



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

FEB 27 1990

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Anticipated Residues for Fenvalerate

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Introduction

DEB has been requested to provide anticipated residues for esfenvalerate "especially for the crops which contribute to the bulk of the exposure". We assume that this request really refers to fenvalerate, for which there are residue data. Fenvalerate [(RS)-cyano(3-phenoxyphenyl)methyl-(RS)-4-chloro- α -(1-methylethyl)benzeneacetate], which consists of four optical isomers, is the active ingredient (ai) of PYDRIN® Insecticide. PYDRIN® insecticide is registered for use in/on the commodities addressed in this memo (apples, peaches, corn). More recently, the registrant, E.I. du Pont de Nemours & Co., has registered ASANA® Insecticide, whose active ingredient is esfenvalerate -- fenvalerate enriched in the SS-stereoisomer. The SS-isomer constitutes about 23% of the isomers in fenvalerate and about 85% of the isomers in esfenvalerate. ASANA® Insecticide is registered for use in/on apples and corn but not peaches. Since it is the SS-isomer that is responsible for most of the insecticidal activity, application rates of ASANA® Insecticide are typically 1/4 those of PYDRIN®. However, residues resulting from use of either insecticide are regulated under 40 CFR 180.379. Tolerances in this subsection were set on the basis of residue data resulting from fenvalerate application. If in the future, manufacture of fenvalerate is discontinued and PYDRIN® registrations are cancelled, it will be possible to set tolerances and assess dietary exposures based on esfenvalerate residues. This would require residue trials/bridging studies reflecting use of esfenvalerate on selected commodities because

little or no such data currently exist. In the meantime, it is clear that esfenvalerate levels resulting from use of ASANA® will be lower than corresponding fenvalerate levels from use of PYDRIN®. Anticipated residues in this memo will be calculated for fenvalerate.

Dietary exposure of infants and children to fenvalerate is almost entirely due to residues on a few commodities. These commodities and their contribution to the total percent of the ADI for non-nursing infants and children (1-6 yrs.) are shown in the following table, which was derived from the Tolerance Assessment System Routine Chronic Analysis (1/22/90):

	Infants	Children (1-6 yrs.)
Stone Fruits		
Peaches, fresh	46.371%	10.503%
Apricots, fresh	8.564	2.248
Cherries, fresh	1.546	1.865
Plums, fresh, dried,		
juice	13.714	1.970
Other	0.872	0.610
Pome Fruits		
Apples, fresh	12.684	5.456
Apples, juice	23.095	6.627
Other	6.593	1.177
Red Meats		
Beef, fat	0.638	2.231
Beef, lean (muscle)	4.093	6.992
Pork, fat	0.488	1.419
Pork, lean	1.472	2.324
Other	0.46	0.640
Dairy Products		
Milk, non-fat solids	33.628	14.131
Milk, fat solids	22.163	18.756
Other	2.087	0.148

Tolerances on the above commodities have been established under 40 CFR 180.379 as follows:

Apples	2.0 ppm
Stone Fruits	10.0 ppm
Cattle, meat	1.5 ppm
Cattle, fat	1.5 ppm
Hog, meat	1.5 ppm
Hog, fat	1.5 ppm
Milk	0.3 ppm
Milk, fat	7.0 ppm

In this memo we will determine anticipated residues of fenvalerate for peaches, apples, beef and milk. The exposure estimate can be further refined by including additional commodities, if so desired.

Conclusions and Recommendations

1. Anticipated residues for fenvalerate have been calculated for commodities shown in the following table:

<u>Commodity</u>	<u>Anticipated Residue</u>
Apples	0.9 ppm
Peaches	1.9
Cattle, meat	0.10
Cattle, fat	0.71
Milk	0.12
Milk-fat	2.9
Skim Milk	<0.01

Anticipated residues for these commodities should be used in place of their tolerances in order to calculate more realistic chronic exposure to fenvalerate.

