
04001JA	APPLES-JUICE	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
04003AA	PEARS-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
04003AA	PEARS-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
04003AA	PEARS-FRESH	51 COOKED-CANNED	19	P 8.000000	8.000000		5.00	0.400000
04003AA	PEARS-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	19	P 8.000000	8.000000		5.00	0.400000
04003DA	PEARS-DRIED	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
04003DA	PEARS-DRIED	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
04004AA	QUINCES	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 8.000000	8.000000		5.00	0.400000
05001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
05001AA	APRICOTS-FRESH	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
05001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
05001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
05001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	19	P 8.000000	8.000000		5.00	0.400000
05002AA	CHERRIES-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
05002AA	CHERRIES-FRESH	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
05002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
05002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	19	P 8.000000	8.000000		5.00	0.400000
05002DA	CHERRIES-DRIED	00 NOT SPECIFIED (NO CONSUMPTION)	19	P 8.000000	8.000000		5.00	0.400000
05002JA	CHERRIES-JUICE	15 RAW-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
05002JA	CHERRIES-JUICE	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
05003AA	NECTARINES	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		5.00	0.400000
05004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
05004AA	PEACHES-FRESH	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
05004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
05004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000
05004DA	PEACHES-DRIED	21 COOKED-NFS	19	P 8.000000	8.000000		5.00	0.400000
05005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		5.00	0.400000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human CHE Study	Decreased CHE activity. No evidence of oncogenicity in rats, mouse study equivocal.	PAD1 UF -->10 OPP RfD= 0.020000 EPA RfD= 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.
	ONCO: Class D (HED NOTE).				

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
05005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		5.00	0.400000
05005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		5.00	0.400000
05005BA	PLUMS-PRUNES	21 COOKED-NFS	89	P 8.000000	8.000000		5.00	0.400000
05005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	89	P 8.000000	8.000000		5.00	0.400000
05005JA	PRUNE-JUICE	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		5.00	0.400000
05005JA	PRUNE-JUICE	62 COOKED-FRESH OR FROZEN-BAKED	89	P 8.000000	8.000000		5.00	0.400000
06001AA	AVOCADOS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		1.00	0.080000
06004AA	DATES	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		60.00	4.800000
06004AA	DATES	22 COOKED-FRESH-BAKED	19	P 8.000000	8.000000		60.00	4.800000
06005AA	FIGS	10 RAW-FRESH OR NFS	187	P 8.000000	8.000000		10.00	0.800000
06005AA	FIGS	21 COOKED-NFS	187	P 8.000000	8.000000		10.00	0.800000
06005AA	FIGS	22 COOKED-FRESH-BAKED	187	P 8.000000	8.000000		10.00	0.800000
06006AA	GUAVA	10 RAW-FRESH OR NFS	489	P 8.000000	8.000000		100.00	8.000000
06006AA	GUAVA	21 COOKED-NFS	489	P 8.000000	8.000000		100.00	8.000000
06007AA	MANGOES	62 COOKED-FRESH OR FROZEN-BAKED	19	P 8.000000	8.000000		100.00	8.000000
06007AA	MANGOES	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		100.00	8.000000
06010AA	PAPAYAS-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	8f0634	P 1.000000	1.000000		100.00	1.000000
06010AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	8f0634	P 1.000000	1.000000		100.00	1.000000
06010AB	PAPAYAS-PULP	51 COOKED-CANNED	8f0634	P 1.000000	1.000000		100.00	1.000000
06010DA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS	8f0634	P 1.000000	1.000000		100.00	1.000000
06010JA	PAPAYAS-JUICE	10 RAW-FRESH OR NFS	8f0634	P 1.000000	1.000000		100.00	1.000000
06013AA	PINEAPPLE-PULP	21 COOKED-NFS	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06013AA	PINEAPPLE-PULP	31 COOKED-FRESH OR CANNED	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06013DA	PINEAPPLE-DRIED	10 RAW-FRESH OR NFS	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06013JA	PINEAPPLE-JUICE	10 RAW-FRESH OR NFS	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06013JA	PINEAPPLE-JUICE	15 RAW-FRESH OR CANNED	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06013JA	PINEAPPLE-JUICE	21 COOKED-NFS	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06013JA	PINEAPPLE-JUICE	31 COOKED-FRESH OR CANNED	19	P 8.000000	0.009000	FDA MON.	100.00	0.009000
06014AA	PASSION FRUIT	00 NOT SPECIFIED (NO CONSUMPTION)	0E0891	P 1.000000	1.000000		100.00	1.000000
08020AA	HOPS	21 COOKED-NFS	0E0891	P 1.000000	1.000000		100.00	1.000000
08022AA	HORSERADISH	11 RAW-FRESH-PICKLED,CORNEED,OR CURED	89	P 8.000000	8.000000		10.00	0.800000
10002AA	CANTALOUPE-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	19	P 8.000000	8.000000		10.00	0.800000
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
10002AB	CANTALOUPE-PULP	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
10003AA	CASABAS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
10004AA	CRENSHAW	00 NOT SPECIFIED (NO CONSUMPTION)	19	P 8.000000	8.000000		10.00	0.800000
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000

