

US EPA ARCHIVE DOCUMENT

PMCD/ISB



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

MAY 27 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Dietary Exposure Analysis for Methidathion

FROM: J. Robert Tomerlin, Ph.D. *J. Tomerlin*
HED/RCB (TS 769C)

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

TO: Dennis Edwards, PM #12
Registration Division (TS 767)

Action Requested

Provide a dietary exposure analysis for Methidathion as part of the FRSTR process.

Discussion

1. A routine chronic TAS analysis was conducted with a reference dose (ADI) of 0.001 mg/kg body weight/day, based upon a NOEL of 0.1 mg/kg body weight/day and a safety factor of 100 from a 2 year dog feeding study. This value has been approved by TOX Branch (10/30/87).

2. Residues used in the analysis were tolerance values from 40 CFR 180.298 and anticipated residue values for citrus pulp, citrus juice, citrus oil, and cottonseed oil (personal communication, Deborah Edwards, 5/25/88).

The TAS food consumption files break citrus into pulp, peel, juice, and unspecified. Assuming that unspecified citrus is probably pulp, unspecified citrus was assigned an anticipated residue of 0.05 ppm. The anticipated residue for citrus peel was assumed to be the tolerance value of 2 ppm.

The anticipated residue for citrus oil presents a problem because the TAS food files do not include citrus oil as a consumed food commodity. The CRC Handbook of Processing and Utilization in Agriculture (Vol II, 1983) contains figures for per capita disappearance of citrus oil flavorings. Assuming that all the citrus oil flavorings are use in food, it is estimated that 0.53 g/day of citrus oil are consumed, although substantial

amounts of the flavorings are in fact used in non-food products, such as household cleaners. Further assuming that the average person has a mass of 60 kg, the average consumption of citrus oil for the U.S. population was estimated as 0.01 g/kg/day. Because consumption data for citrus oil is unavailable and tenuous assumptions were made to estimate consumption from disappearance data, citrus oil consumption estimates were made only for the overall U.S. population, and not for any population subgroups.

Although a tolerance on potatoes has been published for methidathion, the tolerance was not included in this analysis because methidathion is not registered for use on potatoes. A summary of the tolerance information used in the analysis is attached as Table 1.

3. The TAS routine chronic analysis with anticipated residues estimates the Anticipated Residue Contribution (ARC) for the U.S. population and 22 population subgroups. The ARC for the U.S. population is 0.000935 mg/kg body weight/day (93.5% of the ADI). The two most highly exposed population subgroups, non-nursing infants and children aged 1 to 6, had ARCs of 0.002313 mg/kg body weight/day (231.3% of the ADI) and 0.001395 mg/kg body weight/day (139.5% of the ADI), respectively. The ARC summary for all 23 population subgroups is attached as Table 2.

4. Exposure to methidathion is concentrated in a few raw agricultural commodities (RACs), shown in the table below.

RAC	U.S. Average	Non-nursing Infants <1 yr	Children 1-6 yrs
Milk	31.6 ^a (33.8) ^b	195.8 (84.7)	99.3 (71.2)
Red Meat	11.2 (12.0)	10.7 (4.6)	20.4 (14.6)
Citrus	44.5 (47.6)	10.0 (4.3)	12.4 (8.9)
Poultry	2.5 (2.7)	5.3 (2.3)	5.2 (3.7)
Pome Fruits	0.4 (0.4)	4.8 (2.1)	1.5 (1.1)
Stone Fruits	0.2 (0.2)	1.6 (0.7)	0.4 (0.3)

^aARC for the commodity expressed as per cent of the ADI

^bARC for the commodity expressed as per cent of the total ARC.