In our opinion, the anticipated residue for skim milk should be used to calculate exposure due to milk-non-fat solids (Food Code 50000DB), and the anticipated residue for milk fat should be used to calculate exposure due to milk-fat solids (50000FA).

2. Because esfenvalerate consists of one of four isomers present in fenvalerate and use levels for esfenvalerate are typically 1/4 those for the isomer mixture, anticipated residues of esfenvalerate will be lower than the values calculated for fenvalerate in this memo. However, because fenvalerate (PYDRIN®) is still registered for use in/on apples, peaches and corn, dietary exposure calculations must be based on total fenvalerate levels. In the absence of bridging residue data, we are not prepared to estimate how much lower anticipated residues of esfenvalerate will be.
3. Calculated exposure to fenvalerate from meat and dairy products did not include potential exposure from use of Ectrin® Insecticide WDL -- fenvalerate for dermal application. The petition for this latter use -- PP#5F3222 -- has not been finalized. Should Ectrin® Insecticide WDL be registered, anticipated residues in meat and milk will have to be recalculated.

Detailed Considerations

Anticipated residues for chronic exposure are currently calculated using average residues from field trials. As noted in the introduction, such data are currently available for fenvalerate, not esfenvalerate. Therefore in this memo all calculations are based on residue data from fenvalerate uses.

Calculations for peaches, apples, beef and milk are as follows:

Apples. The present tolerance of 2.0 ppm was determined on the basis of field trials held in OR, WA, MI and NY (PP#0F2367/FAP#0H5226, memo of K. Arne, 1/7/81). Data used to calculate the average residue are given in Appendix 1. The average residue is calculated to be 0.9 ppm.

There is no processing study available which shows corresponding residues in apple juice. The TAS conversion factor of 1.5 would lead to an anticipated residue of 1.35 ppm. However, a metabolism study on apples demonstrated that only 2% of applied radioactivity penetrated apple peels 22 days after spraying. We therefore consider it appropriate to use the anticipated residue for apples, 0.9 ppm, as the residue for apple juice.

From a study in which whole apples were processed into dried apple pomace, the average concentration factor was shown to be 8.7 (PP#0F2367, page 00079). We therefore calculate the anticipated residue in apple pomace to be 7.8 ppm. (This value is used in determination of anticipated residues in meat and milk, below. Because percent moisture in dried pomace is only about 10%, we will assume that the 7.8 ppm is correct on a dry weight basis.)

Peaches. The present tolerance of 10.0 ppm was determined on the basis of field trials held in CA, GA, MI, NC and NJ (PP#2F2587, memo of K. Arne, 2/12/82). Data used to calculate the average residue are given in Appendix 1. The average residue is calculated to be 1.9 ppm. Anticipated residues could be calculated for apricots, plums and/or cherries to further reduce the stone fruit fenvalerate contribution to the diet.

Meat and Milk. Tolerances were determined on the basis of a cattle feeding study submitted in PP#0F2367/FAP#0H5226 and discussed further in PP#1F2430 (memo of K. Arne, 4/19/82). Lactating cattle were fed radiolabeled pydrin at a level of 80 ppm in the feed for 21 days. At sacrifice, average levels (n = 3) in beef mesenteric fat were 2.29 ppm (as fenvalerate), and levels in beef quadriceps muscle averaged 0.29 ppm. The highest average residue (n = 5) in whole milk was 0.59 ± 0.13 ppm, on day

19. The corresponding average residue in milk fat was 12.84 ± 1.76 ppm. No residues were detected in skim milk at a level of 0.04 ppm.

