

US EPA ARCHIVE DOCUMENT

7-18-96



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

OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

JUL 18 1996

MEMORANDUM

SUBJECT: **IPRODIONE:** Further Information regarding Upper Bound Carcinogenic Dietary Exposure and Risk Estimates.

FROM: Brian Steinwand *BS*
Dietary Risk Evaluation Section
Science Analysis Branch/HED (7509C)

THROUGH: Elizabeth Doyle, Section Head *E.A. Doyle*
Dietary Risk Evaluation Section
SAB/Health Effects Division

TO: J. Housenger/V. Prunier *JH*
Special Review Branch
Special Review and Reregistration Division (7508W)

Action Requested

Conduct a carcinogenic dietary risk analyses for iprodione using refined anticipated residue information for the commodity wine and sherry.

Discussion

Based on a previous analysis (See memo, B. Steinwand, 4/23/96), the upper bound cancer risk was calculated to be 1.18×10^{-5} contributed through all the published and new uses for iprodione. The commodities which contributed the most to this risk figure were Wine and Sherry at 3.06×10^{-6} and Peaches at 4.9×10^{-6} . The chronic and acute risk from iprodione were minimal.

Toxicological Endpoint:

The HED Cancer Peer Review Committee met in 1994 and determined that iprodione should be classified as a group B2 carcinogen (probable human carcinogen) (E. Rinde and L. Taylor memo, 7/27/94). Calculations of Q_1^* s for both mice and rats are found in a B. Fisher memo, 7/19/94. The Q_1^* from the rat study used in this risk analysis was based upon interstitial cell benign tumor rates and was calculated to be $0.0439 \text{ (mg/kg/day)}^{-1}$. The 3/4 interspecies scaling factor was used to determine human equivalence of the unit risk derived from the animal study.

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Residue Information

The raw agricultural commodities which are being considered in the carcinogenic dietary analyses are the published tolerances in 40 CFR § 180.399 and 185.3750.

This analysis reflects the decrease in the anticipated residue for red wine from a level of 0.83 ppm to 0.128 ppm (See memo, HED, 6/27/96).

Results

Upper Bound Carcinogenic Exposure

The upper bound carcinogenic risk from food uses of iprodione for the general U.S. population was calculated using the following equation:

$$\text{Upper Bound Cancer Risk} = \text{Dietary Exposure (ARC)} \times Q_1^*$$

Based on a Q_1^* of $0.0439 \text{ (mg/kg/day)}^{-1}$, the upper bound cancer risk was calculated to be 9.2×10^{-6} contributed through all the published and new uses for iprodione. The overall upper bound risk appears to be above the range the Agency generally considers negligible for excess life time cancer risk. A summary of the commodity contribution by raw agricultural commodity (RAC) for the overall U.S. population subgroup is attached as Table 1.

The following table lists some of the commodities which are driving the carcinogenic risk for iprodione.

Commodity	Upper Bound Cancer Risk
Peaches	4.9×10^{-6}

Risk Assessment

Using a non-threshold model of carcinogenicity, the upper bound carcinogenic risk estimate exceeds the level the Agency generally considers negligible. As such, DRES has concern over the upper bound estimate of carcinogenic risk from iprodione.

cc: DRES; CDBS (J. Abbotts), Caswell 470A, RCAB

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TABLE 1

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 07/12/96

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CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399 185.3750	Zyr feeding- rat NOEL= 6.1000 mg/kg 150.00 ppm LEL= 12.4000 mg/kg 300.00 ppm	Enlargement of the cells of the zona glomerulosa in M&F. Evidence of carcinogenicity in mice (liver; M&F) & rats (testicular; M).	ADI UF -->100 OPP RfD= 0.060000 EPA RfD= 0.040000 Q*: 0.04390	No data gaps.	WHO reviewed 1977 HED reviewed 12/19/86 EPA verified 07/15/87 WHO reviewed 1992 RfD/PR reviewed 02/10/94 On IRIS.

COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	TMRC (UG/KG/DAY)	%RFD	TMRC ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
06018AA	KIWI	10.000	P	0.000191	0.000	0.000000000838	0.18000	0.000003	0.000	0.00000000013
270030A	COTTONSEED-OIL	0.100	P	0.000408	0.001	0.00000001791	0.10000	0.002041	0.003	0.00000008960
27003MA	COTTONSEED-MEAL	0.100	P	0.000002	0.000	0.000000000009	0.10000	0.000012	0.000	0.00000000053
43058AA	WINE AND SHERRY	10.000	P	0.841956	1.403	0.00003696187	0.12800	0.010649	0.018	0.00000046749
	10 RAW-FRESH OR NFS						0.12800	0.000128	0.000	0.00000000562
	21 COOKED-NFS									
CROP GROUP TOTALS FOR UNSPECIFIED:										
				0.842557	1.404	0.00003698825		0.012833	0.021	0.00000056337

14003AA	CARROTS	5.000	P	0.867397	1.446	0.00003807873	0.02100	0.000843	0.001	0.00000003701
	10 RAW-FRESH OR NFS						0.02100	0.001067	0.002	0.00000004684
	21 COOKED-NFS						0.02100	0.000191	0.000	0.00000000838
	23 COOKED-FRESH-BOILED						0.02100	0.000697	0.001	0.00000003060
	31 COOKED-FRESH OR CANNED						0.02100	0.000846	0.001	0.000000003714
	51 COOKED-CANNED									
14013AA	POTATOES(WHITE)-WHOLE	0.500	P	0.170029	0.283	0.00000746427	0.00140	0.000064	0.000	0.00000000281
	10 RAW-FRESH OR NFS						0.00140	0.000210	0.000	0.00000000922
	21 COOKED-NFS						0.00140	0.000202	0.000	0.00000000887
	22 COOKED-FRESH-BAKED									
14013AB	POTATOES(WHITE)-UNSPECIFIED	0.500	P	0.000041	0.000	0.00000000180	0.00140	0.000000	0.000	0.00000000000
	22 COOKED-FRESH-BAKED									
14013AC	POTATOES(WHITE)-PEELED	0.500	P	0.392129	0.654	0.00001721446	0.00140	0.000101	0.000	0.00000000443
	21 COOKED-NFS						0.00140	0.000060	0.000	0.00000000263
	22 COOKED-FRESH-BAKED						0.00140	0.000607	0.001	0.00000002665
	23 COOKED-FRESH-BOILED						0.00140	0.000330	0.001	0.00000001449
	25 COOKED-FRESH-FRIED									
14013DA	POTATOES(WHITE)-DRY	0.500	P	0.004223	0.007	0.00000018539	0.00140	0.000001	0.000	0.00000000004
	10 RAW-FRESH OR NFS						0.00140	0.000001	0.000	0.00000000004
	31 COOKED-FRESH OR CANNED									
14013HA	POTATOES(WHITE)-PEEL ONLY	0.500	P	0.000011	0.000	0.00000000048	0.00140	0.000000	0.000	0.00000000000
	22 COOKED-FRESH-BAKED									
CROP GROUP TOTALS FOR ROOT AND TUBER VEGETABLES:										
				1.433830	2.390	0.00006294514		0.005220	0.009	0.000000022916

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399 185.3750	2yr feeding- rat NOEL= 6.1000 mg/kg 150.00 ppm LEL= 12.4000 mg/kg 300.00 ppm ONCO: B2 (HCPRC)	Enlargement of the cells of the zona glomerulosa in M&F. Evidence of carcinogenicity in mice (liver; M&F) & rats (testicular; M).	ADI UF -->100 OPP RfD= 0.060000 EPA RfD= 0.040000 Q*: 0.04390	No data gaps.	WHO reviewed 1977 HED reviewed 12/19/86 EPA verified 07/15/87 WHO reviewed 1992 RfD/PR reviewed 02/10/94 On IRIS.

COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	THRC (UG/KG/DAY)	%RFD	THRC ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
14007AA	GARLIC	0.100	P	0.000076	0.000	0.00000000334	0.00880	0.000000	0.000	0.00000000000
	10 RAW-FRESH OR NFS						0.00880	0.000004	0.000	0.00000000018
	21 COOKED-NFS						0.00880	0.000002	0.000	0.00000000009
14011AA	ONIONS-DRY-BULB (CIPOLLINI)	0.500	P	0.053031	0.088	0.00000232806	0.00880	0.000163	0.000	0.00000000716
	32 COOKED-FRESH OR CANNED-BAKED						0.00880	0.000623	0.001	0.00000002735
	10 RAW-FRESH OR NFS						0.00880	0.000091	0.000	0.00000000399
	21 COOKED-NFS						0.00880	0.000056	0.000	0.00000000246
	22 COOKED-FRESH-BAKED									
	31 COOKED-FRESH OR CANNED									
14011DA	ONIONS-DEHYDRATED OR DRIED	0.500	P	0.000536	0.001	0.0000002353	0.00880	0.000009	0.000	0.00000000040
	12 RAW-FRESH-DRIED									
14017AA	SHALLOTS	0.500	P	0.000153	0.000	0.00000000672	0.00880	0.000003	0.000	0.00000000013
	00 NOT SPECIFIED									
CROP GROUP TOTALS FOR BULB VEGETABLES:										
				0.053796	0.090	0.00000236164		0.000951	0.002	0.00000004175
CROP GROUP TOTALS FOR LEAFY VEGETABLES (EXCL. BRASSICAE):										
13002AA	CELERY	0.005	N	1.524027	2.540	0.00006690479	0.00500	0.000239	0.000	0.0000001049
	10 RAW-FRESH OR NFS						0.00500	0.000066	0.000	0.00000000290
	21 COOKED-NFS									
13013AA	LETTUCE-LEAFY VARIETIES	25.000	P	0.110820	0.185	0.00000486500	0.04000	0.000177	0.000	0.00000000777
	10 RAW-FRESH OR NFS									
13020AA	LETTUCE-UNSPECIFIED	25.000	P	0.230020	0.383	0.00001009788	0.04000	0.000368	0.001	0.00000001616
	10 RAW-FRESH OR NFS									
13045AA	LETTUCE-HEAD VARIETIES	25.000	P	5.307008	8.845	0.00023297765	0.00480	0.001000	0.002	0.00000004390
	10 RAW-FRESH OR NFS						0.00480	0.000019	0.000	0.00000000083
	21 COOKED-NFS									
CROP GROUP TOTALS FOR LEAFY VEGETABLES (EXCL. BRASSICAE):										
				7.171875	11.953	0.00031484531		0.001869	0.003	0.00000008205
13005AA	BROCCOLI	25.000	P	1.228238	2.047	0.00005391965	0.00160	0.000005	0.000	0.00000000022
	21 COOKED-NFS						0.00160	0.000065	0.000	0.00000000285
	31 COOKED-FRESH OR CANNED						0.00160	0.000008	0.000	0.00000000035
	63 COOKED-FRESH OR FROZEN-BOILED									
13010AA	CABBAGE-CHINESE/CELERY, INC. BOK CHOY	15.000	P	0.068448	0.114	0.00000300487	0.00340	0.000001	0.000	0.00000000004
	10 RAW-FRESH OR NFS						0.00340	0.000015	0.000	0.00000000066
	21 COOKED-NFS									
CROP GROUP TOTALS FOR BRASSICA (COLE) LEAFY VEGETABLES:										
				1.296686	2.161	0.00005692452		0.000094	0.000	0.00000000413

