



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

PC 058001

DEC 10 1993

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Azinphos-methyl Dietary Exposure Analysis: The Effects of the Addition of Anticipated Residues and the Incorporation of a New Reference Dose (RfD)

FROM: John B. Bazuin, Jr. *John B. Bazuin, Jr.*  
HED/SAB/DRES (H7509C)

THROUGH: James P. Kariya, Chief *Kariya*  
Dietary Risk Evaluation Section  
Health Effects Division (H7509C) *W. Bazuin*

TO: Jackie McQueen  
Special Review Branch, PM Team 63  
Special Review and Reregistration Division (7508W)

A. ACTIONS REQUESTED

Azinphos-methyl is an Insecticide/Miticide registered for use on both crop and non-crop sites. Initially, Special Review Branch requested an analysis of the dietary exposure/risk impacts associated with the addition of anticipated residues for Azinphos-methyl to DRES. Subsequently, a new Reference Dose (RfD) was established for Azinphos-methyl. This was also used in the set of analyses that is reported herein.

B. METHODS AND ASSUMPTIONS

1. Toxicological Endpoints

These analyses used an RfD of 0.0015 mg/kg bodyweight per day, based on a NOEL of 0.15 mg/kg bodyweight per day and an Uncertainty Factor of 100. The NOEL was based on a one-year dog feeding study that demonstrated diarrhea in males and erythrocyte cholinesterase inhibition in both males and females as endpoint effects. This value was



approved by the HED Reference Dose/Peer Review Committee on 16 September 1993. The information is contained in a memorandum of George Ghali dated 7 December 1993.

DRES analyses dating to 1989 indicate that a Q\* existed for Azinphos-methyl at that time. However, Azinphos-methyl was later changed to a Category D carcinogen (carcinogenicity unknown; Reto Engler memorandum dated 31 August 1993). More recent carcinogenicity studies using Azinphos-methyl have revealed that this chemical induced no alteration in the spontaneous tumor profile in rats or mice, so it has been reclassified as a Category E carcinogen (Not Carcinogenic; George Z. Ghali memorandum of 7 December 1993). A carcinogenicity exposure/risk DRES analysis was, therefore, not needed. This same memorandum also indicates that Azinphos-methyl does not appear to be a reproductive or developmental toxicant. However, an additional, developmental neurotoxicity study has been called for by the RfD/Peer Review Committee because Azinphos-methyl is a potent cholinesterase inhibitor. It is unclear at this time if an Acute DRES analysis may be required.

## 2. Residue Information

Food uses evaluated in this set of analyses were published food uses and a food additive use (for Soybean Oil) from 40 CFR 180.154 and 185.2225, respectively. These tolerances were modified, in most cases, by anticipated residue data for Azinphos-methyl that are contained in a memorandum from Steven A. Knizner dated 26 May 1993. The commodities for which anticipated residue and/or percent crop treated data were not available were Citron, Kumquats, Pistachio Nuts, Crabapples, Quinces, Brussels Sprouts, and Fennel.

A report of the tolerance, anticipated residue, and percent crop treated data used in this set of analyses is present in Attachment 1.

## 3. Chronic Exposure Analysis

The analyses were performed on the U.S. population as a whole and on the 22 subgroups that DRES considers.

The analyses used tolerance level residues and 100% crop treated data to produce Theoretical Maximum Residue Contributions (TMRCs) of Azinphos-methyl in the diet of the overall U.S. population and the 22 population subgroups that DRES considers. They also used anticipated residues for most of the commodities in the DRES file for Azinphos-methyl and several more-accurate (and lower) percent crop treated values to calculate Anticipated Residue Contributions (ARCs)

for the same population group and subgroups.

The summary results of the analyses are presented in Attachment 2 to this memorandum; the results by tolerance type are presented in Attachment 3.

C. RESULTS

The incorporation of the revised RfD for Azinphos-methyl into DRES reduced all TMRCs somewhat, compared to their values in the previous DRES analysis. The TMRC for the U.S. population as a whole was 0.015509 mg/kg bodyweight per day and the resulting risk estimate was 1,033.9% of the RfD. The TMRCs and percent RfDs for the two most highly exposed subgroups were:

<u>Subgroup</u>	<u>TMRC*</u>	<u>% RfD</u>
Non-nursing Infants (Less Than One Year Old)	0.047273	3,151.5
Children (One to Six Years Old)	0.037805	2,520.4

\*Mg/kg bodyweight per day

The (new) ARCs, a result of the addition of the anticipated residues to the DRES Azinphos-methyl file, were dramatically lower than the TMRCs, with the ARC for the U.S. population as a whole being 0.000195 mg/kg bodyweight per day (13.0% of the RfD). The ARCs and percent RfDs for the most highly exposed subgroups were:

<u>Subgroup</u>	<u>TMRC*</u>	<u>% RfD</u>
Non-nursing Infants (Less Than One Year Old)	0.000803	53.5
Children (One to Six Years Old)	0.000495	33.0

\*Mg/kg bodyweight per day

All other subgroups had ARCs of less than 22.0% of the RfD.

D. DISCUSSION

The addition of anticipated residues to the DRES Azinphos-methyl files and the incorporation of the new reference dose for Azinphos-methyl into DRES reduced the estimates of dietary exposure/risk for the U.S. population and each of the subgroups that is considered by DRES to below or substantially below the RfD. The RfD is the dose below which adverse effects are not expected to occur if ingestion occurs over a lifetime. The ARC exposure/risk estimate for the most highly exposed subgroup, Non-nursing

Infants (Less Than One Year Old), was a little over 50% of the RfD and the U.S. population as a whole had an exposure of less than one-eighth of the RfD. All other subgroups had estimated dietary risks of less than one-third of the RfD. Thus, these changes in the Azinphos-methyl toxicological endpoint and dietary exposure values have removed the chronic dietary concerns that surrounded this chemical when the only appropriate exposure data that were available for it were tolerance level residues and total crop treatment.