ANTICIPATED RESIDUE INFORMATION FOR CASSELL NUMBER 535

DATE: 03/03/92

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CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Malathion Caswell #535 CAS NO. 121-75-5 A.I. CODE: 057701 CFR No. 180.111		Human Che Study	NOEL = 0.2300 mg/kg 0.00 ppm LEI = 0.3400 mg/kg 0.00 ppm	Decreased Che activity. No evidence of oncogeni- city in rats, mouse study equivocal.		PAD1 UF -->10 OPP RfD = 0.020000 EPA RfD = 0.020000		Chronic feeding- dog Reproduction- rat Developmental tox- rabbit		HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.	

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
10007AA	PERSIAN MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	19	P 8.000000	8.000000		10.00	0.800000
10008AA	WATERMELON	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
10008AA	WATERMELON	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
10010AA	CUCUMBERS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED	19	P 8.000000	8.000000		10.00	0.800000
10010AA	CUCUMBERS	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
10011AA	PUMPKIN	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		10.00	0.800000
10011AA	PUMPKIN	62 COOKED-FRESH OR FROZEN-BAKED	89	P 8.000000	8.000000		10.00	0.800000
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
10013AA	SQUASH-SUMMER	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
10014AA	SQUASH-WINTER	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	0.800000
11001AA	EGGPLANT	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
11001AA	EGGPLANT	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
11001AA	EGGPLANT	25 COOKED-FRESH-FRIED	19	P 8.000000	8.000000		10.00	0.800000
11003AA	PEPPERS, SWEET	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
11003AA	PEPPERS, SWEET	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
11003AB	CHILL PEPPERS	00 NOT SPECIFIED (NO CONSUMPTION)	19	P 8.000000	8.000000		10.00	0.800000
11003AD	PEPPERS-OTHER	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
11003AD	PEPPERS-OTHER	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
11003AD	PEPPERS-OTHER	51 COOKED-CANNED	19	P 8.000000	8.000000		10.00	0.800000
11004AA	PIMIENTOS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
11004AA	PIMIENTOS	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
11005AA	TOMATOES-WHOLE	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005JA	TOMATOES-JUICE	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005JA	TOMATOES-JUICE	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005RA	TOMATOES-PUREE	21 COOKED-NFS	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005RA	TOMATOES-PUREE	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005RA	TOMATOES-PUREE	32 COOKED-FRESH OR CANNED-BAKED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005RA	TOMATOES-PUREE	51 COOKED-CANNED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005TA	TOMATOES-PASTE	21 COOKED-NFS	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005TA	TOMATOES-PASTE	22 COOKED-FRESH-BAKED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005TA	TOMATOES-PASTE	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000
11005UA	TOMATOES-CATSUP	21 COOKED-NFS	19	P 8.000000	8.000000	FDA MON.	100.00	0.007000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAP/COMMENTS	STATUS
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human Che Study NOEL = 0.2300 mg/kg LEL = 0.3400 mg/kg 0.00 ppm 0.00 ppm	Decreased Che activity. No evidence of oncogenicity in rats, mouse study equivocal.	PADI UF -->10 OPP RfD = 0.020000 EPA RfD = 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
13001AA	BETTS-TOPS	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	0.800000
13001AA	BETTS-TOPS	63 COOKED-FRESH OR FROZEN-BOILED	19	P 8.000000	8.000000		10.00	0.800000
13002AA	CELERY	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13002AA	CELERY	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13003AA	CHICORY	10 RAW-FRESH OR NFS	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13003AA	CHICORY	21 COOKED-NFS	19	P 5.000000	5.000000		10.00	0.500000
13005AA	BROCCOLI	31 COOKED-FRESH OR CANNED	19	P 5.000000	5.000000		10.00	0.500000
13005AA	BROCCOLI	63 COOKED-FRESH OR FROZEN-BOILED	19	P 5.000000	5.000000		10.00	0.500000
13006AA	BRUSSEL SPROUTS	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13006AA	BRUSSEL SPROUTS	23 COOKED-FRESH-BOILED	19	P 8.000000	8.000000		10.00	0.800000
13007AA	CABBAGE	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13007AA	CABBAGE	11 RAW-FRESH-PICKLED,CORNEED,OR CURED	19	P 8.000000	8.000000		10.00	0.800000
13007AA	CABBAGE	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13008AA	CAULIFLOWER	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13008AA	CAULIFLOWER	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13009AA	COLLARDS	51 COOKED-CANNED	89	P 8.000000	8.000000		10.00	0.800000
13009AA	COLLARDS	63 COOKED-FRESH OR FROZEN-BOILED	89	P 8.000000	8.000000		10.00	0.800000
13010AA	CABBAGE-CHINESE	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13010AA	CABBAGE-CHINESE	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13011AA	KALE	63 COOKED-FRESH OR FROZEN-BOILED	19	P 8.000000	8.000000		10.00	0.800000
13012AA	KOHLRABI	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000
13012AA	LETTUCE-LEAFY	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13014AA	DANDELION	63 COOKED-FRESH OR FROZEN-BOILED	89	P 8.000000	8.000000		10.00	0.800000
13015AA	ENDIVE	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		10.00	0.800000
13015AA	ENDIVE	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000
13016AA	FENNEL	00 NOT SPECIFIED (NO CONSUMPTION)	19	P 8.000000	8.000000		10.00	0.800000
13017AA	CRESS	00 NOT SPECIFIED (NO CONSUMPTION)	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13020AA	LETTUCE-UNSPEC	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13021AA	MUSTARD GREENS	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13021AA	MUSTARD GREENS	63 COOKED-FRESH OR FROZEN-BOILED	89	P 8.000000	8.000000		10.00	0.800000
13022AA	PARSLEY	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		10.00	0.800000
13022AA	PARSLEY	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000
13022AA	PARSLEY	53 COOKED-CANNED-BOILED	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13023AA	RHUBARB	10 RAW-FRESH OR NFS	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13023AA	RHUBARB	21 COOKED-NFS	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13023AA	RHUBARB	31 COOKED-FRESH OR CANNED	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13024AA	RHUBARB	62 COOKED-FRESH OR FROZEN-BAKED	ADDEDON	P 8.000000	8.000000		10.00	0.800000
13024AA	SPINACH	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000
13024AA	SPINACH	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000
13024AA	SPINACH	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	0.800000

CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111		Human CHE Study NOEL= 0.2300 mg/kg 0.00 ppm LEL= 0.3400 mg/kg 0.00 ppm ONCO: Class D (HED NOTE).		Decreased CHE activity. No evidence of oncogeni- city in rats, mouse study equivocal.		PADI UF -->10 OPP RfD= 0.020000 EPA RfD= 0.020000		Chronic feeding- dog Reproduction- rat Developmental tox- rabbit		HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.	
FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)			
14014AA	RADISHES-ROOTS	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		10.00	0.800000			
14015AA	RUTABAGAS-ROOTS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000			
14015AA	RUTABAGAS-ROOTS	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000			
14016AA	SALSIFY	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000			
14017AA	SHALLOTS	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 8.000000	8.000000		10.00	0.100000			
14018AA	SWEETPOTATOES	21 COOKED-NFS	89	P 1.000000	1.000000		10.00	0.100000			
14018AA	SWEETPOTATOES	31 COOKED-FRESH OR CANNED	89	P 1.000000	1.000000		10.00	0.100000			
14018AA	SWEETPOTATOES	51 COOKED-CANNED	89	P 1.000000	1.000000		10.00	0.100000			
14019AA	TURNIPS-ROOTS	10 RAW-FRESH OR NFS	19	P 8.000000	8.000000		10.00	0.800000			
14019AA	TURNIPS-ROOTS	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000			
14021AA	PARSNIPS	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000			
15001AA	BEANS-DRY-GRT NO	00 NOT SPECIFIED (NO CONSUMPTION)	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AB	BEANS-DRY-KIDNEY	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AB	BEANS-DRY-KIDNEY	31 COOKED-FRESH OR CANNED	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AC	BEANS-DRY-LIMA	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AD	BEANS-DRY-NAVY	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AE	BEANS-DRY-OTHER	31 COOKED-FRESH OR CANNED	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AE	BEANS-DRY-OTHER	25 COOKED-FRESH-FRIED	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AE	BEANS-DRY-OTHER	31 COOKED-FRESH OR CANNED	7F0521	P 8.000000	8.000000		10.00	0.800000			
15001AF	BEANS-DRY-PINTO	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15002AA	BEANS-SUCC-LIMA	10 RAW-FRESH OR NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15002AA	BEANS-SUCC-LIMA	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15003AA	BEANS-SUCC-GREEN	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15003AB	BEANS-SUCC-OTH	10 RAW-FRESH OR NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15003AB	BEANS-SUCC-OTH	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15003AC	BEANS-SUCC-MAX	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000			
15004AA	CORN,POP	21 COOKED-NFS	89	P 8.000000	0.411000	FDA MON.	100.00	0.411000			
15005AA	CORN,SWEET	10 RAW-FRESH OR NFS	89	P 2.000000	0.411000	FDA MON.	100.00	0.411000			
15005AA	CORN,SWEET	21 COOKED-NFS	89	P 2.000000	0.411000	FDA MON.	100.00	0.411000			
15005AA	CORN,SWEET	31 COOKED-FRESH OR CANNED	89	P 2.000000	0.411000	FDA MON.	100.00	0.411000			
15006AA	PEANUTS-WHOLE	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		1.00	0.080000			
15006AA	PEANUTS-WHOLE	21 COOKED-NFS	89	P 8.000000	8.000000		1.00	0.080000			
15006AA	PEANUTS-WHOLE	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		1.00	0.080000			
15007AA	PEAS DRY-GARDEN	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000			
15007AA	PEAS DRY-GARDEN	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	0.800000			
15009AA	PEAS SUCC-GARDEN	21 COOKED-NFS	19	P 8.000000	8.000000		10.00	0.800000			
15009AA	PEAS SUCC-GARDEN	31 COOKED-FRESH OR CANNED	19	P 8.000000	8.000000		10.00	0.800000			
15011AA	LENTILES-WHOLE	31 COOKED-FRESH OR CANNED	89	P 8.000000	8.000000		10.00	0.800000			
15011AB	LENTILES-SPLIT	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000			