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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15001AA	BEANS-DRY-GREAT NORTHERN 00 NOT SPECIFIED	2.000	P	0.000002	0.000	0.000000000009	0.00005	0.000000	0.000	0.000000000000
15001AB	BEANS-DRY-KIDNEY 21 COOKED-NFS	2.000	P	0.027263	0.045	0.000001196885	0.00005	0.000001	0.000	0.000000000004
15001AC	BEANS-DRY-LIMA 31 COOKED-FRESH OR CANNED 21 COOKED-NFS	2.000	P	0.015978	0.027	0.00000070143	0.00005	0.000000	0.000	0.000000000000
15001AD	BEANS-DRY-NAVY (PEA) 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	2.000	P	0.074815	0.125	0.00000328438	0.00005	0.000000	0.000	0.000000000000
15001AF	BEANS-DRY-PINTO 21 COOKED-NFS	2.000	P	0.072700	0.121	0.00000319153	0.00005	0.000002	0.000	0.000000000009
15002AA	BEANS-SUCCULENT-LIMA 10 RAW-FRESH OR NFS 21 COOKED-NFS	2.000	P	0.051330	0.086	0.00000225339	0.00160	0.000000	0.000	0.000000000000
15003AA	BEANS-SUCCULENT-GREEN 21 COOKED-NFS	2.000	P	0.400100	0.667	0.00001756439	0.00160	0.000320	0.001	0.00000001405
15003AB	BEANS-SUCCULENT-OTHER 10 RAW-FRESH OR NFS 21 COOKED-NFS	2.000	P	0.052768	0.088	0.00000231652	0.00160	0.000000	0.000	0.000000000000
15003AC	BEANS-SUCCULENT-YELLOW MAX 21 COOKED-NFS	2.000	P	0.010927	0.018	0.00000047970	0.00160	0.000009	0.000	0.000000000040
15006AA	PEANUTS-WHOLE 10 RAW-FRESH OR NFS 21 COOKED-NFS	0.500	P	0.034789	0.058	0.00000152724	0.07500	0.000079	0.000	0.00000000347
15013AA	MUNG BEANS (SPROUTS) 10 RAW-FRESH OR NFS 21 COOKED-NFS	2.000	P	0.013304	0.022	0.00000058405	0.00160	0.000001	0.000	0.000000000004
15022AA	BEANS-DRY-BROADBEANS(MATURE SEED) 00 NOT SPECIFIED	2.000	P	0.000002	0.000	0.000000000009	0.00005	0.000000	0.000	0.000000000000
15022AB	BEANS-SUCCULENT-BROADBEANS(IMMAT. SEED) 00 NOT SPECIFIED	2.000	P	0.000002	0.000	0.000000000009	0.00160	0.000000	0.000	0.000000000000
15023AA	BEANS-DRY-PIGEON BEANS 21 COOKED-NFS	2.000	P	0.000071	0.000	0.000000000312	0.00005	0.000000	0.000	0.000000000000
15027AA	BEANS-UNSPECIFIED 21 COOKED-NFS	2.000	P	0.010469	0.017	0.00000045959	0.00160	0.000008	0.000	0.000000000035
15030AA	BEANS-DRY-HYACINTH(MATURE SEEDS) 00 NOT SPECIFIED	2.000	P	0.000002	0.000	0.000000000009	0.00005	0.000000	0.000	0.000000000000
15030AB	BEANS-SUCCULENT-HYACINTH(YOUNG PODS) 00 NOT SPECIFIED	2.000	P	0.000002	0.000	0.000000000009	0.00160	0.000000	0.000	0.000000000000