Attachments

cc: CBRS  
Toxicology Branch 1  
Caswell #374 (Azinphos-methyl)  
Michael J. Beringer

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (RfD/PR Committee)	Diarrhea in M; Erythrocyte ChE inhibition in Mkf. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP RfD= 0.001500 EPA RfD= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

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	336	P 2.000000	0.008110		100.00	0.008110
01002AA	BLACKBERRIES	21 COOKED-NFS	336	P 2.000000	0.008110		100.00	0.008110
01002AA	BLACKBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	336	P 2.000000	0.008110		100.00	0.008110
01003AA	BOYSENBERRIES	10 RAW-FRESH OR NFS	336	P 2.000000	0.008110		100.00	0.008110
01005AA	LOGANBERRIES	00 NOT SPECIFIED (NO CONSUMPTION)	336	P 2.000000	0.008110		100.00	0.008110
01006AA	RASPBERRIES	10 RAW-FRESH OR NFS	336	P 2.000000	0.008110		100.00	0.008110
01006AA	RASPBERRIES	15 RAW-FRESH OR CANNED	336	P 2.000000	0.008110		100.00	0.008110
01006AA	RASPBERRIES	31 COOKED-FRESH OR CANNED	336	P 2.000000	0.008110		100.00	0.008110
01006AA	RASPBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	336	P 2.000000	0.008110		100.00	0.008110
01006AA	RASPBERRIES	70 RAW-FROZEN	336	P 2.000000	0.008110		100.00	0.008110
01009AA	BLUEBERRIES	10 RAW-FRESH OR NFS	7F0539	P 5.000000	0.002870		100.00	0.002870
01009AA	BLUEBERRIES	21 COOKED-NFS	7F0539	P 5.000000	0.002870		100.00	0.002870
01009AA	BLUEBERRIES	22 COOKED-FRESH-BAKED	7F0539	P 5.000000	0.002870		100.00	0.002870
01009AA	BLUEBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	7F0539	P 5.000000	0.002870		100.00	0.002870
01010AA	CRANBERRIES	10 RAW-FRESH OR NFS	314	P 2.000000	0.021740		100.00	0.021740
01010AA	CRANBERRIES	21 COOKED-NFS	314	P 2.000000	0.021740		100.00	0.021740
01010AA	CRANBERRIES	31 COOKED-FRESH OR CANNED	314	P 2.000000	0.021740		100.00	0.021740
01010AA	CRANBERRY- JUICE	15 RAW-FRESH OR CANNED	314	P 2.000000	0.021740C		100.00	0.021740
01010JA	CRANBERRY- JUICE	31 COOKED-FRESH OR CANNED	314	P 2.000000	0.021740C		100.00	0.021740
01013AA	GOOSEBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	6E1818	P 5.000000	0.008110		100.00	0.008110
01014AA	GRAPES-FRESH	10 RAW-FRESH OR NFS	249	P 5.000000	0.000560		100.00	0.000560
01014AA	GRAPES-FRESH	21 COOKED-NFS	249	P 5.000000	0.000560		100.00	0.000560
01014AA	GRAPES-FRESH	31 COOKED-FRESH OR CANNED	249	P 5.000000	0.000560		100.00	0.000560
01014DA	GRAPES-RAISINS	10 RAW-FRESH OR NFS	249	P 5.000000	0.002130C		100.00	0.002130
01014DA	GRAPES-RAISINS	21 COOKED-NFS	249	P 5.000000	0.002130C		100.00	0.002130
01014DA	GRAPES-RAISINS	22 COOKED-FRESH-BAKED	249	P 5.000000	0.002130C		100.00	0.002130
01014JA	GRAPES- JUICE	10 RAW-FRESH OR NFS	249	P 5.000000	0.000560C		100.00	0.000560
01014JA	GRAPES- JUICE	15 RAW-FRESH OR CANNED	249	P 5.000000	0.000560C		100.00	0.000560
01014JA	GRAPES- JUICE	21 COOKED-NFS	207	P 2.000000	0.000910		100.00	0.000910
01016AA	STRAWBERRIES	10 RAW-FRESH OR NFS	207	P 2.000000	0.000910		100.00	0.000910
01016AA	STRAWBERRIES	21 COOKED-NFS	207	P 2.000000	0.000910		100.00	0.000910
01016AA	STRAWBERRIES	70 RAW-FROZEN	207	P 2.000000	0.000910		100.00	0.000910
02001AA	CITRUS CITRUS	22 COOKED-FRESH-BAKED	355	P 2.000000	2.000000		100.00	2.000000
02002AA	GRAPEFRUIT-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	355	P 2.000000	0.004360		100.00	0.004360
02002AB	GRAPEFRUIT-PULP	10 RAW-FRESH OR NFS	355	P 2.000000	0.004360		100.00	0.004360
02002AB	GRAPEFRUIT-PULP	21 COOKED-NFS	355	P 2.000000	0.004360		100.00	0.004360
02002AB	GRAPEFRUIT- JUICE	15 RAW-FRESH OR CANNED	355	P 2.000000	0.004360		100.00	0.004360
02002JA	GRAPEFRUIT- JUICE	31 COOKED-FRESH OR CANNED	355	P 2.000000	0.004360		100.00	0.004360
02003AA	KUMQUATS	10 RAW-FRESH OR NFS	355	P 2.000000	2.000000		100.00	2.000000
02004AA	LEMONS-UNSPEC	10 RAW-FRESH OR NFS	355	P 2.000000	0.005000		100.00	0.005000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (RD/PR Committee)	Diarrhea in M; Erythrocyte Che inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP RfD= 0.001500 EPA RfD= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
02004AA	LEMONS-UNSPEC	22 COOKED-FRESH-BAKED	355	P 2.000000	0.005000		100.00	0.005000
02004AB	LEMONS-PULP	10 RAW-FRESH OR NFS	355	P 2.000000	0.005000		100.00	0.005000
02004AB	LEMONS-PULP	31 COOKED-FRESH OR CANNED	355	P 2.000000	0.005000		100.00	0.005000
02004HA	LEMONS-PEEL	10 RAW-FRESH OR NFS	355	P 2.000000	0.006000		100.00	0.006000
02004HA	LEMONS-PEEL	21 COOKED-NFS	355	P 2.000000	0.006000		100.00	0.006000
02004JA	LEMONS-JUICE	10 RAW-FRESH OR NFS	355	P 2.000000	0.005000		100.00	0.005000
02004JA	LEMONS-JUICE	15 RAW-FRESH OR CANNED	355	P 2.000000	0.005000		100.00	0.005000
02004JA	LEMONS-JUICE	21 COOKED-NFS	355	P 2.000000	0.005000		100.00	0.005000
02004JA	LEMONS-JUICE	31 COOKED-FRESH OR CANNED	355	P 2.000000	0.005000		100.00	0.005000
02005AA	LIMES-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	355	P 2.000000	0.005000		100.00	0.005000
02005AB	LIMES-PULP	10 RAW-FRESH OR NFS	355	P 2.000000	0.005000		100.00	0.005000
02005HA	LIMES-PEEL	21 COOKED-NFS	355	P 2.000000	0.006000		100.00	0.006000
02005JA	LIMES-JUICE	10 RAW-FRESH OR NFS	355	P 2.000000	0.005000		100.00	0.005000
02005JA	LIMES-JUICE	15 RAW-FRESH OR CANNED	355	P 2.000000	0.005000		100.00	0.005000
02005JA	LIMES-JUICE	31 COOKED-FRESH OR CANNED	355	P 2.000000	0.005000		100.00	0.005000
02006AA	ORANGES-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	355	P 2.000000	0.002500		100.00	0.002500
02006AB	ORANGES-PULP	10 RAW-FRESH OR NFS	355	P 2.000000	0.002500		100.00	0.002500
02006HA	ORANGES-PEEL	21 COOKED-NFS	355	P 2.000000	0.002500		100.00	0.002500
02006HA	ORANGES-PEEL	21 COOKED-NFS	355	P 2.000000	0.003000		100.00	0.003000
02006HA	ORANGES-PEEL	22 COOKED-FRESH-BAKED	355	P 2.000000	0.003000		100.00	0.003000
02006HA	ORANGES-PEEL	31 COOKED-FRESH OR CANNED	355	P 2.000000	0.003000		100.00	0.003000
02006JA	ORANGES-JUICE	15 RAW-FRESH OR CANNED	355	P 2.000000	0.002500		100.00	0.002500
02006JA	ORANGES-JUICE	31 COOKED-FRESH OR CANNED	355	P 2.000000	0.002500		100.00	0.002500
02007AA	TANGELOS	10 RAW-FRESH OR NFS	355	P 2.000000	0.002500		100.00	0.002500
02008AA	TANGERINES	10 RAW-FRESH OR NFS	355	P 2.000000	0.002500		100.00	0.002500
02008JA	TANGERINE-JUICE	15 RAW-FRESH OR CANNED	355	P 2.000000	0.002500		100.00	0.002500
03001AA	ALMONDS	10 RAW-FRESH OR NFS	7F0582	P 0.300000	0.040000		30.00	0.012000
03001AA	ALMONDS	21 COOKED-NFS	7F0582	P 0.300000	0.040000		30.00	0.012000
03001AA	ALMONDS	22 COOKED-FRESH-BAKED	7F0582	P 0.300000	0.040000		30.00	0.012000
03005AA	FILBERTS	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.300000		100.00	0.300000
03005AA	FILBERTS	21 COOKED-NFS	0F0869	P 0.300000	0.300000		100.00	0.300000
03005AA	FILBERTS	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.300000		100.00	0.300000
03008AA	PECANS	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.300000		100.00	0.300000
03008AA	PECANS	21 COOKED-NFS	0F0869	P 0.300000	0.300000		100.00	0.300000
03008AA	PECANS	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.300000		100.00	0.300000
03008AA	PECANS	23 COOKED-FRESH-BOILED	0F0869	P 0.300000	0.300000		100.00	0.300000
03008AA	PECANS	62 COOKED-FRESH OR FROZEN-BAKED	0F0869	P 0.300000	0.300000		100.00	0.300000
03009AA	WALNUTS	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.200000		20.00	0.040000
03009AA	WALNUTS	21 COOKED-NFS	0F0869	P 0.300000	0.200000		20.00	0.040000
03009AA	WALNUTS	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.200000		20.00	0.040000