Although the anticipated residue in citrus oil contributes significantly to the ARC of the citrus crop group for the U.S. population, no reasonable estimate of citrus oil consumption may be made for the two highly exposed juvenile subgroups. However, the exclusion of citrus oil consumption from the juvenile analyses may be of little consequence in that the ARC for milk alone exceeds the ADI for non-nursing infants and comprises 99 per cent of the ADI for children.

cc: TAS Files
Reading File
PMSD
D. Edwards (RCB)

TOX (Rathman)
circ.
Methidathion SF

Table 1

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 378B DATE: 05/26/88 PAGE: 1

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)	CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
									Methidathion	Caswell #378B	2yr feeding- dog	Alterations in liver his- tology, Inc. serum AP and SGPT. RBC CHE inhibition at 64 ppm only. Evidence of oncogenicity in mice (li- vet), negative in rat.	NOEL=	LEL=	ADI	SF -->	100	No data gaps.		TOX complete 10/30/87.
02002AA	GRAPEFRUIT-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	2F1229	P 2.000000	0.050000		10.00	0.005000												
02002AB	GRAPEFRUIT-PULP	10 RAW-FRESH OR NFS	2F1229	P 2.000000	0.050000		10.00	0.005000												
02002AB	GRAPEFRUIT-PULP	21 COOKED-NFS	2F1229	P 2.000000	0.050000		10.00	0.005000												
02002JA	GRAPEFRUIT-JUICE	15 RAW-FRESH OR CANNED	2F1229	P 2.000000	0.200000		10.00	0.020000												
02002JA	GRAPEFRUIT-JUICE	31 COOKED-FRESH OR CANNED	2F1229	P 2.000000	0.200000		10.00	0.020000												
02004AA	LEMONS-UNSPEC	10 RAW-FRESH OR NFS	5F1555	P 2.000000	0.050000		10.00	0.005000												
02004AA	LEMONS-UNSPEC	22 COOKED-FRESH-BAKED	5F1555	P 2.000000	0.050000		10.00	0.005000												
02004AB	LEMONS-PULP	10 RAW-FRESH OR NFS	5F1555	P 2.000000	0.050000		10.00	0.005000												
02004AB	LEMONS-PULP	31 COOKED-FRESH OR CANNED	5F1555	P 2.000000	0.050000		10.00	0.005000												
02004HA	LEMONS-PEEL	10 RAW-FRESH OR NFS	5F1555	P 2.000000	2.000000		10.00	0.200000												
02004HA	LEMONS-PEEL	21 COOKED-NFS	5F1555	P 2.000000	2.000000		10.00	0.200000												
02004JA	LEMONS-JUICE	10 RAW-FRESH OR NFS	5F1555	P 2.000000	0.200000		10.00	0.020000												
02004JA	LEMONS-JUICE	15 RAW-FRESH OR CANNED	5F1555	P 2.000000	0.200000		10.00	0.020000												
02004JA	LEMONS-JUICE	31 COOKED-NFS	5F1555	P 2.000000	0.200000		10.00	0.020000												
02004JA	LEMONS-JUICE	21 COOKED-FRESH OR CANNED	5F1555	P 2.000000	0.200000		10.00	0.020000												
02006AA	ORANGES-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	2F1229	P 2.000000	0.050000		10.00	0.005000												
02006AB	ORANGES-PULP	10 RAW-FRESH OR NFS	2F1229	P 2.000000	0.050000		10.00	0.005000												
02006AB	ORANGES-PULP	21 COOKED-NFS	2F1229	P 2.000000	0.050000		10.00	0.005000												
02006HA	ORANGES-PEEL	21 COOKED-NFS	2F1229	P 2.000000	0.050000		10.00	0.005000												
02006HA	ORANGES-PEEL	22 COOKED-FRESH-BAKED	2F1229	P 2.000000	0.050000		10.00	0.005000												
02006HA	ORANGES-PEEL	31 COOKED-FRESH OR CANNED	2F1229	P 2.000000	0.050000		10.00	0.005000												
02006JA	ORANGES-JUICE	15 RAW-FRESH OR CANNED	2F1229	P 2.000000	0.200000		10.00	0.020000												
02006JA	ORANGES-JUICE	31 COOKED-FRESH OR CANNED	2F1229	P 2.000000	0.200000		10.00	0.020000												
03001AA	ALMONDS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03001AA	ALMONDS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03001AA	ALMONDS	22 COOKED-FRESH-BAKED	6F1782	P 0.050000	0.050000		10.00	0.005000												
03002AA	BRAZIL NUTS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03002AA	BRAZIL NUTS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03003AA	CASHEWS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03003AA	CASHEWS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03004AA	CHESTNUTS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03005AA	FILBERTS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03005AA	FILBERTS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03005AA	FILBERTS	22 COOKED-FRESH-BAKED	6F1782	P 0.050000	0.050000		10.00	0.005000												
03006AA	HICKORY NUTS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03007AA	MACADAMIA NUTS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03008AA	PECANS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03008AA	PECANS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000												
03008AA	PECANS	22 COOKED-FRESH-BAKED	6F1782	P 0.050000	0.050000		10.00	0.005000												
03008AA	PECANS	23 COOKED-FRESH-BOILED	6F1782	P 0.050000	0.050000		10.00	0.005000												