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05005JA	21 COOKED-NFS 31 COOKED-FRESH OR CANNED PLUMS/PRUINE JUICE 10 RAW-FRESH OR NFS 62 COOKED-FRESH OR FROZEN-BAKED	20.000	P	0.385134	0.642	0.00001690738	0.27600 0.27600 0.13800	0.001197 0.000236 0.001895	0.002 0.000 0.003	0.00000005255 0.0000001036 0.00000008319
CROP GROUP TOTALS FOR STONE FRUITS:										
				7.2723006	12.122	0.00031928496		0.133177	0.222	0.00000586467
01002AA	BLACKBERRIES 10 RAW-FRESH OR NFS 21 COOKED-NFS 62 COOKED-FRESH OR FROZEN-BAKED	25.000	P	0.160670	0.268	0.00000705341	0.36100 0.36100 0.36100	0.000288 0.001028 0.001005	0.000 0.002 0.002	0.0000001264 0.00000004513 0.00000004412
01003AA	BOYSENBERRIES 10 RAW-FRESH OR NFS	25.000	P	0.018283	0.030	0.0000080262	0.19800	0.000145	0.000	0.0000000637
01004AA	DEWBERRIES 00 NOT SPECIFIED	25.000	P	0.058575	0.098	0.0000257144	0.19800	0.000464	0.001	0.0000002037
01005AA	LOGANBERRIES 00 NOT SPECIFIED	25.000	P	0.005100	0.009	0.0000022389	0.19800	0.000404	0.001	0.0000001774
01006AA	RASPBERRIES 10 RAW-FRESH OR NFS 15 RAW-FRESH OR CANNED 31 COOKED-FRESH OR CANNED 62 COOKED-FRESH OR FROZEN-BAKED 70 RAW-FROZEN	25.000	P	0.071652	0.119	0.00000314552	0.19800 0.19800 0.19800 0.19800 0.19800	0.000341 0.000064 0.000054 0.000056 0.000055	0.001 0.000 0.000 0.000 0.000	0.0000001497 0.0000000281 0.0000000237 0.0000000246 0.0000000233
01007AA	YOUNGBERRIES 00 NOT SPECIFIED	25.000	P	0.008925	0.015	0.00000039181	0.19800	0.000071	0.000	0.0000000312
01009AA	BLUEBERRIES 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED 62 COOKED-FRESH OR FROZEN-BAKED	15.000	P	0.135711	0.226	0.00000595771	0.02300 0.02300 0.02300 0.02300	0.000123 0.000025 0.000011 0.000049	0.000 0.000 0.000 0.000	0.0000000540 0.0000000110 0.0000000048 0.00000000215
01011AA	CURRANTS 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED	15.000	P	0.008193	0.014	0.00000035967	0.19800 0.19800 0.19800	0.000003 0.000000 0.000105	0.000 0.000 0.000	0.0000000013 0.0000000000 0.00000000461
01014AA	GRAPES-FRESH 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	10.000	P	0.437931	0.730	0.00001922517	0.07400 0.07400 0.07400	0.001795 0.000060 0.001386	0.003 0.000 0.002	0.00000007880 0.0000000263 0.00000006085
01014DA	GRAPES-RAISINS 10 RAW-FRESH OR NFS	50.000	P	0.848650	1.414	0.00003725574	0.33300	0.003405	0.006	0.00000014948