From the results of the feeding study, tolerances were set using the following diets:

Beef Cattle

	<u>Tolerance (ppm)</u>	<u>% in Diet</u>	<u>PPM in Diet</u>
Corn Forage and Fodder	50	30	15
Dried Apple Pomace	20	25	5
Corn Grain	0.05	45	<u>0.023</u>
			20

Dairy Cattle

Corn Forage and Fodder	50	50	25
Dried Apple Pomace	20	25	5
Corn Grain	0.05	25	<u>0.023</u>
			30

The maximum potential concentration of fenvalerate in the daily diet of cattle was revised upward in PP#2F2657 (K. Arne, memo of 9/13/84). The diet used in that calculation consisted of grape pomace (20% for dairy cattle), corn fodder (10%), barley hay (40%) and corn grain (25%); and from this diet a fenvalerate concentration of 36 ppm for dairy cattle was calculated. In our opinion the earlier diet is more appropriate. Our most recent guidelines update has deleted barley hay as an animal feed item because of its relative insignificance, and it is clear from our Cultural Practices Files that grape pomace is rarely used at more than 5% in the diet of cattle.

The diets that we will use to determine anticipated residues in meat and milk are modified versions of those given in K. Arne's memo in 1F2430. It is more realistic to distinguish between residues in sweet corn (PHI 1 day) and field corn (PHI 21 days). Our diet contains the maximum percentage allotted in our guidelines for sweet corn, in which residues are higher.

Beef Cattle -- Sweet corn forage (25%), field corn silage (5%), field corn grain (45%), apple pomace (25%). Dairy Cattle -- Sweet corn forage (10%), field corn silage (40%), field corn grain (25%), apple pomace (25%). These percentages refer to commodities on a dry weight basis. Since corn forage/silage contains up to 75% moisture, residues obtained from field trials must be divided by 0.25.

Average residues for each of the commodities in the above diets (except for pomace) are calculated in Appendix 2. These are as follows:

		Dry Weight Basis
Sweet Corn Forage and Fodder	22 ppm	88 ppm
Field Corn Forage (Silage)	4.5 ppm	18 ppm
Apple Pomace	7.8 ppm	
Corn Grain	0.02 ppm	

Combining these average residues with the respective diets for beef cattle and dairy cattle, we calculate that the anticipated fenvalerate residue in the diet for beef cattle is 25 ppm, the average residue in the diet for dairy cattle is 18 ppm. Using the results from the feeding study, we calculate the following anticipated residues:

Beef Muscle (meat)	0.10 ppm
Beef Fat	0.71 ppm
Whole Milk	0.12 ppm
Milk Fat	2.9 ppm
Skim Milk	<0.01 ppm

The anticipated residues which we report for apples and peaches do not include a factor for percent crop treated. Such a factor for each commodity should be applied to determine more accurate anticipated residues. Likewise, anticipated residues in animal feeds from which residues in meat and milk were derived were not calculated using factors for percent crop treated. However if necessary, such factors could be applied to the residues determined for the feed items in the diet of beef and dairy cattle, and anticipated residues in meat and milk recalculated.

The category for dairy products deserves comment. In our opinion, the correct anticipated residue to be used for non-fat solids is the value for skim milk (<0.01 ppm). The correct anticipated residue to be used for milk fat solids is the value determined for milk fat, 2.9 ppm.

Finally, we note that the calculated anticipated residues for dairy products does not include potential contribution from dermal exposure. Cattle ear tags and neck bands containing fenvalerate are currently registered (B. Suhre, memo of 2/24/86). Data were submitted in support of PP#9F2260 from 3 field trials conducted on cattle wearing ear tags. No detectable residues were found in either tissue or milk. However, anticipated residues in meat and milk would probably increase as a result of the proposed use of Ectrin® Insecticide Water Dispersible Liquid (WDL), PP#5F3222. DEB has recommended that the petitioner propose a tolerance of 15 ppm for residues of fenvalerate in milkfat (reflecting 0.6 ppm in whole milk). Thus existing tolerances would be doubled (N. Dodd, memo of 5/1/89). Because

the petition is currently in reject status, and it is unclear at this time exactly how the petitioner will respond to DEB's comments, we make no attempt to include anticipated residues from dermal exposure in our current calculation. Should tolerances be revised to include potential use of Ectrin Insecticide WDL, anticipated residues in meat and milk will have to be recalculated.