Attachment 1 (cont.)

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FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
03011AA	PISTACHIO NUTS	10 RAW-FRESH OR NFS	8E2125	P 0.300000	0.300000		100.00	0.300000
04001AA	APPLES-FRESH	10 RAW-FRESH OR NFS	115	P 2.000000	0.003250		100.00	0.003250
04001AA	APPLES-FRESH	21 COOKED-NFS	115	P 2.000000	0.003250		100.00	0.003250
04001AA	APPLES-FRESH	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.003250		100.00	0.003250
04001AA	APPLES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	115	P 2.000000	0.003250		100.00	0.003250
04001DA	APPLES-DRIED	10 RAW-FRESH OR NFS	115	P 2.000000	0.019500C		100.00	0.019500
04001DA	APPLES-DRIED	22 COOKED-FRESH-BAKED	115	P 2.000000	0.019500C		100.00	0.019500
04001DA	APPLES-DRIED	62 COOKED-FRESH OR FROZEN-BAKED	115	P 2.000000	0.019500C		100.00	0.019500
04001JA	APPLES-JUICE	15 RAW-FRESH OR CANNED	115	P 2.000000	0.003250C		100.00	0.003250
04001JA	APPLES-JUICE	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.003250C		100.00	0.003250
04002AA	CRABAPPLES	00 NOT SPECIFIED (NO CONSUMPTION)	115	P 2.000000	2.000000		100.00	2.000000
04003AA	PEARS-FRESH	10 RAW-FRESH OR NFS	115	P 2.000000	0.004460		100.00	0.004460
04003AA	PEARS-FRESH	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.004460		100.00	0.004460
04003AA	PEARS-FRESH	51 COOKED-CANNED	115	P 2.000000	0.004460		100.00	0.004460
04003AA	PEARS-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	115	P 2.000000	0.004460		100.00	0.004460
04003DA	PEARS-DRIED	10 RAW-FRESH OR NFS	115	P 2.000000	0.026750C		100.00	0.026750
04003DA	PEARS-DRIED	21 COOKED-NFS	115	P 2.000000	0.026750C		100.00	0.026750
04004AA	QUINCES	00 NOT SPECIFIED (NO CONSUMPTION)	115	P 2.000000	2.000000		100.00	2.000000
05001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	115	P 2.000000	0.007090		100.00	0.007090
05001AA	APRICOTS-FRESH	21 COOKED-NFS	115	P 2.000000	0.007090		100.00	0.007090
05001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.007090		100.00	0.007090
05001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	115	P 2.000000	0.008510		100.00	0.008510
05001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	115	P 2.000000	0.008510		100.00	0.008510
05002AA	CHERRIES-FRESH	10 RAW-FRESH OR NFS	115	P 2.000000	0.003630		100.00	0.003630
05002AA	CHERRIES-FRESH	21 COOKED-NFS	115	P 2.000000	0.003630		100.00	0.003630
05002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.003630		100.00	0.003630
05002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	115	P 2.000000	0.003630		100.00	0.003630
05002DA	CHERRIES-DRIED	00 NOT SPECIFIED (NO CONSUMPTION)	115	P 2.000000	0.004360C		100.00	0.004360
05002JA	CHERRIES-JUICE	15 RAW-FRESH OR CANNED	115	P 2.000000	0.003630C		100.00	0.003630
05002JA	CHERRIES-JUICE	21 COOKED-NFS	115	P 2.000000	0.003630C		100.00	0.003630
05003AA	NECTARINES	10 RAW-FRESH OR NFS	115	P 2.000000	0.002970		100.00	0.002970
05004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	115	P 2.000000	0.002810		100.00	0.002810
05004AA	PEACHES-FRESH	21 COOKED-NFS	115	P 2.000000	0.002810		100.00	0.002810
05004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.002810		100.00	0.002810
05004DA	PEACHES-DRIED	51 COOKED-CANNED	115	P 2.000000	0.002810		100.00	0.002810
05004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	115	P 2.000000	0.003400C		100.00	0.003400
05005AA	PLUMS-FRESH	21 COOKED-NFS	115	P 2.000000	0.001800		100.00	0.001800
05005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	115	P 2.000000	0.001800		100.00	0.001800
05005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.001800		100.00	0.001800
05005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	115	P 2.000000	0.002160C		100.00	0.002160