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01014JA	21 COOKED-NFS 22 COOKED-FRESH-BAKED GRAPE-JUICE	10.000	P	1.081152	1.802	0.00004746257	0.33300 0.33300	0.000320 0.001927	0.001 0.003	0.00000001405 0.00000008460
01016AA	10 RAW-FRESH OR NFS 15 RAW-FRESH OR CANNED 21 COOKED-NFS STRAWBERRIES	15.000	P	0.520633	0.868	0.00002285579	0.07400 0.07400 0.07400	0.000619 0.005803 0.000245	0.001 0.010 0.000	0.00000002717 0.00000025475 0.00000001076
24004AA	10 RAW-FRESH OR NFS 21 COOKED-NFS RICE-ROUGH	10.000	P	0.030600	0.051	0.00000134334	0.26600 0.26600	0.006438 0.001322	0.011 0.002	0.00000028263 0.00000005804
24004AB	21 COOKED-NFS 22 COOKED-FRESH-BOILED 23 COOKED-FRESH-BOILED RICE-MILLED	10.000	P	1.552627	2.588	0.00006816033	0.06300 0.06300 0.06300	0.003260 0.001375 0.004647	0.005 0.002 0.008	0.00000014311 0.00000006036 0.00000020400
03001AA	21 COOKED-NFS 22 COOKED-FRESH-BAKED ALMONDS	0.300	P	0.000841	0.001	0.00000003692	0.06300 0.06300	0.000500 0.000500	0.001 0.001	0.00000002195 0.00000002195
53001BA	10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED BEEF-MEAT BYPRODUCTS	0.500	P	0.008831	0.015	0.00000038768	0.06300 0.10000 0.10000	0.000131 0.000094 0.000056	0.000 0.000 0.000	0.00000000575 0.00000000413 0.00000000246
53001BB	21 COOKED-NFS 26 COOKED-FRESH-PICKLED, CORNED, OR CURED BEEF (ORGAN MEATS)-OTHER	0.500	P	0.003017	0.005	0.00000013245	0.06300 0.06300	0.003260 0.001375	0.005 0.002	0.00000014311 0.00000006036
53001DA	21 COOKED-NFS 51 COOKED-CANNED BEEF-DRIED	0.500	P	0.001266	0.002	0.00000005558	0.06300 0.06300	0.004647 0.000500	0.008 0.001	0.00000020400 0.00000002195
53001FA	21 COOKED-NFS 10 RAW-FRESH OR NFS BEEF(BONELESS)-FAT (BEEF TALLOW)	0.500	P	0.186038	0.310	0.00000816707	0.06300 0.06300	0.000500 0.000500	0.001 0.001	0.00000002195 0.00000002195
CROP GROUP TOTALS FOR CEREAL GRAINS:				1.583227	2.639	0.00006950367		0.013262	0.022	0.00000058220
CROP GROUP TOTALS FOR TREE NUTS:				0.000841	0.001	0.00000003692		0.000281	0.000	0.00000001234

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TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

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CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399 185.3750	2yr feeding- rat NOEL= 6.1000 mg/kg 150.00 ppm LEL= 12.4000 mg/kg 300.00 ppm ONCO: B2 (HCPRC)	Enlargement of the cells of the zona glomerulosa in M&F. Evidence of carcinogenicity in mice (liver; M&F) & rats (testicular; M).	ADI UF -->100 OPP RfD= 0.060000 EPA RfD= 0.040000 Q*: 0.04390	No data gaps.	WHO reviewed 1977 HED reviewed 12/19/86 EPA verified 07/15/87 WHO reviewed 1992 RfD/PR reviewed 02/10/94 On IRIS.

COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	TMRC (UG/G/DAY)	%RFD	TMRC ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
53001KA	BEEF(ORGAN MEATS)-KIDNEY	3.000	P	0.001439	0.002	0.00000006317	0.00260	0.000385	0.001	0.00000001690
53001LA	BEEF(ORGAN MEATS)-LIVER	3.000	P	0.062094	0.103	0.00000272593	0.00260	0.000065	0.000	0.00000000285
53001MA	BEEF(BONELESS)-LEAN (W/O REMOVEABLE FAT)	0.500	P	0.580995	0.968	0.00002550568	0.00260	0.000087	0.000	0.00000000382
53002FA	GOAT(BONELESS)-FAT	0.500	P	0.000020	0.000	0.00000000088	0.00260	0.0000370	0.001	0.00000001624
53002KA	GOAT(ORGAN MEATS)-KIDNEY	3.000	P	0.000003	0.000	0.00000000013	0.00260	0.0000056	0.000	0.00000000246
53002LA	GOAT(ORGAN MEATS)-LIVER	3.000	P	0.000003	0.000	0.00000000013	0.00260	0.0000005	0.000	0.00000000022
53002BA	GOAT-MEAT BYPRODUCTS	0.500	P	0.000000	0.000	0.00000000000	0.00260	0.0000167	0.000	0.00000000733
53002BB	GOAT(ORGAN MEATS)-OTHER	0.500	P	0.000000	0.000	0.00000000000	0.00260	0.0000002	0.000	0.00000000009
53002FA	GOAT(BONELESS)-FAT	0.500	P	0.000020	0.000	0.00000000088	0.00260	0.0000000	0.000	0.00000000000
53002KA	GOAT(ORGAN MEATS)-KIDNEY	3.000	P	0.000003	0.000	0.00000000013	0.00260	0.0000041	0.000	0.00000000180
53002LA	GOAT(ORGAN MEATS)-LIVER	3.000	P	0.000003	0.000	0.00000000013	0.00260	0.0000064	0.000	0.00000000281
53002MA	GOAT(BONELESS)-LEAN (W/O REMOVEABLE FAT)	0.500	P	0.000095	0.000	0.00000000417	0.00260	0.0000303	0.001	0.00000001330
53003AA	HORSE	3.000	P	0.000003	0.000	0.00000000013	0.00260	0.0000000	0.000	0.00000000000
53005BA	SHEEP-MEAT BYPRODUCTS	0.500	P	0.000025	0.000	0.00000000110	0.00260	0.0000000	0.000	0.00000000000
53005BB	SHEEP(ORGAN MEATS)-OTHER	0.500	P	0.000010	0.000	0.00000000044	0.00260	0.0000000	0.000	0.00000000000
53005FA	SHEEP(BONELESS)-FAT	0.500	P	0.002148	0.004	0.00000009430	0.00260	0.0000111	0.000	0.00000000048
53005KA	SHEEP(ORGAN MEATS)-KIDNEY	3.000	P	0.000024	0.000	0.00000000105	0.00260	0.0000000	0.000	0.00000000000
53005LA	SHEEP(ORGAN MEATS)-LIVER	3.000	P	0.000003	0.000	0.00000000013	0.00260	0.0000000	0.000	0.00000000000

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 07/12/96

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CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
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COMMODITY CONTRIBUTION BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TYPE	TMRC (UG/KG/DAY)	%RFD	TMRC ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
55014AB	EGGS-WHITE ONLY	1.500	P	0.013807	0.023	0.00000060613	0.00240	0.000000	0.000	0.00000000000
	10 RAW-FRESH OR NFS						0.00240	0.000002	0.000	0.00000000009
	21 COOKED-NFS						0.00240	0.000015	0.000	0.00000000066
	22 COOKED-FRESH-BAKED						0.00240	0.000001	0.000	0.00000000004
	62 COOKED-FRESH OR FROZEN-BAKED						0.00240	0.000003	0.000	0.00000000013
	81 COOKED-FROZEN									
55014AC	EGGS-YOLK ONLY	1.500	P	0.009948	0.017	0.00000043672	0.00240	0.000002	0.000	0.00000000009
	10 RAW-FRESH OR NFS						0.00240	0.000005	0.000	0.00000000022
	21 COOKED-NFS						0.00240	0.000006	0.000	0.00000000026
	25 COOKED-FRESH-FRIED						0.00240	0.000003	0.000	0.00000000013
	31 COOKED-FRESH OR CANNED									
CROP GROUP TOTALS FOR DAIRY PRODUCTS:				6.137460	10.229	0.00026943449	0.004552	0.008	0.00000019983	

GRAND TOTALS FOR U.S. POPULATION - 48 STATES

32.713068

54.522

0.00143610369

0.211703

0.353

0.0000029376

TOLERANCE TYPE: N=NEW; A=PENDING; P=PUBLISHED
 TMRC=THEORETICAL MAXIMUM RESIDUE CONTRIBUTION
 ARC = ANTICIPATED RESIDUE CONTRIBUTION
 RFD = REFERENCE DOSE