Table 1. continued

FOOD CODE	FOOD	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
				ADI	SF -->			
	Methidathion	2yr feeding- dog	Alterations in liver his-	100	No data gaps.	TOX complete 10/30/87.		
	Caswell #3788	NOEL= 0.1000 mg/kg	tology, inc. serum AP and	0.001000				
	CAS No. 950-37-8	4.00 ppm	SGPT, RBC ChE inhibition at	EPA RED= 0.000000		WHO last reviewed 1975.		
	A.I. CODE: 100301	LET= 0.4000 mg/kg	64 ppm only. Evidence of					
	CFR No. 180.298	16.00 ppm	oncogenicity in mice (li-	Q* not calculated.				
		ONCO: Class C (TOX NOTE)	vet., negative in rat.					
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
03008AA	PECANS	62 COOKED-FRESH OR FROZEN-BAKED	6F1782	P 0.050000	0.050000		10.00	0.005000
03009AA	WALNUTS	10 RAW-FRESH OR NFS	6F1782	P 0.050000	0.050000		10.00	0.005000
03009AA	WALNUTS	21 COOKED-NFS	6F1782	P 0.050000	0.050000		10.00	0.005000
03009AA	WALNUTS	22 COOKED-FRESH-BAKED	6F1782	P 0.050000	0.050000		10.00	0.005000
03010AA	BUTTER NUTS	00 NOT SPECIFIED (NO CONSUMPTION)	6F1782	P 0.050000	0.050000		10.00	0.005000
03013AA	BEECHNUTS	00 NOT SPECIFIED (NO CONSUMPTION)	6F1782	P 0.050000	0.050000		10.00	0.005000
04001AA	APPLES-FRESH	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
04001AA	APPLES-FRESH	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
04001AA	APPLES-FRESH	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
04001AA	APPLES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
04001DA	APPLES-DRIED	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
04001DA	APPLES-DRIED	22 COOKED-FRESH-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
04001DA	APPLES-DRIED	62 COOKED-FRESH OR FROZEN-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
04001JA	APPLES-JUICE	15 RAW-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
04001JA	APPLES-JUICE	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
04002AA	CRABAPPLES	00 NOT SPECIFIED (NO CONSUMPTION)	7F1984	P 0.050000	0.050000		10.00	0.005000
04003AA	PEARS-FRESH	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
04003AA	PEARS-FRESH	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
04003AA	PEARS-FRESH	51 COOKED-CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
04003DA	PEARS-DRIED	62 COOKED-FRESH OR FROZEN-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
04003DA	PEARS-DRIED	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
04003DA	PEARS-DRIED	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
04004AA	QUINCES	00 NOT SPECIFIED (NO CONSUMPTION)	7F1984	P 0.050000	0.050000		10.00	0.005000
05001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05001AA	APRICOTS-FRESH	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
05001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
05002AA	CHERRIES-FRESH	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05002AA	CHERRIES-FRESH	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
05002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
05002DA	CHERRIES-DRIED	00 NOT SPECIFIED (NO CONSUMPTION)	7F1984	P 0.050000	0.050000		10.00	0.005000
05002JA	CHERRIES-JUICE	15 RAW-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
05002JA	CHERRIES-JUICE	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05003AA	NECTARINES	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05004AA	PEACHES-FRESH	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
05004AA	PEACHES-FRESH	51 COOKED-CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Methodathion	2yr feeding-dog	Alterations in liver his-	ADI SF --> 100	No data gaps.	TOX complete 10/30/87.
Caswell #378B	NOEL=	tology, inc. serum AP and	OPP RD= 0.001000		
CAS No. 950-37-8	4.00 ppm	SGPT, RBC CHE inhibition at	EPA RD= 0.000000		WHO last reviewed 1975.
A.I. CODE: 100301	LEL=	64 ppm only. Evidence of			
CFR No. 180.298	16.00 ppm	oncogenicity in mice (li-			
	ONCO: Class C (TOX NOTE)	vet), negative in rat.			

