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WASHINGTON, D.C. 20460

OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

MEMORANDUM

DATE: July 22, 1999

SUBJECT: Chlorfenapyr - Acute and Chronic Dietary Exposure Analyses. Chemical#: 129093. DP Barcode: D257550. Case #: 287432. Submission #: S563946.

FROM: Susie Chun, Chemist
Registration Action Branch 1
Health Effects Division

THROUGH: Will Donovan, Chemist
Dave Soderberg, Chemist
Dietary Exposure Science Advisory Council

Melba Morrow, D.V.M., Branch Senior Scientist
Registration Action Branch 1
Health Effects Division

TO: George F. Kramer, Ph.D., Chemist
Registration Action Branch 1
Health Effects Division

Action Requested

Provide an estimate of the dietary exposure and associated risks for chlorfenapyr resulting from an import tolerance request in/on citrus RACs (PP# 6E04683). The Registration Division (RD) requested that a dietary exposure analysis be performed using residue levels at the same level as those from a proposed domestic citrus use (PP# 6F4623).

The proposed import tolerance for citrus is 0.5 ppm (PP# 6E4683).

Executive Summary

For the acute dietary analysis, an aPAD of 0.045 mg/kg/day (incorporating 10x for interspecies extrapolation, 10x for intraspecies extrapolation, and 10x FQPA Safety Factor) was used. The Tier 2 acute dietary analysis for chlorfenapyr is a partially refined estimate of dietary exposure with the use of anticipated residues (ARs) for some blended commodities, tolerance level residues, and 100 percent crop treated (%CT). The percent aPADs found in this analysis were

below HED's level of concern (>100 % aPAD) at the 95th percentile for the U.S. population and all subgroups. The results of this analysis indicate that the acute dietary risk associated with the use of chlorfenapyr in/on citrus is below HED's level of concern.

For the chronic dietary analysis, a cPAD of 0.003 mg/kg/day (incorporating 10x for interspecies extrapolation, 10x for intraspecies extrapolation, and 10x FQPA Safety Factor) was used for chlorfenapyr (incorporating 10x for interspecies extrapolation, 10x for intraspecies extrapolation, and 10x FQPA Safety Factor). The Tier 2/3 chronic dietary analysis for chlorfenapyr is a partially refined estimate with the use of ARs for some commodities, tolerance level residues, and 100%CT information. The %cPADs were below HED's level of concern (>100% cPAD) for the U.S. population and all subgroups. The results of this analysis indicate that the chronic dietary risk associated with the use of chlorfenapyr in/on citrus is below HED's level of concern.

Toxicological Endpoints

The HED RfD/Peer Review Committee met on July 18, 1996 to discuss and evaluate the existing toxicology database for chlorfenapyr. An Ad Hoc group of six members met a second time on October 9, 1996 to consider additional data requirements based on the conclusions of the first RfD/Peer Review Committee meeting. There is a revised RfD document dated 11/21/97. Based upon a review of the toxicology database for chlorfenapyr, by the Toxicology Endpoint Selection (TES) Committee on July 24, 1996, toxicology endpoints and dose levels of concern have been identified Table 1 presents the toxicological doses and endpoints for chlorfenapyr.

Table 1- Toxicological Doses and Endpoints for Chlorfenapyr

EXPOSURE SCENARIO	Dose (mg/kg/day)	ENDPOINT AND TOXICOLOGICAL EFFECT	STUDY
Acute (Dietary)	NOAEL = 45 mg/kg/day UF = 100 FQPA SF =10	neurotoxicity signs of lethargy in male rats	Acute neurotoxicity
	Acute RfD = 0.45 mg/kg/day Acute PAD =0.045 mg/kg/day		
Chronic (Dietary)	NOAEL = 3 mg/kg/day UF = 100 FQPA SF=1	decreased body weight gains brain lesions (vacuolation) in a 1 year neurotoxicity study in rat; supported by CNS lesions and scabbing of the skin in a chronic/carcinogenicity study in mice	1-year neurotoxicity study in rat and Chronic/ carcinogenicity mice study
	Chronic RfD = 0.03 mg/kg/day Chronic PAD = 0.003 mg/kg/day		
Cancer (Dietary)	NA	Classified as "cannot be determined, suggestive". A cancer endpoint was not identified for use in risk assessment.	