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ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 535

DATE: 03/03/92

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CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS										
Malathion	Human CHE Study	Decreased CHE activity.	PADI UF -->10	Chronic feeding- dog	HED complete 08/29/86.	Caswell #535	NOEL= 0.2300 mg/kg	0.00 ppm	No evidence of oncogenicity in rats, mouse study equivocal.	OPP RfD= 0.020000	HED reassess 03/06/87.	CAS No. 121-75-5	LEL= 0.3400 mg/kg	0.00 ppm	EPA RfD= 0.020000	Reproduction- rat	EPA verified 03/18/87.	A.I. CODE: 057701	ONCO: Class D (HED NOTE).	WHO last reviewed 1966.
CFR No. 180.111																				

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
15013AA	MUNG BEANS	10 RAW-FRESH OR NFS	7F0521	P 8.000000	8.000000		10.00	0.800000
15013AA	MUNG BEANS	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000
15015AA	OKRA	21 COOKED-NFS	8F0634	P 8.000000	8.000000		10.00	0.800000
15015AA	OKRA	25 COOKED-FRESH-FRIED	8F0634	P 8.000000	8.000000		10.00	0.800000
15015AA	SUNFLOWER-SEEDS	10 RAW-FRESH OR NFS	2E2658	P 8.000000	8.000000		100.00	0.800000
15022AA	BEANS-DRY-BROAD	00 NOT SPECIFIED (NO CONSUMPTION)	7F0521	P 8.000000	8.000000		10.00	0.800000
15022AB	BEANS-SUCC-BROAD	00 NOT SPECIFIED (NO CONSUMPTION)	7F0521	P 8.000000	8.000000		10.00	0.800000
15023AA	BEANS-DRY-PIGEON	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000
15027AA	BEANS-UNSPEC	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000
15029AA	*SOYBEAN-SPROUTED	00 NOT SPECIFIED (NO CONSUMPTION)	8F0634	P 8.000000	8.000000		1.00	0.080000
15030AA	BEANS-DRY-HYAC	00 NOT SPECIFIED (NO CONSUMPTION)	7F0521	P 8.000000	8.000000		10.00	0.800000
15030AB	BEANS-SUCC-HYAC	00 NOT SPECIFIED (NO CONSUMPTION)	7F0521	P 8.000000	8.000000		10.00	0.800000
15031AA	BLKEYE PEAS-DRY	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000
15032AA	BEANS-DRY	21 COOKED-NFS	7F0521	P 8.000000	8.000000		10.00	0.800000
15032AA	BEANS-DRY	31 COOKED-FRESH OR CANNED	7F0521	P 8.000000	8.000000		10.00	0.800000
16002AA	ASPARAGUS	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000
16003AA	MUSHROOMS	23 COOKED-FRESH-BOILED	89	P 8.000000	8.000000		100.00	0.800000
16003AA	MUSHROOMS	10 RAW-FRESH OR NFS	89	P 8.000000	8.000000		100.00	0.800000
16003AA	MUSHROOMS	21 COOKED-NFS	89	P 8.000000	8.000000		100.00	0.800000
16003AA	MUSHROOMS	31 COOKED-FRESH OR CANNED	89	P 8.000000	8.000000		100.00	0.800000
16004AA	MUSHROOMS	53 COOKED-CANNED-BOILED	89	P 8.000000	8.000000		100.00	0.800000
16004AA	ONIONS-GREEN	10 RAW-FRESH OR NFS		P 8.000000	8.000000		10.00	0.800000
16004AA	ONIONS-GREEN	21 COOKED-NFS		P 8.000000	8.000000		10.00	0.800000
16004AA	ONIONS-GREEN	25 COOKED-FRESH-FRIED		P 8.000000	8.000000		10.00	0.800000
24001AA	BARLEY	21 COOKED-NFS	89	P 8.000000	8.000000		30.00	0.411000
24002EA	CORN, GRAIN-ENDO	10 RAW-FRESH OR NFS	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN, GRAIN-ENDO	21 COOKED-NFS	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN, GRAIN-ENDO	22 COOKED-FRESH-BAKED	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN, GRAIN-ENDO	23 COOKED-FRESH-BAKED	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN, GRAIN-ENDO	25 COOKED-FRESH-BAKED	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN, GRAIN-ENDO	00 NOT SPECIFIED (NO CONSUMPTION)	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN SUGAR	10 RAW-FRESH OR NFS	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN SUGAR	21 COOKED-NFS	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24002EA	CORN SUGAR	22 COOKED-FRESH-BAKED	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
24003AA	OATS	21 COOKED-NFS	89	P 8.000000	8.000000		30.00	2.400000
24003AA	OATS	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		30.00	2.400000
24003AA	OATS	23 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		30.00	2.400000
24004AA	RICE-ROUGH	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000
24004AA	RICE-ROUGH	23 COOKED-FRESH-BOILED	89	P 8.000000	8.000000		10.00	0.800000
24004AB	RICE-MILLED	21 COOKED-NFS	89	P 8.000000	8.000000		10.00	0.800000
24004AB	RICE-MILLED	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		10.00	0.800000