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAs RUN (ppm)
05004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05004DA	PEACHES-DRIED	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
05005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05005DA	PLUMS-PRUNES	21 COOKED-NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	7F1984	P 0.050000	0.050000		10.00	0.005000
05005JA	PRUNE-JUICE	10 RAW-FRESH OR NFS	7F1984	P 0.050000	0.050000		10.00	0.005000
05005JA	PRUNE-JUICE	62 COOKED-FRESH OR FROZEN-BAKED	7F1984	P 0.050000	0.050000		10.00	0.005000
06007AA	MANGOES	10 RAW-FRESH OR NFS	9E2194	P 0.050000	0.050000		10.00	0.005000
06007AA	MANGOES	21 COOKED-NFS	9E2194	P 0.050000	0.050000		10.00	0.005000
06008AA	LOQUATS	00 NOT SPECIFIED (NO CONSUMPTION)	7F1984	P 0.050000	0.050000		10.00	0.005000
06009AA	OLIVES	10 RAW-FRESH OR NFS	7F1986	P 0.050000	0.050000		10.00	0.005000
06009AA	OLIVES	11 RAW-FRESH-PICKLED, CORNED, OR CURED	7F1986	P 0.050000	0.050000		10.00	0.005000
06009AA	OLIVES	21 COOKED-NFS	7F1986	P 0.050000	0.050000		10.00	0.005000
13018AA	ARTICHOKE-GLOBE	21 COOKED-NFS	7F1987	P 0.050000	0.050000		100.00	0.050000
15018AA	SUNFLOWER-SEEDS	10 RAW-FRESH OR NFS	4F1513	P 0.500000	0.500000		40.00	0.200000
24006AA	SORGHUM	00 NOT SPECIFIED (NO CONSUMPTION)	4F1512	P 0.200000	0.200000		10.00	0.020000
270030A	COTTONSEED-OIL	18 PROCESSED OIL	0F0892	P 0.200000	0.400000		10.00	0.040000
270030A	COTTONSEED-MEAL	18 PROCESSED OIL	0F0892	P 0.200000	0.200000		10.00	0.020000
27008AA	SAFFLOWER-SEED	00 NOT SPECIFIED (NO CONSUMPTION)	7E1991	P 0.500000	0.500000		10.00	0.050000
270080A	SAFFLOWER-OIL	18 PROCESSED OIL	7E1991	P 0.500000	0.500000		10.00	0.050000
270110A	SUNFLOWER-OIL	18 PROCESSED OIL	4F1513	P 0.500000	0.500000		40.00	0.200000
270150A	OLIVE OIL	18 PROCESSED OIL	7F1986	P 0.050000	0.050000		10.00	0.005000
50000DB	MILK-NON-FAT SOL	10 RAW-FRESH OR NFS	0F0892	P 0.030000	0.030000		100.00	0.030000
50000DB	MILK-NON-FAT SOL	21 COOKED-NFS	0F0892	P 0.030000	0.030000		100.00	0.030000
50000DB	MILK-NON-FAT SOL	51 COOKED-CANNED	0F0892	P 0.030000	0.030000		100.00	0.030000
50000FA	MILK-FAT SOLIDS	10 RAW-FRESH OR NFS	0F0892	P 0.030000	0.030000		100.00	0.030000
50000FA	MILK-FAT SOLIDS	21 COOKED-NFS	0F0892	P 0.030000	0.030000		100.00	0.030000
50000FA	MILK-FAT SOLIDS	51 COOKED-CANNED	0F0892	P 0.030000	0.030000		100.00	0.030000
50000SA	MILK SUG (LACT)	21 COOKED-NFS	0F0892	P 0.030000	0.030000		100.00	0.030000
50000SA	MILK SUG (LACT)	51 COOKED-CANNED	0F0892	P 0.030000	0.030000		100.00	0.030000
53001BA	BEEF-MEAT BYP	21 COOKED-NFS	0F0892	P 0.050000	0.050000		100.00	0.050000
53001BA	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	0F0892	P 0.050000	0.050000		100.00	0.050000
53001BB	BEEF-OTH ORGAN	21 COOKED-NFS	0F0892	P 0.050000	0.050000		100.00	0.050000
53001BB	BEEF-OTH ORGAN	51 COOKED-CANNED	0F0892	P 0.050000	0.050000		100.00	0.050000
53001DA	BEEF-DRIED	21 COOKED-NFS	0F0892	P 0.050000	0.050000		100.00	0.050000
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS	0F0892	P 0.050000	0.050000		100.00	0.050000
53001FA	BEEF-FAT	21 COOKED-NFS	0F0892	P 0.050000	0.050000		100.00	0.050000
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED	0F0892	P 0.050000	0.050000		100.00	0.050000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Methidathion	2yr feeding- dog	Alterations in liver his-	100	100	No data gaps.	TOX complete 10/30/87.
Caswell #378B	NOEL= 0.1000 mg/kg	tology, inc. serum AP and	OPP RfD= 0.001000			
CAS No. 950-37-8	4.00 ppm	SGPT, RBC ChE inhibition at	EPA RfD= 0.000000			WHO last reviewed 1975.
A. I. CODE: 100301	LEL= 0.4000 mg/kg	64 ppm only. Evidence of				
CFR No. 180.298	16.00 ppm	oncogenicity in mice (li-				
	ONCO: Class C (TOX NOTE).	ver), negative in rat.			Q* not calculated.	