FQPA Recommendation

Since chlorfenapyr has produced CNS lesions in several studies in both rats and mice, the RfD/Peer Review Committee recommended that the additional FQPA Factor of 10 be retained until the potential for developmental neurotoxicity is determined and the lesions are better characterized.

Since a 10x FQPA SF is retained, the aPAD and the cPAD are 0.045 mg/kg/day and 0.003 mg/kg/day, respectively. The PAD is a modification of the aRfD or cRfD to include the FQPA Safety Factor:

$$acute\ or\ chronic\ PAD = \frac{RfD\ (acute\ or\ chronic)}{FQPA\ SF}$$

Residue Information

Currently the tolerance expression in the 40 CFR 180.513 includes parent chlorfenapyr only. The import tolerance request on citrus will not increase the residue level of chlorfenapyr from the proposed tolerances for a domestic use on citrus (PP#6F4623, Memo, D221320, G. Kramer, et. al, 2/12/98). Therefore the anticipated residues calculated for the domestic citrus use will be used in this dietary exposure analysis.

Anticipated Residue Information

Anticipated residues (ARs) were previously calculated and incorporated in a dietary exposure analysis, which was completed with the Dietary Risk Evaluation System (DRES), in support of a domestic tolerance on citrus (PP#6F4623, Memo, D221320, G. Kramer, et. al, 2/12/98).

These previously calculated ARs will be used in this dietary exposure assessment as well as tolerance level residues for cotton. Table 2 presents the ARs used in the dietary exposure analyses. Anticipated residues were not calculated for other citrus commodities, because oranges and orange juice are the primary contributors to the dietary exposure.

Table 2 - Summary of Chlorfenapyr Residues for Acute and Chronic Dietary Risk Assessment based on field trial data

Commodity	Proposed/Existing Tolerance (ppm)	ARs for Acute Dietary Exposure Analysis (ppm)	ARs for Chronic Dietary Exposure Analysis (ppm)
Oranges	0.5	0.40	0.21
Orange Juice [1]	0.5	0.0047	0.0047
Orange Juice Concentrate[2]	----	0.0047	0.0047
Cottonseed Oil	0.5	0.5	0.5
Cottonseed Meal	0.5	0.5	0.5
Meat[3]	0.01	0.01	0.0013
Meat byproducts (except liver)[3]	0.30	0.30	0.00036
Liver[3]	0.30	0.30	0.0084
Fat[3]	0.10	0.10	0.017
Milk Fat	0.15	0.04	0.04
Milk	0.01	0.0027	0.0027

[1] In the citrus processing study, the concentration factor for orange juice was 0.02X. The anticipated residue for orange juice is thus 0.0047 ppm (0.21 ppm x 0.02). The DEEM™ default processing factors will be changed to 1 for orange juice.

[2] Orange juice concentrate will use the same AR as the orange juice ARs. In order to maintain the ratio between orange juice and orange juice concentrate, the orange juice concentrate's processing factor will be changed to 3.72.

[3] For cattle, hogs, sheep, horses, and goats.

Results

The Dietary Exposure Evaluation Model (DEEM™) analysis evaluated the individual food consumption as reported by respondents in the USDA 1989-92 Continuing Surveys for Food Intake by Individuals (CSFII) and accumulated exposure to the chemical for each commodity. Summaries of the residue information used in the acute and chronic dietary exposure analyses are attached (Attachments 1 and 3).

Acute Dietary Exposure Analysis

The acute dietary exposure analysis estimates the distribution of single-day exposures for the U.S. population and certain subgroups and accumulates exposure to the chemical for each commodity. Each analysis assumes uniform distribution of chlorfenapyr for the commodities on which chlorfenapyr is used.

A 10 x FQPA SF was retained resulting in an aPAD of 0.045 mg/kg/day. HED's level of concern is for acute dietary exposures greater than 100% aPAD. The acute dietary exposure analysis was performed for the U.S. population and 26 subgroups. A summary with all population subgroups is attached (Attachment 2).

Tier 2 acute estimates of dietary exposures at the 95th percentile are shown in Table 3. Besides the U.S. population, the subgroups included in Table 3 represent all children's subgroups and the highest dietary exposures for their respective subgroups (i.e., females and males).