Attachment 1 (cont.)

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A. I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (RTD/PR Committee)	Diarrhea in M; Erythrocyte ChE inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP RfD= 0.001500 EPA RfD= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
05005DA	PLUMS-PRUNES	21 COOKED-NFS	115	P 2.000000	0.002160C		100.00	0.002160
05005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	115	P 2.000000	0.002160C		100.00	0.002160
05005JA	PRUNE JUICE	10 RAW-FRESH OR NFS	115	P 2.000000	0.002160C		100.00	0.002160
05005JA	PRUNE JUICE	62 COOKED-FRESH OR FROZEN-BAKED	115	P 2.000000	0.002160C		100.00	0.002160
06015AA	POMEGRANATES	10 RAW-FRESH OR NFS	8E3618	P 0.100000	0.100000		100.00	0.100000
06015AA	POMEGRANATES	21 COOKED-NFS	8E3618	P 0.100000	0.100000		100.00	0.100000
06018AA	KIWI	10 RAW-FRESH OR NFS	8E2111	P 10.000000	10.000000		100.00	10.000000
080480A	PAPRIKA	00 NOT SPECIFIED (NO CONSUMPTION)	7F0539	P 0.300000	0.005260		100.00	0.005260
10002AA	CANTALOUPE-UNSP	00 NOT SPECIFIED (NO CONSUMPTION)	7F0539	P 2.000000	0.000260		100.00	0.000260
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	7F0539	P 2.000000	0.000260		100.00	0.000260
10002AB	CANTALOUPE-PULP	21 COOKED-NFS	7F0539	P 2.000000	0.000260		100.00	0.000260
10003AA	CASABAS	10 RAW-FRESH OR NFS	7F0539	P 2.000000	0.000260		100.00	0.000260
10004AA	CRENSHAW	00 NOT SPECIFIED (NO CONSUMPTION)	7F0539	P 2.000000	0.000260		100.00	0.000260
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	7F0539	P 2.000000	0.000260		100.00	0.000260
10007AA	PERSON MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	7F0539	P 2.000000	0.000260		100.00	0.000260
10008AA	WATERMELON	10 RAW-FRESH OR NFS	7F0539	P 2.000000	0.000260		100.00	0.000260
10008AA	WATERMELON	21 COOKED-NFS	7F0539	P 2.000000	0.000260		100.00	0.000260
10010AA	CUCUMBERS	11 RAW-FRESH OR NFS	7F0539	P 2.000000	0.000200		100.00	0.000200
10010AA	CUCUMBERS	21 COOKED-NFS	7F0539	P 2.000000	0.000200		100.00	0.000200
11001AA	EGGPLANT	10 RAW-FRESH OR NFS	7F0539	P 0.300000	0.000260		100.00	0.000260
11001AA	EGGPLANT	21 COOKED-NFS	7F0539	P 0.300000	0.000260		100.00	0.000260
11001AA	EGGPLANT	25 COOKED-FRESH-FRIED	7F0539	P 0.300000	0.000260		100.00	0.000260
11003AA	PEPPERS, SWEET	10 RAW-FRESH OR NFS	7F0539	P 0.300000	0.005430		100.00	0.005430
11003AA	PEPPERS, SWEET	21 COOKED-NFS	7F0539	P 0.300000	0.005430		100.00	0.005430
11003AB	CHILI PEPPERS	00 NOT SPECIFIED (NO CONSUMPTION)	7F0539	P 0.300000	0.005260		100.00	0.005260
11003AD	PEPPERS-OTHER	10 RAW-FRESH OR NFS	7F0539	P 0.300000	0.005430		100.00	0.005430
11003AD	PEPPERS-OTHER	21 COOKED-NFS	7F0539	P 0.300000	0.005430		100.00	0.005430
11003AD	PEPPERS-OTHER	51 COOKED-CANNED	7F0539	P 0.300000	0.005430		100.00	0.005430
11004AA	PIMIENTOS	10 RAW-FRESH OR NFS	7F0539	P 0.300000	0.005430		100.00	0.005430
11004AA	PIMIENTOS	21 COOKED-NFS	7F0539	P 0.300000	0.005430		100.00	0.005430
11005AA	TOMATOES-WHOLE	31 COOKED-FRESH OR CANNED	314	P 2.000000	0.001250		100.00	0.001250
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	314	P 2.000000	0.001250		100.00	0.001250
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	314	P 2.000000	0.001250		100.00	0.001250
11005JA	TOMATOES-JUICE	10 RAW-FRESH OR NFS	314	P 2.000000	0.001250		100.00	0.001250
11005JA	TOMATOES-JUICE	21 COOKED-NFS	314	P 2.000000	0.001250		100.00	0.001250
11005RA	TOMATOES-PUREE	10 RAW-FRESH OR NFS	314	P 2.000000	0.001250C		100.00	0.001250
11005RA	TOMATOES-PUREE	21 COOKED-NFS	314	P 2.000000	0.001250C		100.00	0.001250
11005RA	TOMATOES-PUREE	31 COOKED-FRESH OR CANNED	314	P 2.000000	0.001250C		100.00	0.001250