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TMS RUN (ppm)
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001KA	BEEF-KIDNEY	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53001LA	BEEF-LIVER	21 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001MA	BEEF-LEAN	10 RAW-FRESH OR NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53001MA	BEEF-LEAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53001MA	BEEF-LEAN	22 COOKED-FRESH-BAKED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001MA	BEEF-LEAN	23 COOKED-FRESH-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53001MA	BEEF-LEAN	24 COOKED-FRESH-BROILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53002BA	GOAT-MEAT BYP	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
53002BB	GOAT-OTH ORGAN	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
53002FA	GOAT-FAT	23 COOKED-FRESH-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53002FA	GOAT-FAT	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
53002KA	GOAT-KIDNEY	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
53002LA	GOAT-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
53002MA	GOAT-LEAN	23 COOKED-FRESH-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53002MA	GOAT-LEAN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
53003AA	HORSE	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
53005BA	SHEEP-MEAT BYP	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53005BB	SHEEP-OTH ORGAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53005FA	SHEEP-FAT	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53005KA	SHEEP-KIDNEY	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53005LA	SHEEP-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
53005MA	SHEEP-LEAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53005MA	SHEEP-LEAN	31 COOKED-FRESH OR CANNED	OF0892	P 0.050000	0.050000		100.00	0.050000
53006BA	PORK-MEAT BYP	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006BB	PORK-OTH ORGAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006BB	PORK-OTH ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	OF0892	P 0.050000	0.050000		100.00	0.050000
53006FA	PORK-FAT	10 RAW-FRESH OR NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006FA	PORK-FAT	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006FA	PORK-FAT	23 COOKED-FRESH-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
53006FA	PORK-FAT	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
53006FA	PORK-FAT	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	OF0892	P 0.050000	0.050000		100.00	0.050000
53006KA	PORK-KIDNEY	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006LA	PORK-LIVER	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006LA	PORK-LIVER	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
53006MA	PORK-LEAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
53006MA	PORK-LEAN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000