Table 3 - Acute Dietary Exposure Results at 95th Percentile - Per Capita and Users

Subgroups	Per Capita		Users		
	Exposure (mg/kg/day)	% aPAD	Exposure (mg/kg/day)	% aPAD	% User Days
U.S. Population	0.001363	3	0.001371	3	99.04
All infants (<1 year)	0.000396	< 1	0.000484	1	54.14
Nursing infants (< 1 year)	0.000207	< 1	0.000333	< 1	20.64
Non-nursing infants (< 1 year)	0.000445	< 1	0.000494	1	68.23
Children (1-6 years old)	0.002281	5	0.002283	5	99.85
Children (7-12 years old)	0.002204	5	0.002204	5	99.96
Females (13+ nursing)	0.001720	4	0.001720	4	100
Males (20+ years old)	0.001082	2	0.001084	2	99.71

Both the per capita and users results are presented in Table 3. There are no significant exposure differences between per capita and users.

Chronic Dietary Analysis

The Tier 2/3 chronic DEEM™ dietary exposure analysis used mean consumption (3 day average). A 10x FQPA SF was retained resulting in a cPAD of 0.003 mg/kg/day for chlorfenapyr. HED's level of concern is for chronic dietary exposures greater than 100% cPAD. Dietary exposures for the U.S. general population and other subgroups are presented in Table 4 The other subgroups

included represent the highest dietary exposures for their respective subgroups (i.e., infants, children, females, and males).

Table 4 - Chronic Dietary Exposure Results

Subgroups	Exposure (mg/kg/day)	% cPAD
U.S. Population (48 states)	0.000280	9
Non-nursing Infants	> 0.000074	2
Children (7 - 12 years old)	0.000464	16
Females (13+ nursing)	0.000372	12
Males (20+ years old)	0.000248	8

The complete chronic dietary exposure analysis is attached (Attachment 4).

Conclusions

The Tier 2 acute dietary analysis for chlorfenapyr is a partially refined estimate of dietary exposure with the use of ARs for some blended commodities, tolerance level residues, and 100 percent of the commodities assumed to be treated. The percent aPADs were below HED's level of concern at the 95th percentile (per capita) for the U.S. population and all subgroups with the highest exposure of 5% aPAD in the subgroup children (7-12 years old). The percent aPADs for users versus per capita do not differ significantly. The results of this analysis indicate that the acute dietary risk associated with the proposed use of chlorfenapyr in/on citrus RACs is below HED's level of concern.

The Tier 2/3 chronic dietary analysis for chlorfenapyr is a partially refined estimate with the use of ARs for some commodities, tolerance level residues, and 100 %CT information. The percent cPADs of chlorfenapyr were below HED's level of concern for the U.S. population and all subgroups with the highest exposure of 16% cPAD in the subgroup children (7-12 years old). The results of this analysis indicate that the chronic dietary risk associated with the proposed use of chlorfenapyr in/on citrus RACs is below HED's level of concern.

Attachment 1: Residue File -Acute
Attachment 2: Acute DEEM™ analysis (S. Chun, 6/23/99)
Attachment 3: Residue File - Chronic
Attachment 4: Chronic DEEM™ analysis (S. Chun, 6/23/99)

cc(with attachments): S. Chun (RAB1); M. Sahafeyan (CEB1), PP# 99MS0011
RDI: Dietary Exposure SAC [D. Soderberg (7/15/99), W. Donovan (7/13/99)]; M. Morrow (7/21/99)
S. Chun:806R:CM#2:(703)305-2249:7509C:RAB1