Attachments

- Attachment 1: Appendix 1. Anticipated Residues in/on Apples and Peaches.
- Attachment 2: Appendix 2. Anticipated Residues in Animal Feeds.
- Attachment 3: TAS Routine Chronic Analysis. Non-nursing Infants.
- Attachment 4: TAS Routine Chronic Analysis. Children (1-6 years old).

cc(all attachments): RF, SF(fenvalerate),
Reviewer(MikeFlood), ISB/PMSD, TOX.,
cc(Attachments 1 and 2, only): Circulation.

H7509C:DEB:Reviewer(MTF):CM#2:Rm810:557-4362:typist(mtf):2/23/90.
RDI:SectionHead:DFEdwards:2/16/90:BranchSeniorScientist:
RALoranger:2/20/90:DeputyBranchChief:E.Zager:2/23/90.

Appendix 1

Calculation of Anticipated Residues for Apples and Peaches

Apples

Field trials were held in OR, WA, MI and NY. Fenvalerate may be used for a maximum 7x per season at 0.1-0.3 lb ai/A; the PHI must be at least 21 days. Field trial data in which the PHI's are ≤ 21 days and total application rates are $\geq 7 \times 0.3$ lb ai/A (with one exception) as tabulated in K. Arne's 1/7/81 memo for PP#0F2367/FAP#0H5226 are the following:

Table 1

Application Rate	Number Applications	Seasonal Application Rate	PHI	Residue (PPM)
0.6 lb ai/A	9	5.4 lbs ai/A	21 days	0.67 ppm
0.3	9	2.7	21	0.67
0.4	9	3.6	21	1.1
0.4	9	3.6	21	1.1
0.5	7	3.5	21	0.56
0.5	7	3.5	21	0.48
1.0	7	7.0	21	0.92
1.0	7	7.0	21	0.88
0.5	9	4.5	21	0.41
0.5	9	4.5	21	0.71
0.4	7	2.8	21	1.1
0.25	8	2.0	15	0.86
0.5	8	4.0	15	1.1
0.25	9	2.25	21	1.6

These data were used to determine the present tolerance of 2.0 ppm. The average of these data is 0.87 ± 0.32 ppm.

Peaches

Field trials were carried out in CA, NC, GA, MI and NJ. Fenvalerate may be applied at 0.15-0.3 lb ai/A up to a seasonal maximum level of 1.5 lb ai/A; the minimum PHI is 14 days. Unlike the apple residue data above, fenvalerate residues showed a marked dependence on application level. To include more data for averaging yet maintain realistic levels, we have scaled exaggerated seasonal application rates to 2.0 lb ai/A and averaged the data for each field trial. In one case (NC) we scaled data up to 2.0 lb ai/A. Residues and scaled residues are shown in the following table. Residue values obtained in a given field trial using the same application rates have been averaged. For example, in the first CA trial fenvalerate residues of 19.7 and 8.6 ppm were found using the application rate 5×0.8 lb ai/A. These have been averaged to give 14.2 ppm, which appears under the "residue" heading.

Table 2

State	Application Rate	Seasonal Rate	Residue	Scaled Residue/Average
CA	5 x 0.4 lb ai/A	2.0 lbs ai/A	2.6 ppm	2.6 ppm
	5 x 0.8	4.0	14.2	<u>7.1</u> 4.8 ppm
NC	8 x 0.4	3.2	1.1	0.69
	8 x 0.2	1.6	0.68	0.68
	8 x 0.1	0.8	0.44	<u>1.10</u> 0.82 ppm
GA	5 x 0.4	2.0	1.2	1.2
	5 x 0.8	4.0	5.0	<u>2.5</u> 1.8 ppm
MI	5 x 0.4	2.0	3.0	3.0
	5 x 0.8	4.0	4.0	<u>2.0</u> 2.5 ppm
CA	5 x 0.4	2.0	0.32	0.32
	5 x 0.8	4.0	0.85	<u>0.42</u> 0.37 ppm
NJ	5 x 0.4	2.0	1.47	1.47
	5 x 0.8	4.0	2.42	<u>1.21</u> 1.34 ppm

The average residue is calculated to be 1.94±1.6 ppm.