Table 1. continued

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 378B DATE: 05/26/88 PAGE: 5

FOOD CODE	FOOD	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
				AD1	SF -->			
	Methidathion	2yr feeding- dog	Alterations in liver his- tology, inc. serum AP and SGPT. RBC ChE inhibition at 64 ppm only. Evidence of oncogenicity in mice (li- ver), negative in rat.	100	100	No data gaps.	TOX complete 10/30/87.	
	Caswell #378B	NOEL= 0.1000 mg/kg		OPP RfD= 0.001000			WHO last reviewed 1975.	
	CAS No. 950-37-8	4.00 ppm		EPA RfD= 0.000000				
	A.I. CODE: 100301	LEL= 0.4000 mg/kg						
	CFR No. 180.298	16.00 ppm						
		ONCO: Class C (TOX NOTE)					Q* not calculated.	
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
53006MA	PORK-LEAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	OF0892	P 0.050000	0.050000		100.00	0.050000
55008BA	TURKEY-BYP	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55008BA	TURKEY-BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	OF0892	P 0.050000	0.050000		100.00	0.050000
55008LA	TURKEY ORGAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55008LA	TURKEY ORGAN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55008MA	TURKEY W/O SKIN	31 COOKED-FRESH OR CANNED	OF0892	P 0.050000	0.050000		100.00	0.050000
55008MA	TURKEY W/O SKIN	62 COOKED-FRESH OR FROZEN-BAKED	OF0892	P 0.050000	0.050000		100.00	0.050000
55008MA	TURKEY W/O SKIN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55008MB	TURKEY+SKIN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55008MC	TURKEY-UNSPEC	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55013BA	POULTRY,OTH-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
55013LA	POULTRY,ORGAN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55013MA	POULTRY,OTHER	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AA	EGGS-WHOLE	10 RAW-FRESH OR NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AA	EGGS-WHOLE	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AA	EGGS-WHOLE	22 COOKED-FRESH-BAKED	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AA	EGGS-WHOLE	23 COOKED-FRESH-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AA	EGGS-WHOLE	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AB	EGGS-WHITE ONLY	10 RAW-FRESH OR NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AB	EGGS-WHITE ONLY	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AB	EGGS-WHITE ONLY	22 COOKED-FRESH-BAKED	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AB	EGGS-WHITE ONLY	62 COOKED-FRESH OR FROZEN-BAKED	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AB	EGGS-WHITE ONLY	81 COOKED-FROZEN	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AC	EGGS-YOLK ONLY	10 RAW-FRESH OR NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AC	EGGS-YOLK ONLY	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AC	EGGS-YOLK ONLY	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55014AC	EGGS-YOLK ONLY	31 COOKED-FRESH OR CANNED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015BA	CHICKEN-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	OF0892	P 0.050000	0.050000		100.00	0.050000
55015LA	CHICKEN-ORGAN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55015LA	CHICKEN-ORGAN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015LA	CHICKEN-ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MA	CHICKEN-W/O SKIN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MA	CHICKEN-W/O SKIN	22 COOKED-FRESH-BAKED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MA	CHICKEN-W/O SKIN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MA	CHICKEN-W/O SKIN	31 COOKED-FRESH OR CANNED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MA	CHICKEN-W/O SKIN	53 COOKED-CANNED-BOILED	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MB	CHICKEN+SKIN	21 COOKED-NFS	OF0892	P 0.050000	0.050000		100.00	0.050000
55015MB	CHICKEN+SKIN	25 COOKED-FRESH-FRIED	OF0892	P 0.050000	0.050000		100.00	0.050000
90999AB	CITRUS OIL	10 FRESH		P 1.000000	400.000000		10.00	40.000000