Attachment 1: Residue Information - Acute

Filename: C:\deem\resdata\129093a.r96

Chemical name: Chlorfenapyr

RfD(Chronic): .003 mg/kg bw/day NOEL(Chronic): 3 mg/kg bw/day

RfD(Acute): .045 mg/kg bw/day NOEL(Acute): 45 mg/kg bw/day

Date created/last modified: 06-23-1999/10:41:11/8 Program ver. 6.77

Comment: RfD includes FQPA factor of 10x; ARs for blended commodities

Food Code	Crop Grp	Food Name	RESIDUE (ppm)	RDF #	Adj.Factors #1	#2	Comment
291	O	Cottonseed-meal	0.500000	0	1.000	1.000	S18, TLT exp 7/31/99
290	O	Cottonseed-oil	0.500000	0	1.000	1.000	S18, TLT exp 7/31/99
323	M	Beef-dried	0.010000	0	1.920	1.000	TLT exp. 7/31/99
324	M	Beef-fat w/o bones	0.100000	0	1.000	1.000	TLT exp. 7/31/99
325	M	Beef-kidney	0.300000	0	1.000	1.000	TLT exp. 7/31/99
327	M	Beef-lean (fat/free) w/o bones	0.010000	0	1.000	1.000	TLT exp. 7/31/99
326	M	Beef-liver	0.300000	0	1.000	1.000	TLT exp. 7/31/99
321	M	Beef-meat byproducts	0.300000	0	1.000	1.000	TLT exp. 7/31/99
322	M	Beef-other organ meats	0.300000	0	1.000	1.000	TLT exp. 7/31/99
330	M	Goat-fat w/o bone	0.100000	0	1.000	1.000	TLT exp. 7/31/99
331	M	Goat-kidney	0.300000	0	1.000	1.000	TLT exp. 7/31/99
333	M	Goat-lean (fat/free) w/o bone	0.010000	0	1.000	1.000	TLT exp. 7/31/99
332	M	Goat-liver	0.300000	0	1.000	1.000	TLT exp. 7/31/99
328	M	Goat-meat byproducts	0.300000	0	1.000	1.000	TLT exp. 7/31/99
329	M	Goat-other organ meats	0.300000	0	1.000	1.000	TLT exp. 7/31/99
334	M	Horsemeat	0.010000	0	1.000	1.000	TLT exp. 7/31/99
344	M	Pork-fat w/o bone	0.100000	0	1.000	1.000	TLT exp. 7/31/99
345	M	Pork-kidney	0.300000	0	1.000	1.000	TLT exp. 7/31/99
346	M	Pork-liver	0.300000	0	1.000	1.000	TLT exp. 7/31/99
342	M	Pork-meat byproducts	0.300000	0	1.000	1.000	TLT exp. 7/31/99
343	M	Pork-other organ meats	0.300000	0	1.000	1.000	TLT exp. 7/31/99
338	M	Sheep-fat w/o bone	0.100000	0	1.000	1.000	TLT exp. 7/31/99
339	M	Sheep-kidney	0.300000	0	1.000	1.000	TLT exp. 7/31/99
341	M	Sheep-lean (fat free) w/o bone	0.010000	0	1.000	1.000	TLT exp. 7/31/99
340	M	Sheep-liver	0.300000	0	1.000	1.000	TLT exp. 7/31/99
336	M	Sheep-meat byproducts	0.300000	0	1.000	1.000	TLT exp. 7/31/99
337	M	Sheep-other organ meats	0.300000	0	1.000	1.000	TLT exp. 7/31/99
429	M	Veal-dried	0.010000	0	1.920	1.000	TLT exp. 7/31/99
424	M	Veal-fat w/o bones	0.100000	0	1.000	1.000	TLT exp. 7/31/99
426	M	Veal-kidney	0.300000	0	1.000	1.000	TLT exp. 7/31/99
425	M	Veal-lean (fat free) w/o bones	0.010000	0	1.000	1.000	TLT exp. 7/31/99