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human Che Study NOEL = 0.2500 mg/kg 0.00 ppm LEL = 0.3400 mg/kg 0.00 ppm ONCO: Class D (HED NOTE).	Decreased Che activity. No evidence of oncogeni- city in rats, mouse study equivocal.	PADI 'UF -->10 OPP RfD = 0.020000 EPA RfD = 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
24004AB	RICE-MILLED	23 COOKED-FRESH-BOILED	89	P 8.000000	8.000000		10.00	0.800000
24004AB	RICE-MILLED	31 COOKED-FRESH OR CANNED	89	P 8.000000	8.000000		10.00	0.800000
24005AA	RYE-ROUGH	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 8.000000	8.000000		30.00	2.400000
24005GA	RYE-GERM	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		30.00	2.400000
24005MA	RYE-FLOUR	21 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		30.00	2.400000
24005MA	RYE-FLOUR	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		30.00	2.400000
24006AA	SORGHUM	00 NOT SPECIFIED (NO CONSUMPTION)	8F0713	P 8.000000	8.000000		10.00	0.800000
24007AA	WHEAT-ROUGH	10 RAW-FRESH OR NFS	89	P 8.000000	1.297000	FDA MON.	100.00	1.297000
24007AA	WHEAT-ROUGH	21 COOKED-FRESH-BAKED	89	P 8.000000	1.297000	FDA MON.	100.00	1.297000
24007AA	WHEAT-ROUGH	22 COOKED-FRESH-BAKED	89	P 8.000000	1.297000	FDA MON.	100.00	1.297000
24007AA	WHEAT-ROUGH	23 COOKED-FRESH-BOILED	89	P 8.000000	1.297000	FDA MON.	100.00	1.297000
24007GA	WHEAT-GERM	10 RAW-FRESH OR NFS	89	P 8.000000	1.297000	FDA MON.	50.00	4.000000
24007GA	WHEAT-GERM	22 COOKED-FRESH-BAKED	89	P 8.000000	8.000000		50.00	4.000000
24007HA	WHEAT-BRAN	10 RAW-FRESH OR NFS	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
24007HA	WHEAT-BRAN	21 COOKED-FRESH-BAKED	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
24007HA	WHEAT-FLOUR	22 COOKED-FRESH-BAKED	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
24007HA	WHEAT-FLOUR	10 RAW-FRESH OR NFS	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
24007MA	WHEAT-FLOUR	21 COOKED-FRESH-BAKED	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
24007MA	WHEAT-FLOUR	22 COOKED-FRESH-BAKED	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
24007MA	WHEAT-FLOUR	25 COOKED-FRESH-FRIED	89	P 8.000000	0.147000	FDA MON.	100.00	0.147000
25002SA	BEET SUGAR	10 RAW-FRESH OR NFS	8F0634	P 1.000000	1.000000		10.00	0.100000
25002SA	BEET SUGAR	21 COOKED-FRESH-BAKED	8F0634	P 1.000000	1.000000		10.00	0.100000
25002SA	BEET SUGAR	22 COOKED-FRESH-BAKED	8F0634	P 1.000000	1.000000		10.00	0.100000
25002SA	BEET SUGAR	31 COOKED-FRESH OR CANNED	8F0634	P 1.000000	1.000000		10.00	0.100000
270020A	CORN, GRAIN-OIL	18 PROCESSED OIL	136	P 8.000000	0.411000	FDA MON.	100.00	0.411000
270030A	COTTONSEED-OIL	18 PROCESSED OIL	89	P 2.000000	2.000000		2.00	0.040000
27003MA	COTTONSEED-MEAL	18 PROCESSED OIL	89	P 2.000000	2.000000		2.00	0.040000
27004AA	FLAX SEED	00 NOT SPECIFIED (NO CONSUMPTION)	9E2248	P 0.100000	0.100000		100.00	0.080000
270070A	PEANUTS-OIL	18 PROCESSED OIL	8F0634	P 8.000000	8.000000		100.00	0.200000
27008AA	SAFFLOWER-SEED	00 NOT SPECIFIED (NO CONSUMPTION)	8F0634	P 0.200000	0.200000		100.00	0.080000
27008AA	SAFFLOWER-OIL	18 PROCESSED OIL	8F0634	P 8.000000	8.000000		100.00	0.080000
270100A	SAFFLOWER-OIL	18 PROCESSED OIL	2E2658	P 8.000000	8.000000		100.00	0.080000
28023AB	SOYBEANS-DRY	10 RAW-FRESH OR NFS	8F0634	P 8.000000	8.000000		1.00	0.080000
28023AB	SOYBEANS-DRY	21 COOKED-FRESH-BOILED	8F0634	P 8.000000	8.000000		1.00	0.080000
28023AB	SOYBEANS-DRY	23 COOKED-FRESH-FRIED	8F0634	P 8.000000	8.000000		1.00	0.080000
28023AB	SOYBEANS-DRY	25 COOKED-FRESH OR CANNED	8F0634	P 8.000000	8.000000		1.00	0.080000
28023MA	SOY-FL, FULL FAT	21 COOKED-FRESH OR CANNED	8F0634	P 8.000000	8.000000		1.00	0.080000