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (Rfd/PR Committee)	Diarrhea in M; Erythrocyte ChE inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP RfD= 0.001500 EPA RfD= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
11005RA	TOMATOES-PUREE	32 COOKED-FRESH OR CANNED-BAKED	314	P 2.000000	0.001250C		100.00	0.001250
11005RA	TOMATOES-PUREE	51 COOKED-CANNED	314	P 2.000000	0.001250C		100.00	0.001250
11005TA	TOMATOES-PASTE	21 COOKED-NFS	314	P 2.000000	0.001250C		100.00	0.001250
11005TA	TOMATOES-PASTE	22 COOKED-FRESH-BAKED	314	P 2.000000	0.001250C		100.00	0.001250
11005TA	TOMATOES-PASTE	31 COOKED-FRESH OR CANNED	314	P 2.000000	0.001250C		100.00	0.001250
11005UA	TOMATOES-CATSUP	21 COOKED-NFS	314	P 2.000000	0.001250C		100.00	0.001250
13002AA	CELERY	10 RAW-FRESH OR NFS	7F0539	P 2.000000	0.000250		100.00	0.000250
13002AA	CELERY	21 COOKED-NFS	7F0539	P 2.000000	0.000250		100.00	0.000250
13005AA	BROCCOLI	21 COOKED-NFS	207	P 2.000000	0.000080		100.00	0.000080
13005AA	BROCCOLI	31 COOKED-FRESH OR CANNED	207	P 2.000000	0.000080		100.00	0.000080
13005AA	BROCCOLI	63 COOKED-FRESH OR FROZEN-BOILED	207	P 2.000000	0.000080		100.00	0.000080
13006AA	BRUSSEL SPROUTS	21 COOKED-NFS	355	P 2.000000	2.000000		100.00	2.000000
13006AA	BRUSSEL SPROUTS	23 COOKED-FRESH-BOILED	355	P 2.000000	2.000000		100.00	2.000000
13007AA	CABBAGE	11 RAW-FRESH OR NFS	207	P 2.000000	0.000730		100.00	0.000730
13007AA	CABBAGE	10 RAW-FRESH-PICKLED,CORNE,OR CURED	207	P 2.000000	0.000730		100.00	0.000730
13007AA	CABBAGE	21 COOKED-NFS	207	P 2.000000	0.000730		100.00	0.000730
13008AA	CAULIFLOWER	10 RAW-FRESH OR NFS	207	P 2.000000	0.000060		100.00	0.000060
13008AA	CAULIFLOWER	21 COOKED-NFS	207	P 2.000000	0.000060		100.00	0.000060
13010AA	CABBAGE-CHINESE	10 RAW-FRESH OR NFS	207	P 2.000000	0.000730		100.00	0.000730
13010AA	CABBAGE-CHINESE	21 COOKED-NFS	207	P 2.000000	0.000730		100.00	0.000730
13016AA	FENNEL	00 NOT SPECIFIED (NO CONSUMPTION)	7F0539	P 2.000000	2.000000		100.00	2.000000
13018AA	ARTICHOKE-GLOBE	21 COOKED-NFS	314	P 2.000000	0.120000		100.00	0.120000
13022AA	PARSLEY	10 RAW-FRESH OR NFS	9E2233	P 5.000000	5.000000		5.00	0.250000
13022AA	PARSLEY	21 COOKED-NFS	9E2233	P 5.000000	5.000000		5.00	0.250000
13022AA	PARSLEY	53 COOKED-CANNED-BOILED	9E2233	P 5.000000	5.000000		5.00	0.250000
13024AA	SPINACH	10 RAW-FRESH OR NFS	314	P 2.000000	0.000250		100.00	0.000250
13024AA	SPINACH	21 COOKED-NFS	314	P 2.000000	0.000250		100.00	0.000250
13024AA	SPINACH	31 COOKED-FRESH OR CANNED	314	P 2.000000	0.000250		100.00	0.000250
14007AA	GARLIC	10 RAW-FRESH OR NFS	207	P 2.000000	0.005000		100.00	0.005000
14007AA	GARLIC	21 COOKED-NFS	207	P 2.000000	0.005000		100.00	0.005000
14007AA	GARLIC	32 COOKED-FRESH OR CANNED-BAKED	207	P 2.000000	0.005000		100.00	0.005000
14010AA	LEEK	31 COOKED-FRESH OR CANNED	207	P 2.000000	0.005000		100.00	0.005000
14011AA	ONIONS-DRY-BULB	10 RAW-FRESH OR NFS	207	P 2.000000	0.005000		100.00	0.005000
14011AA	ONIONS-DRY-BULB	21 COOKED-NFS	207	P 2.000000	0.005000		100.00	0.005000
14011AA	ONIONS-DRY-BULB	22 COOKED-FRESH-BAKED	207	P 2.000000	0.005000		100.00	0.005000
14011AA	ONIONS-DRY-BULB	31 COOKED-FRESH OR CANNED	207	P 2.000000	0.005000		100.00	0.005000
14011DA	ONIONS-DRYED	12 RAW-FRESH-DRIED	207	P 2.000000	0.005000		100.00	0.005000
14013AA	POTATO(WH)-WHOLE	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.000450		100.00	0.000450
14013AA	POTATO(WH)-WHOLE	21 COOKED-NFS	0F0869	P 0.300000	0.000450		100.00	0.000450
14013AA	POTATO(WH)-WHOLE	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.000450		100.00	0.000450

Attachment 1 (cont.)