427	M	Veal-liver	0.300000	0	1.000	1.000	TLT exp. 7/31/99
430	M	Veal-meat byproducts	0.300000	0	1.000	1.000	TLT exp. 7/31/99
428	M	Veal-other organ meats	0.300000	0	1.000	1.000	TLT exp. 7/31/99
398	D	Milk-based water	0.002700	0	1.000	1.000	TLT exp 7/31/99, AR
319	D	Milk-fat solids	0.040000	0	1.000	1.000	TLT exp 7/31/99, AR
318	D	Milk-nonfat solids	0.002700	0	1.000	1.000	TLT exp 7/31/99, AR
320	D	Milk sugar (lactose)	0.002700	0	1.000	1.000	TLT exp 7/31/99, AR
20	10	Citrus citron	0.500000	0	1.000	1.000	Pend, 6F4623
23	10	Grapefruit-juice	0.500000	0	2.100	1.000	Pend, 6F4623
441	10	Grapefruit-juice-concentrate	0.500000	0	8.260	1.000	Pend, 6F4623
448	10	Grapefruit peel	0.500000	0	1.000	1.000	Pend, 6F4623
22	10	Grapefruit-peeled fruit	0.500000	0	1.000	1.000	Pend, 6F4623
24	10	Kumquats	0.500000	0	1.000	1.000	Pend, 6F4623
28	10	Lemons-juice	0.500000	0	2.000	1.000	Pend, 6F4623
442	10	Lemons-juice-concentrate	0.500000	0	11.400	1.000	Pend, 6F4623
27	10	Lemons-peel	0.500000	0	1.000	1.000	Pend, 6F4623
26	10	Lemons-peeled fruit	0.500000	0	1.000	1.000	Pend, 6F4623
32	10	Limes-juice	0.500000	0	2.000	1.000	Pend, 6F4623
443	10	Limes-juice-concentrate	0.500000	0	6.000	1.000	Pend, 6F4623
31	10	Limes-peel	0.500000	0	1.000	1.000	Pend, 6F4623
30	10	Limes-peeled fruit	0.500000	0	1.000	1.000	Pend, 6F4623
36	10	Oranges-juice	0.004700	0	1.000	1.000	Pend, 6F4623, AR
33	10	Oranges-juice-concentrate	0.004700	0	3.720	1.000	Pend, 6F4623, AR
35	10	Oranges-peel	0.400000	0	1.000	1.000	Pend, 6F4623, AR
34	10	Oranges-peeled fruit	0.400000	0	1.000	1.000	Pend, 6F4623, AR
37	10	Tangelos	0.500000	0	1.000	1.000	Pend, 6F4623
38	10	Tangerines	0.500000	0	1.000	1.000	Pend, 6F4623
39	10	Tangerines-juice	0.500000	0	2.300	1.000	Pend, 6F4623
420	10	Tangerines-juice-concentrate	0.500000	0	7.350	1.000	Pend, 6F4623

Attachment 2: Acute Dietary Exposure Analysis

U.S. Environmental Protection Agency
DEEM ACUTE analysis for CHLORFENAPYR
Residue file: 129093a.r96
Analysis Date: 06-23-1999/10:43:43
Acute Reference Dose (aRfD) = 0.045000 mg/kg body-wt/day
Run Comment: RfD includes FQPA factor of 10x; ARs for blended commodities

Ver. 6.78
(1989-92 data)
Adjustment factor #2 NOT used.
Residue file dated: 06-23-1999/10:41:11/8

Summary calculations:

	95th Percentile Exposure	95th Percentile % aRfD	99th Percentile Exposure	99th Percentile % aRfD	99.9th Percentile Exposure	99.9th Percentile % aRfD
U.S. pop - all seasons:	0.001363	3.03	0.004800	10.67	0.017581	39.07
Hispanics:	0.001574	3.50	0.003879	8.62	0.006440	14.31
Non-hispanic whites:	0.001372	3.05	0.004771	10.60	0.018171	40.38
Non-hispanic blacks:	0.001297	2.88	0.007236	16.08	0.016024	35.61
Non-hispanic other:	0.001103	2.45	0.004128	9.17	0.013511	30.02
All infants (<1 year):	0.000393	0.87	0.000684	1.52	0.001095	2.43
Nursing infants (<1 year):	0.000207	0.46	0.000338	0.75	0.000787	1.75
Non-nursing infants (<1 yr):	0.000445	0.99	0.000707	1.57	0.001103	2.45
Children (1-6 years):	0.002281	5.07	0.006622	14.72	0.019537	43.42
Children (7-12 years):	0.002204	4.90	0.007822	17.38	0.018554	41.23
Females (13+/preg/not nsg):	0.001339	2.98	0.002675	5.94	0.005403	12.01
Females (13+/nursing):	0.001720	3.82	0.007699	17.11	0.008070	17.93
Females (13-19 yrs/np/nn):	0.001428	3.17	0.005604	12.45	0.012203	27.12
Females (20+ years/np/nn):	0.001410	3.13	0.004105	9.12	0.009469	21.04
Females (13-50 years):	0.001391	3.09	0.004611	10.25	0.011317	25.15
Males (13-19 years):	0.000835	1.86	0.004583	10.18	0.007328	16.28
Males (20+ years):	0.001082	2.40	0.004137	9.19	0.019189	42.64
Seniors (55+):	0.001435	3.19	0.004242	9.43	0.020230	44.96