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 057701 CFR No. 180.111	Human CHE Study NOEL= 0.2300 mg/kg 0.00 ppm LEL= 0.3400 mg/kg 0.00 ppm	Decreased CHE activity. No evidence of oncogenicity in rats, mouse study equivocal.	PADI UF --> 10 OPP RfD= 0.020000 EPA RfD= 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. ON IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
53002MA	GOAT-LEAN	23 COOKED-FRESH-BOILED	187	P 4.000000	2.220000		100.00	2.220000
53002MA	GOAT-LEAN	25 COOKED-FRESH-FRIED	187	P 4.000000	2.220000		100.00	2.220000
53003AA	HORSE	00 NOT SPECIFIED (NO CONSUMPTION)		P 4.000000	2.220000		100.00	2.220000
53005BA	SHEEP-MEAT BYP	21 COOKED-NFS	187	P 4.000000	2.220000		100.00	2.220000
53005BB	SHEEP-OTH ORGAN	21 COOKED-NFS	187	P 4.000000	2.220000		100.00	2.220000
53005FA	SHEEP-FAT	21 COOKED-NFS	8F0634	P 4.000000	2.220000		100.00	2.220000
53005KA	SHEEP-KIDNEY	21 COOKED-NFS	187	P 4.000000	2.220000		100.00	2.220000
53005LA	SHEEP-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	187	P 4.000000	2.220000		100.00	2.220000
53005MA	SHEEP-LEAN	21 COOKED-NFS	187	P 4.000000	2.220000		100.00	2.220000
53005MA	SHEEP-MEAT BYP	21 COOKED-NFS	89	P 4.000000	2.220000		100.00	2.220000
53006BA	PORK-OTI ORGAN	21 COOKED-NFS	89	P 4.000000	2.220000		100.00	2.220000
53006BB	PORK-OTI ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	8F0634	P 4.000000	2.220000		100.00	2.220000
53006FA	PORK-FAT	10 RAW-FRESH OR NFS	8F0634	P 4.000000	2.220000		100.00	2.220000
53006FA	PORK-FAT	21 COOKED-NFS	8F0634	P 4.000000	2.220000		100.00	2.220000
53006FA	PORK-FAT	23 COOKED-FRESH-BOILED	8F0634	P 4.000000	2.220000		100.00	2.220000
53006FA	PORK-FAT	25 COOKED-FRESH-FRIED	8F0634	P 4.000000	2.220000		100.00	2.220000
53006FA	PORK-FAT	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	8F0634	P 4.000000	2.220000		100.00	2.220000
53006KA	PORK-KIDNEY	21 COOKED-NFS	89	P 4.000000	2.220000		100.00	2.220000
53006LA	PORK-LIVER	21 COOKED-NFS	89	P 4.000000	2.220000		100.00	2.220000
53006LA	PORK-LIVER	25 COOKED-FRESH-FRIED	89	P 4.000000	2.220000		100.00	2.220000
53006MA	PORK-LEAN	21 COOKED-NFS	89	P 4.000000	2.220000		100.00	2.220000
53006MA	PORK-LEAN	25 COOKED-FRESH-FRIED	89	P 4.000000	2.220000		100.00	2.220000
53006MA	PORK-LEAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	89	P 4.000000	2.220000		100.00	2.220000
53008BA	TURKEY-BYP	21 COOKED-NFS	8F0634	P 4.000000	4.000000		100.00	4.000000
53008BA	TURKEY-BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	8F0634	P 4.000000	4.000000		100.00	4.000000
53008LA	TURKEY ORGAN	21 COOKED-NFS	89	P 4.000000	4.000000		100.00	4.000000
53008LA	TURKEY ORGAN	25 COOKED-FRESH-FRIED	89	P 4.000000	4.000000		100.00	4.000000
53008MA	TURKEY W/O SKIN	21 COOKED-NFS	89	P 4.000000	4.000000		100.00	4.000000
53008MA	TURKEY W/O SKIN	31 COOKED-FRESH OR CANNED	89	P 4.000000	4.000000		100.00	4.000000
53008MA	TURKEY W/O SKIN	62 COOKED-FRESH OR FROZEN-BAKED	89	P 4.000000	4.000000		100.00	4.000000
53008MB	TURKEY+SKIN	21 COOKED-NFS	8F0634	P 4.000000	4.000000		100.00	4.000000
53008MB	TURKEY+SKIN	25 COOKED-FRESH-FRIED	8F0634	P 4.000000	4.000000		100.00	4.000000
53008MC	TURKEY-UNSPEC	21 COOKED-NFS	89	P 4.000000	4.000000		100.00	4.000000
53013BA	POULTRY, OTH-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 4.000000	4.000000		100.00	4.000000
53013LA	POULTRY, ORGAN	25 COOKED-FRESH-FRIED	89	P 4.000000	4.000000		100.00	4.000000
53013MA	POULTRY, OTHER	21 COOKED-NFS	89	P 4.000000	4.000000		100.00	4.000000
53014AA	EGGS-WHOLE	10 RAW-FRESH OR NFS	8F0634	P 0.100000	0.100000		100.00	0.100000
53014AA	EGGS-WHOLE	21 COOKED-NFS	8F0634	P 0.100000	0.100000		100.00	0.100000
53014AA	EGGS-WHOLE	22 COOKED-FRESH-BAKED	8F0634	P 0.100000	0.100000		100.00	0.100000