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E. (Rfd/PR Committee)	Diarrhea in M; Erythrocyte CHE inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP Rfd= 0.001500 EPA Rfd= 0.009000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
14013AB	POTATO(WH)-UNSPEC	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.000450		100.00	0.000450
14013AC	POTATO(WH)-PULP	21 COOKED-NFS	0F0869	P 0.300000	0.000450		100.00	0.000450
14013AC	POTATO(WH)-PULP	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.000450		100.00	0.000450
14013AC	POTATO(WH)-PULP	23 COOKED-FRESH-BOILED	0F0869	P 0.300000	0.000450		100.00	0.000450
14013AC	POTATO(WH)-PULP	25 COOKED-FRESH-FRIED	0F0869	P 0.300000	0.000450		100.00	0.000450
14013DA	POTATO(WH)-DRY	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.000450C		100.00	0.000450
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	0F0869	P 0.300000	0.000450C		100.00	0.000450
14013HA	POTATO(WH)-PEEL	22 COOKED-FRESH-BAKED	0F0869	P 0.300000	0.000450		100.00	0.000450
14017AA	SHALLOTS	00 NOT SPECIFIED (NO CONSUMPTION)	207	P 2.000000	0.005000		100.00	0.005000
14030AA	PARSLEY ROOTS	00 NOT SPECIFIED (NO CONSUMPTION)	9E2233	P 2.000000	2.000000		5.00	0.100000
15001AA	BEANS-DRY-GRN	00 NOT SPECIFIED (NO CONSUMPTION)	0F0869	P 0.300000	0.005000		100.00	0.005000
15001AB	BEANS-DRY-KIDNEY	31 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15001AC	BEANS-DRY-LIMA	21 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15001AD	BEANS-DRY-NAVY	21 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15001AE	BEANS-DRY-OTHER	31 COOKED-FRESH OR CANNED	0F0869	P 0.300000	0.005000		100.00	0.005000
15001AF	BEANS-DRY-PINTO	21 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15003AA	BEANS-SUCC-GREEN	21 COOKED-NFS	314	P 2.000000	0.000100		100.00	0.000100
15013AA	MUNG BEANS	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15013AA	MUNG BEANS	21 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15022AA	BEANS-DRY-BROAD	00 NOT SPECIFIED (NO CONSUMPTION)	0F0869	P 0.300000	0.005000		100.00	0.005000
15023AA	BEANS-DRY-PIGEON	21 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15027AA	BEANS-UNSPEC	21 COOKED-NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
15029AA	SOYBEAN-SPROUTED	00 NOT SPECIFIED (NO CONSUMPTION)	0F0869	P 0.200000	0.200000		1.00	0.002000
15030AA	BEANS-DRY-HYAC	00 NOT SPECIFIED (NO CONSUMPTION)	0F0869	P 0.300000	0.005000		100.00	0.005000
15031AA	BLKEYE PEAS-DRY	21 COOKED-NFS	0F0869	P 0.300000	0.300000		1.00	0.003000
15032AA	BEANS-DRY	31 COOKED-FRESH OR CANNED	0F0869	P 0.300000	0.005000		100.00	0.005000
15032AA	BEANS-DRY	10 RAW-FRESH OR NFS	0F0869	P 0.300000	0.005000		100.00	0.005000
16004AA	ONIONS-GREEN	25 COOKED-FRESH-FRIED	207	P 2.000000	0.005000		100.00	0.005000
16004AA	ONIONS-GREEN	25 COOKED-FRESH-FRIED	207	P 2.000000	0.005000		100.00	0.005000
24001AA	BARLEY	21 COOKED-NFS	207	P 2.000000	0.080000		1.00	0.000800
24003AA	OATS	21 COOKED-NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24003AA	OATS	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000
24003AA	OATS	23 COOKED-FRESH-BOILED	7F0582	P 0.200000	0.200000		1.00	0.002000
24005AA	RYE-ROUGH	00 NOT SPECIFIED (NO CONSUMPTION)	7F0582	P 0.200000	0.200000		1.00	0.002000
24005GA	RYE-GERM	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000

Attachment 1 (cont.)