Attachment 3: Residue Information - Chronic

Filename: C:\deem\resdata\129093c.r96

Chemical name: Chlorfenapyr

RfD(Chronic): .003 mg/kg bw/day NOEL(Chronic): 3 mg/kg bw/day

RfD(Acute): .045 mg/kg bw/day NOEL(Acute): 45 mg/kg bw/day

Date created/last modified: 06-23-1999/10:50:20/8 Program ver. 6.77

Comment: RfD includes FQPA factor of 10x; ARs for blended commodities

Food Code	Crop Grp	Food Name	RESIDUE (ppm)	RDF #	Adj.Factors #1	#2	Comment
291	O	Cottonseed-meal	0.500000	0	1.000	1.000	S18, TLT exp 7/31/99
290	O	Cottonseed-oil	0.500000	0	1.000	1.000	S18, TLT exp 7/31/99
323	M	Beef-dried	0.001300	0	1.920	1.000	TLT exp. 7/31/99, AR
324	M	Beef-fat w/o bones	0.017000	0	1.000	1.000	TLT exp. 7/31/99, AR
325	M	Beef-kidney	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
327	M	Beef-lean (fat/free) w/o bones	0.001300	0	1.000	1.000	TLT exp. 7/31/99, AR
326	M	Beef-liver	0.008400	0	1.000	1.000	TLT exp. 7/31/99, AR
321	M	Beef-meat byproducts	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
322	M	Beef-other organ meats	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
330	M	Goat-fat w/o bone	0.017000	0	1.000	1.000	TLT exp. 7/31/99, AR
331	M	Goat-kidney	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
333	M	Goat-lean (fat/free) w/o bone	0.001300	0	1.000	1.000	TLT exp. 7/31/99, AR
332	M	Goat-liver	0.008400	0	1.000	1.000	TLT exp. 7/31/99, AR
328	M	Goat-meat byproducts	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
329	M	Goat-other organ meats	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
334	M	Horsemeat	0.001300	0	1.000	1.000	TLT exp. 7/31/99, AR
344	M	Pork-fat w/o bone	0.017000	0	1.000	1.000	TLT exp. 7/31/99, AR
345	M	Pork-kidney	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
346	M	Pork-liver	0.008400	0	1.000	1.000	TLT exp. 7/31/99, AR
342	M	Pork-meat byproducts	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
343	M	Pork-other organ meats	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
338	M	Sheep-fat w/o bone	0.017000	0	1.000	1.000	TLT exp. 7/31/99, AR
339	M	Sheep-kidney	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
341	M	Sheep-lean (fat free) w/o bone	0.001300	0	1.000	1.000	TLT exp. 7/31/99, AR
340	M	Sheep-liver	0.008400	0	1.000	1.000	TLT exp. 7/31/99, AR
336	M	Sheep-meat byproducts	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
337	M	Sheep-other organ meats	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
429	M	Veal-dried	0.001300	0	1.920	1.000	TLT exp. 7/31/99, AR
424	M	Veal-fat w/o bones	0.017000	0	1.000	1.000	TLT exp. 7/31/99, AR
426	M	Veal-kidney	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
425	M	Veal-lean (fat free) w/o bones	0.001300	0	1.000	1.000	TLT exp. 7/31/99, AR
427	M	Veal-liver	0.008400	0	1.000	1.000	TLT exp. 7/31/99, AR
430	M	Veal-meat byproducts	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR

428	M	Veal-other organ meats	0.003600	0	1.000	1.000	TLT exp. 7/31/99, AR
398	D	Milk-based water	0.002700	0	1.000	1.000	TLT exp 7/31/99, AR
319	D	Milk-fat solids	0.040000	0	1.000	1.000	TLT exp 7/31/99, AR
318	D	Milk-nonfat solids	0.002700	0	1.000	1.000	TLT exp 7/31/99, AR
320	D	Milk sugar (lactose)	0.002700	0	1.000	1.000	TLT exp 7/31/99, AR
20	10	Citrus citron	0.500000	0	1.000	1.000	Pend, 6F4623
23	10	Grapefruit-juice	0.500000	0	2.100	1.000	Pend, 6F4623
441	10	Grapefruit-juice-concentrate	0.500000	0	8.260	1.000	Pend, 6F4623
448	10	Grapefruit peel	0.500000	0	1.000	1.000	Pend, 6F4623
22	10	Grapefruit-peeled fruit	0.500000	0	1.000	1.000	Pend, 6F4623
24	10	Kumquats	0.500000	0	1.000	1.000	Pend, 6F4623
28	10	Lemons-juice	0.500000	0	2.000	1.000	Pend, 6F4623
442	10	Lemons-juice-concentrate	0.500000	0	11.400	1.000	Pend, 6F4623
27	10	Lemons-peel	0.500000	0	1.000	1.000	Pend, 6F4623
26	10	Lemons-peeled fruit	0.500000	0	1.000	1.000	Pend, 6F4623
32	10	Limes-juice	0.500000	0	2.000	1.000	Pend, 6F4623
443	10	Limes-juice-concentrate	0.500000	0	6.000	1.000	Pend, 6F4623
31	10	Limes-peel	0.500000	0	1.000	1.000	Pend, 6F4623
30	10	Limes-peeled fruit	0.500000	0	1.000	1.000	Pend, 6F4623
36	10	Oranges-juice	0.004700	0	1.000	1.000	Pend, 6F4623, AR
33	10	Oranges-juice-concentrate	0.004700	0	3.720	1.000	Pend, 6F4623, AR
35	10	Oranges-peel	0.210000	0	1.000	1.000	Pend, 6F4623, AR
34	10	Oranges-peeled fruit	0.210000	0	1.000	1.000	Pend, 6F4623, AR
37	10	Tangelos	0.500000	0	1.000	1.000	Pend, 6F4623
38	10	Tangerines	0.500000	0	1.000	1.000	Pend, 6F4623
39	10	Tangerines-juice	0.500000	0	2.300	1.000	Pend, 6F4623
420	10	Tangerines-juice-concentrate	0.500000	0	7.350	1.000	Pend, 6F4623

Attachment 4: Chronic Dietary Exposure Analysis

U.S. Environmental Protection Agency Ver. 6.76
DEEM Chronic analysis for CHLORFENAPYR (1989-92 data)
Residue file name: C:\deem\resdata\129093c.r96 Adjustment factor #2 NOT used.
Analysis Date 06-23-1999/10:52:10 Residue file dated: 06-23-1999/10:50:20/8
Reference dose (RfD, CHRONIC) = .003 mg/kg bw/day
COMMENT 1: RfD includes FQPA factor of 10x; ARs for blended commodities

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Total Exposure Percent of Rfd
U.S. Population (total)	0.000280	9.3%
U.S. Population (spring season)	0.000299	10.0%
U.S. Population (summer season)	0.000260	8.7%
U.S. Population (autumn season)	0.000276	9.2%
U.S. Population (winter season)	0.000289	9.6%
Northeast region	0.000314	10.5%
Midwest region	0.000240	8.0%
Southern region	0.000244	8.1%
Western region	0.000354	11.8%
Hispanics	0.000215	7.2%
Non-hispanic whites	0.000284	9.5%
Non-hispanic blacks	0.000308	10.3%
Non-hisp/non-white/non-black)	0.000259	8.6%
All infants (< 1 year)	0.000057	1.9%
Nursing infants	0.000018	0.6%
Non-nursing infants	0.000074	2.5%
Children 1-6 yrs	0.000428	14.3%
Children 7-12 yrs	0.000464	15.5%
Females 13-19(not preg or nursing)	0.000295	9.8%
Females 20+ (not preg or nursing)	0.000242	8.1%
Females 13-50 yrs	0.000246	8.2%
Females 13+ (preg/not nursing)	0.000182	6.1%
Females 13+ (nursing)	0.000372	12.4%
Males 13-19 yrs	0.000202	6.7%
Males 20+ yrs	0.000248	8.3%
Seniors 55+	0.000302	10.1%
Pacific Region	0.000308	10.3%