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Malathion Caswell #535 CAS No. 121-75-5 A.I. CODE: 05/701 CFR No. 180.111	Human Che Study NOEL = 0.2300 mg/kg 0.00 ppm LEL = 0.3400 mg/kg 0.00 ppm ONCO: Class D (HED NOTE).	Decreased Che activity. No evidence of oncogenicity in rats, mouse study equivocal.	PADI UF -->10 OPP RfD = 0.020000 EPA RfD = 0.020000	Chronic feeding- dog Reproduction- rat Developmental tox- rabbit	HED complete 08/29/86. HED reassess 03/06/87. EPA verified 03/18/87. WHO last reviewed 1966. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
55014AA	EGGS-WHOLE	23 COOKED-FRESH-BOILED	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AB	EGGS-WHOLE	25 COOKED-FRESH-FRIED	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AB	EGGS-WHITE ONLY	10 RAW-FRESH OR NFS	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AB	EGGS-WHITE ONLY	21 COOKED-NFS	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AB	EGGS-WHITE ONLY	62 COOKED-FRESH-BAKED	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AB	EGGS-WHITE ONLY	81 COOKED-FRESH OR FROZEN-BAKED	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AC	EGGS-YOLK ONLY	10 RAW-FRESH OR NFS	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AC	EGGS-YOLK ONLY	21 COOKED-NFS	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AC	EGGS-YOLK ONLY	25 COOKED-FRESH-FRIED	8F0634	P 0.100000	0.100000		100.00	0.100000
55014AC	EGGS-YOLK ONLY	31 COOKED-FRESH OR CANNED	8F0634	P 0.100000	0.100000		100.00	0.100000
55015BA	CHICKEN-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	89	P 4.000000	4.000000		100.00	4.000000
55015LA	CHICKEN-ORGAN	21 COOKED-NFS	89	P 4.000000	4.000000		100.00	4.000000
55015LA	CHICKEN-ORGAN	25 COOKED-FRESH-FRIED	89	P 4.000000	4.000000		100.00	4.000000
55015LA	CHICKEN-ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	89	P 4.000000	4.000000		100.00	4.000000
55015MA	CHICKEN-W/O SKIN	21 COOKED-NFS	89	P 4.000000	4.000000		100.00	4.000000
55015MA	CHICKEN-W/O SKIN	22 COOKED-FRESH-BAKED	89	P 4.000000	4.000000		100.00	4.000000
55015MA	CHICKEN-W/O SKIN	25 COOKED-FRESH-FRIED	89	P 4.000000	4.000000		100.00	4.000000
55015MA	CHICKEN-W/O SKIN	31 COOKED-FRESH OR CANNED	89	P 4.000000	4.000000		100.00	4.000000
55015MB	CHICKEN+SKIN	21 COOKED-NFS	8F0634	P 4.000000	4.000000		100.00	4.000000
55015MB	CHICKEN+SKIN	25 COOKED-FRESH-FRIED	8F0634	P 4.000000	4.000000		100.00	4.000000