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374, CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (Rfd/PR Committee)	Diarrhea in M; Erythrocyte ChE inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP Rfd= 0.001500 EPA Rfd= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
24005WA	RYE - FLOUR	21 COOKED-NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24005WA	RYE - FLOUR	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000
24007AA	WHEAT-ROUGH	10 RAW-FRESH OR NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007AA	WHEAT-ROUGH	21 COOKED-NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007AA	WHEAT-ROUGH	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000
24007AA	WHEAT-ROUGH	23 COOKED-FRESH-BOILED	7F0582	P 0.200000	0.200000		1.00	0.002000
24007GA	WHEAT-GERM	10 RAW-FRESH OR NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007GA	WHEAT-GERM	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000
24007HA	WHEAT-BRAN	10 RAW-FRESH OR NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007HA	WHEAT-BRAN	21 COOKED-NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007HA	WHEAT-BRAN	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000
24007WA	WHEAT-FLOUR	10 RAW-FRESH OR NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007WA	WHEAT-FLOUR	21 COOKED-NFS	7F0582	P 0.200000	0.200000		1.00	0.002000
24007WA	WHEAT-FLOUR	22 COOKED-FRESH-BAKED	7F0582	P 0.200000	0.200000		1.00	0.002000
24007WA	WHEAT-FLOUR	25 COOKED-FRESH-FRIED	7F0582	P 0.200000	0.200000		1.00	0.002000
25003SA	CANE SUGAR	10 RAW-FRESH OR NFS	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SA	CANE SUGAR	21 COOKED-NFS	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SA	CANE SUGAR	22 COOKED-FRESH-BAKED	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SA	CANE SUGAR	31 COOKED-FRESH OR CANNED	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SB	SUGAR-MOLASSES	10 RAW-FRESH OR NFS	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SB	SUGAR-MOLASSES	21 COOKED-NFS	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SB	SUGAR-MOLASSES	22 COOKED-FRESH-BAKED	5F0442	P 0.300000	0.200000		35.00	0.070000
25003SB	SUGAR-MOLASSES	31 COOKED-FRESH OR CANNED	5F0442	P 0.300000	0.200000		35.00	0.070000
270030A	COTTONSEED-OIL	18 PROCESSED OIL	115	P 0.500000	0.500000		10.00	0.050000
270030A	COTTONSEED-OIL	18 PROCESSED OIL	115	P 0.500000	0.500000		10.00	0.050000
270100A	SOYBEANS-OIL	18 PROCESSED OIL	0F0869	P 1.000000	1.000000		1.00	0.010000
28023AA	SOYBEANS-UNSPEC	21 COOKED-NFS	0F0869	P 0.200000	0.200000		1.00	0.002000
28023AB	SOYBEANS-DRY	10 RAW-FRESH OR NFS	0F0869	P 0.200000	0.200000		1.00	0.002000
28023AB	SOYBEANS-DRY	21 COOKED-NFS	0F0869	P 0.200000	0.200000		1.00	0.002000
28023AB	SOYBEANS-DRY	23 COOKED-FRESH-BOILED	0F0869	P 0.200000	0.200000		1.00	0.002000
28023AB	SOYBEANS-DRY	25 COOKED-FRESH-FRIED	0F0869	P 0.200000	0.200000		1.00	0.002000
28023AB	SOYBEANS-DRY	31 COOKED-FRESH OR CANNED	0F0869	P 0.200000	0.200000		1.00	0.002000
280234A	SOY-FL, FULL FAT	21 COOKED-NFS	0F0869	P 0.200000	0.200000		1.00	0.002000
280234A	SOY-FL, FULL FAT	22 COOKED-FRESH-BAKED	0F0869	P 0.200000	0.200000		1.00	0.002000
280234A	SOY-FL, FULL FAT	31 COOKED-FRESH OR CANNED	0F0869	P 0.200000	0.200000		1.00	0.002000
280234B	SOY-FL, LOW FAT	21 COOKED-NFS	0G0869	P 0.200000	0.200000		1.00	0.002000
280234C	SOY-FL, DEFAT	10 RAW-FRESH OR NFS	0F0869	P 0.200000	0.200000		1.00	0.002000
280234C	SOY-FL, DEFAT	21 COOKED-NFS	0F0869	P 0.200000	0.200000		1.00	0.002000
280234C	SOY-FL, DEFAT	22 COOKED-FRESH-BAKED	0F0869	P 0.200000	0.200000		1.00	0.002000
280234C	SOY-FL, DEFAT	51 COOKED-CANNED	0F0869	P 0.200000	0.200000		1.00	0.002000

Attachment 1 (cont.)

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (Rfd/PR Committee)	Diarrhea in M; Erythrocyte Che inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP Rfd= 0.001500 EPA Rfd= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
28023UC	SOY-FL,DEFAT	53 COOKED-CANNED-BOILED	0F0869	P 0.200000	0.200000		1.00	0.002000
43058AA	WINE AND SHERRY	10 RAW-FRESH OR NFS	249	P 5.000000	0.000560		100.00	0.000560
43058AA	WINE AND SHERRY	21 COOKED-NFS	249	P 5.000000	0.000560		100.00	0.000560
50000DB	MILK-NON-FAT SOL	10 RAW-FRESH OR NFS	0F0869	P 0.040000	0.010000		100.00	0.010000
50000DB	MILK-NON-FAT SOL	21 COOKED-NFS	0F0869	P 0.040000	0.010000		100.00	0.010000
50000DB	MILK-NON-FAT SOL	51 COOKED-CANNED	0F0869	P 0.040000	0.010000		100.00	0.010000
50000FA	MILK-FAT SOLIDS	10 RAW-FRESH OR NFS	0F0869	P 0.040000	0.010000		100.00	0.010000
50000FA	MILK-FAT SOLIDS	21 COOKED-NFS	0F0869	P 0.040000	0.010000		100.00	0.010000
50000FA	MILK-FAT SOLIDS	51 COOKED-CANNED	0F0869	P 0.040000	0.010000		100.00	0.010000
50000SA	MILK SUG (LACT)	21 COOKED-NFS	0F0869	P 0.040000	0.010000		100.00	0.010000
50000SA	MILK SUG (LACT)	51 COOKED-CANNED	0F0869	P 0.040000	0.010000		100.00	0.010000
53001BA	BEEF-MEAT BYP	21 COOKED-NFS	0F0869	P 0.100000	0.001000		100.00	0.001000
53001BA	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED		P 0.100000	0.001000		100.00	0.001000
53001BB	BEEF-OTH ORGAN	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53001BB	BEEF-OTH ORGAN	51 COOKED-CANNED		P 0.100000	0.001000		100.00	0.001000
53001DA	BEEF-DRIED	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS		P 0.100000	0.001000		100.00	0.001000
53001FA	BEEF-FAT	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED		P 0.100000	0.001000		100.00	0.001000
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED		P 0.100000	0.001000		100.00	0.001000
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED		P 0.100000	0.001000		100.00	0.001000
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED		P 0.100000	0.001000		100.00	0.001000
53001KA	BEEF-KIDNEY	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53001LA	BEEF-LIVER	25 COOKED-FRESH-FRIED		P 0.100000	0.001000		100.00	0.001000
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED		P 0.100000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	10 RAW-FRESH OR NFS		P 0.100000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	22 COOKED-FRESH-BAKED		P 0.100000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	23 COOKED-FRESH-BOILED		P 0.100000	0.001000		100.00	0.001000
53001MA	BEEF-LEAN	24 COOKED-FRESH-BROILED		P 0.100000	0.001000		100.00	0.001000
53002BA	GOAT-MEAT BYP	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.100000	0.001000		100.00	0.001000
53002BB	GOAT-OTH ORGAN	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.100000	0.001000		100.00	0.001000
53002FA	GOAT-FAT	23 COOKED-FRESH-BOILED		P 0.100000	0.001000		100.00	0.001000
53002FA	GOAT-FAT	25 COOKED-FRESH-FRIED		P 0.100000	0.001000		100.00	0.001000
53002KA	GOAT-KIDNEY	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.100000	0.001000		100.00	0.001000
53002LA	GOAT-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.100000	0.001000		100.00	0.001000
53002MA	GOAT-LEAN	23 COOKED-FRESH-BOILED		P 0.100000	0.001000		100.00	0.001000
53002MA	GOAT-LEAN	25 COOKED-FRESH-FRIED		P 0.100000	0.001000		100.00	0.001000
53003AA	HORSE	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.100000	0.001000		100.00	0.001000
53005BA	SHEEP-MEAT BYP	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (Rfd/PR Committee)	Diarrhea in M; Erythrocyte CHE inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP Rfd= 0.001500 EPA Rfd= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
530058B	SHEEP-OTH ORGAN	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53005FA	SHEEP-FAT	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53005KA	SHEEP-KIDNEY	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53005LA	SHEEP-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.100000	0.001000		100.00	0.001000
53005MA	SHEEP-LEAN	21 COOKED-NFS		P 0.100000	0.001000		100.00	0.001000
53005MA	SHEEP-LEAN	31 COOKED-FRESH OR CANNED		P 0.100000	0.001000		100.00	0.001000