Table 2

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 05/26/88

PAGE: 1

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Methidathion	2yr feeding- dog	Alterations in liver his- tology, inc. serum AP and SGPT. RBC ChE inhibition at 64 ppm only. Evidence of oncogenicity in mice (li- ver), negative in rat.	100	No data gaps.	TOX complete 10/30/87.	
Caswell #3788	NOEL=		OPF RfD=	0.001000		
CAS No. 950-37-8	4.00 ppm		EPA RfD=	0.000000	WHO last reviewed 1975.	
A.I. CODE: 100301	LEL=					
CFR No. 180.298	16.00 ppm					
	ONCO: Class C (TOX NOTE).			Q* not calculated.		
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	%RFD
POPULATION SUBGROUP						
U.S. POPULATION - 48 STATES	0.005571	0.005571	557.130200	0.000000	0.000935	93.496200
U.S. POPULATION - SPRING SEASON	0.005579	0.005579	557.878200	0.000000	0.000512	51.182700
U.S. POPULATION - SUMMER SEASON	0.005188	0.005188	518.750400	0.000000	0.000529	52.898000
U.S. POPULATION - FALL SEASON	0.005630	0.005630	563.011300	0.000000	0.000553	55.318200
U.S. POPULATION - WINTER SEASON	0.005869	0.005869	586.874300	0.000000	0.000546	54.592800
NORTHEAST REGION	0.006962	0.006962	696.157000	0.000000	0.000563	56.265700
NORTH CENTRAL REGION	0.005543	0.005543	554.264400	0.000000	0.000545	54.544500
SOUTHERN REGION	0.004489	0.004489	448.850200	0.000000	0.000482	48.175500
WESTERN REGION	0.005589	0.005589	558.893600	0.000000	0.000575	57.460800
HISPANICS	0.007495	0.007495	749.509700	0.000000	0.000683	68.296700
NON-HISPANIC WHITES	0.005358	0.005358	535.820100	0.000000	0.000527	52.657900
NON-HISPANIC BLACKS	0.005735	0.005735	573.450300	0.000000	0.000510	50.969400
NON-HISPANIC OTHERS	0.007917	0.007917	791.653700	0.000000	0.000619	61.852500
NURSING INFANTS (< 1 YEAR OLD)	0.005759	0.005759	575.914000	0.000000	0.000606	60.570300
NON-NURSING INFANTS (< 1 YEAR OLD)	0.013147	0.013147	1314.674500	0.000000	0.002313	231.314700
FEMALES (13+ YEARS, PREGNANT)	0.004576	0.004576	457.598600	0.000000	0.000383	38.343300
FEMALES 13+ YEARS, NURSING	0.004380	0.004380	438.035500	0.000000	0.000463	46.344800
CHILDREN (1-6 YEARS OLD)	0.014968	0.014968	1496.771800	0.000000	0.001395	139.539200
CHILDREN (7-12 YEARS OLD)	0.008228	0.008228	822.829800	0.000000	0.000867	86.700800
MALES (13-19 YEARS OLD)	0.004750	0.004750	475.017300	0.000000	0.000569	56.857500
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.004461	0.004461	446.089400	0.000000	0.000447	44.744500
MALES (20 YEARS AND OLDER)	0.003355	0.003355	335.480900	0.000000	0.000349	34.912600
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)	0.004164	0.004164	416.384800	0.000000	0.000313	31.302100

*Current TMRC does not include new or pending tolerances.

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