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TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 03/03/92

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CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS							
Malathion	Human Che Study	NOEL =	0.2300 mg/kg	Decreased Che activity.	PADI	UF	-->10	Chronic feeding- dog	HED complete 08/29/86.	On IRIS.							
Caswell #535	NOEL =	0.00 ppm		No evidence of oncogeni-	OPP RfD =	0.020000		Reproduction- rat	EPA reassess 03/06/87.								
CAS No. 121-75-5	TEL =	0.3400 mg/kg		city in rats, mouse study	EPA RfD =	0.020000		Developmental tox- rabbit	EPA verified 03/18/87.								
A.I. CODE: 057701		0.00 ppm		equivocal.					WHO last reviewed 1966.								
CFR No. 180.111	ONCO: Class D (HED NOTE).																
POPULATION SUBGROUP		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		%RFD	
U.S. POPULATION - 48 STATES		0.099954		0.099954		499.769020		0.000000		0.011322		56.60931					
U.S. POPULATION - SPRING SEASON		0.097034		0.097034		485.168890		0.000000		0.011470		57.35189					
U.S. POPULATION - SUMMER SEASON		0.100741		0.100741		503.705825		0.000000		0.011542		57.71158					
U.S. POPULATION - FALL SEASON		0.100659		0.100659		503.292515		0.000000		0.011107		55.53716					
U.S. POPULATION - WINTER SEASON		0.100376		0.100376		501.882295		0.000000		0.010912		54.56244					
NORTHEAST REGION		0.106770		0.106770		533.847870		0.000000		0.011563		57.81305					
NORTH CENTRAL REGION		0.099041		0.099041		495.204455		0.000000		0.011024		55.12050					
SOUTHERN REGION		0.091942		0.091942		459.708965		0.000000		0.010922		54.61209					
WESTERN REGION		0.104586		0.104586		522.928460		0.000000		0.011774		58.86938					
HISPANICS		0.115947		0.115947		579.737025		0.000000		0.013107		65.53649					
NON-HISPANIC WHITES		0.098981		0.098981		494.905970		0.000000		0.010994		54.97060					
NON-HISPANIC BLACKS		0.094894		0.094894		474.471570		0.000000		0.011793		58.96500					
NON-HISPANIC OTHERS		0.115282		0.115282		576.411485		0.000000		0.013883		69.41454					
NURSING INFANTS (< 1 YEAR OLD)		0.139474		0.139474		697.371820		0.000000		0.012546		62.73026					
NON-NURSING INFANTS (< 1 YEAR OLD)		0.262863		0.262863		1314.317310		0.000000		0.023542		117.71129					
FEMALES (13+ YEARS, PREGNANT)		0.074760		0.074760		373.798300		0.000000		0.007690		38.45201					
FEMALES 13+ YEARS, NURSING		0.083450		0.083450		417.248970		0.000000		0.009062		45.31064					
CHILDREN (1-6 YEARS OLD)		0.222568		0.222568		1112.841810		0.000000		0.022016		110.08134					
CHILDREN (7-12 YEARS OLD)		0.145261		0.145261		726.303795		0.000000		0.015338		76.69214					
MALES (13-19 YEARS OLD)		0.093912		0.093912		469.561065		0.000000		0.011043		55.21617					
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)		0.081817		0.081817		409.082875		0.000000		0.009290		46.45095					
MALES (20 YEARS AND OLDER)		0.074564		0.074564		372.817980		0.000000		0.009754		48.77101					
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)		0.073206		0.073206		366.032045		0.000000		0.008548		42.73780					

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