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Azinphos-methyl (Guthion) Caswell #374 CAS No. 86-50-0 A.I. CODE: 058001 CFR No. 180.154	1yr feeding- dog NOEL= 0.1500 mg/kg 5.00 ppm LEL= 0.6900 mg/kg 25.00 ppm ONCO: E (RfD/PR Committee)	Diarrhea in M; Erythrocyte CHE inhibition in M&F. Equivocal evidence of pancreas & adrenal tumors in rat, negative in mouse	ADI UF -->100 OPP RfD= 0.001500 EPA RfD= 0.000000	No data gaps.  Reg. Std. Sept, 1986.	HED complete 06/30/86. EPA deferred 08/05/86. Pending RAC approval of RAF CHE report. WHO last reviewed 1991.

POPULATION SUBGROUP	TOTAL TMRC (MG/KG BODY WEIGHT/DAY)		NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES	
	CURRENT TMRC*	NEW TMRC**			ARC	%RFD
U.S. POPULATION - 48 STATES	0.015509	0.015509	1033.934667	0.000533	0.000195	13.01640
U.S. POPULATION - SPRING SEASON	0.014952	0.014952	996.797400	0.000000	0.000182	12.13633
U.S. POPULATION - SUMMER SEASON	0.015762	0.015762	1050.825867	0.001467	0.000187	12.45693
U.S. POPULATION - FALL SEASON	0.015627	0.015627	1041.792800	0.000733	0.000202	13.46187
U.S. POPULATION - WINTER SEASON	0.015680	0.015680	1045.334133	0.000000	0.000204	13.58213
NORTHEAST REGION	0.017877	0.017877	1191.802533	0.000000	0.000197	13.11500
NORTH CENTRAL REGION	0.015324	0.015324	1021.598933	0.000000	0.000203	13.50500
SOUTHERN REGION	0.012862	0.012862	857.474067	0.000000	0.000175	11.63600
WESTERN REGION	0.017154	0.017154	1143.593400	0.003067	0.000209	13.96653
HISPANICS	0.017476	0.017476	1165.087667	0.000000	0.000206	13.74820
NON-HISPANIC WHITES	0.015677	0.015677	1045.159467	0.000667	0.000197	13.12333
NON-HISPANIC BLACKS	0.013187	0.013187	879.147467	0.000000	0.000167	11.14900
NON-HISPANIC OTHERS	0.017889	0.017889	1192.571133	0.000000	0.000190	12.68480
NURSING INFANTS (< 1 YEAR OLD)	0.025889	0.025889	1725.964000	0.000000	0.000194	12.92767
NON-NURSING INFANTS (< 1 YEAR OLD)	0.047273	0.047273	3151.537667	0.000000	0.000803	53.50733
FEMALES (13+ YEARS, PREGNANT)	0.012224	0.012224	814.915733	0.000000	0.000153	10.22533
FEMALES 13+ YEARS, NURSING CHILDREN (1-6 YEARS OLD)	0.014137	0.014137	942.488333	0.000000	0.000162	10.78220
CHILDREN (7-12 YEARS OLD)	0.037805	0.037805	2520.360733	0.000000	0.000495	32.98147
CHILDREN (13-19 YEARS OLD)	0.022222	0.022222	1481.486733	0.000000	0.000329	21.94500
MALES (13-19 YEARS OLD)	0.013043	0.013043	869.552200	0.001667	0.000205	13.68393
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.012060	0.012060	804.022333	0.006267	0.000172	11.46473
MALES (20 YEARS AND OLDER)	0.010533	0.010533	702.173400	0.000000	0.000121	8.06513
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)	0.011613	0.011613	774.213200	0.000000	0.000114	7.63320

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

TOLERANCE ASSESSMENT SUMMARY FOR Azinphos-methyl (Guthion)  
USING ANTICIPATED RESIDUES  
CASWELL #374

DATE: 12/08/93

ANALYSIS FOR POPULATION SUB-GROUP: U.S. POPULATION - 48 STATES

EXISTING ANTICIPATED RESIDUES (PUBLISHED ONLY)  
RESULT IN AN ARC OF: 0.000195 MG/KG/DAY  
THE EXISTING ARC IS EQUIVALENT TO: 13.016 % OF THE ADI.

NO NEW ANTICIPATED RESIDUES ARE IN THE FILE.

NO OTHER PENDING ANTICIPATED RESIDUES ARE IN THE FILE

ANALYSIS FOR POPULATION SUB-GROUP: NON-NURSING INFANTS (< 1 YEAR OLD)

EXISTING ANTICIPATED RESIDUES (PUBLISHED ONLY)  
RESULT IN AN ARC OF: 0.000803 MG/KG/DAY  
THE EXISTING ARC IS EQUIVALENT TO: 53.507 % OF THE ADI.

NO NEW ANTICIPATED RESIDUES ARE IN THE FILE.

NO OTHER PENDING ANTICIPATED RESIDUES ARE IN THE FILE

ANALYSIS FOR POPULATION SUB-GROUP: CHILDREN (1-6 YEARS OLD)

EXISTING ANTICIPATED RESIDUES (PUBLISHED ONLY)  
RESULT IN AN ARC OF: 0.000495 MG/KG/DAY  
THE EXISTING ARC IS EQUIVALENT TO: 32.981 % OF THE ADI.

NO NEW ANTICIPATED RESIDUES ARE IN THE FILE.

NO OTHER PENDING ANTICIPATED RESIDUES ARE IN THE FILE

Attachment 3

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