Appendix 2

Anticipated Residues for Field and Sweet Corn Forage, Fodder, Grain

Tolerances have been established under 40 CFR 180.379 for corn grain at 0.02 ppm, corn fodder at 50 ppm and corn forage at 50 ppm.

Sweet Corn

The maximum application rate of fenvalerate is 10 x 0.2 lb ai/A/season; the minimum PHI is 1 day. Field trial data appear in PP#1F2430. Data having PHI's 0-7 days and application levels $\geq 10 \times 0.2$ lb ai/A were used to determine average residues. No distinction was made among husks, shucks, forage, fodder and silage. There was no evident difference among residue levels for these commodities. In one case (MN) where the application rate was 5 x 0.2 lb, residues were doubled. Data are given in the following table:

Table 1

State	Application Rate	PHI	Residue	Scaled Residue/Average
FL	0.25 x 18 lb ai/A	2 days	19, 25 ppm	22 ppm
	0.2 x 10	2	20, 24	22
	0.4 x 10	2	55, 80	33.8
				25.9 ppm
NY	0.4 x 4	7	12.0	12.0 ppm
CA	0.4 x 5	3	9.5	9.5
	0.4 x 5	3	7.8	7.8
				8.6 ppm
FL	0.2 x 10	0	20.0	20.0
	0.2 x 10	0	24.0	24.0
	0.4 x 10	0	80.0	40.0
	0.4 x 10	0	55.0	27.5
	0.2 x 10	3	22.0	22.0
	0.2 x 10	3	38.0	38.0
	0.4 x 10	3	44.0	22.0
	0.4 x 10	3	66.0	33.0
	0.2 x 10	5	21.0	21.0
	0.2 x 10	5	36.0	36.0
	0.4 x 10	5	62.0	31.0
	0.4 x 10	5	60.0	30.0
	0.2 x 10	7	22.0	22.0
	0.2 x 10	7	22.0	22.0
	0.4 x 10	7	54.0	27.0
	0.4 x 10	7	50.0	25.0
				27.5 $\pm$ 6.4 ppm
MN	0.2 x 5	3	16.0	32.0
	0.2 x 5	3	43.0	86.0
				59.0 ppm
NY	0.2 x 4	0	7.4	14.2
	0.2 x 4	0	11.0	22.0

10

	0.2 x 4	3	8.2	16.4
	0.2 x 4	3	9.3	18.6
	0.4 x 4	0	10.0	10.0
	0.4 x 4	0	9.8	9.8
	0.4 x 4	3	17.0	17.0
	0.4 x 4	3	20.0	20.0
				<u>16.1±4.4 ppm</u>
TX	0.2 x 10	1	38.8	38.8
	0.2 x 10	1	36.2	36.2
				<u>37.5 ppm</u>
FL	0.2 x 10	1	9.0	9.0
	0.2 x 10	1	9.9	9.9
	0.4 x 10	1	23.9	12.0
	0.4 x 10	1	30.2	15.1
				<u>11.5±2.7 ppm</u>
CA	0.2 x 10	1	7.3	7.3
	0.2 x 10	1	10.0	10.0
				<u>8.6 ppm</u>
IL	0.2 x 10	1	4.6	4.6*
	0.4 x 10	9	13.9	13.9*
	0.4 x 10	9	14.5	14.5*
				<u>11.0±5.6 ppm</u>

* Because of the long PHI these data have not been scaled.

The average of 10 field trials is 21.8±16.2 ppm. Since the moisture content of forage/silage is about 75%, on a dry weight basis the concentration is 88 ppm.

Field Corn

Field trial data for field corn were reported in PP#2F2598 (K. Arne, memo of 3/11/82). Maximum application rate per season is unspecified in the current label for Pydrin (fenvalerate), but the corresponding label for Asana® (esfenvalerate) is 0.25 lb ai/A/season. Therefore the seasonal maximum for fenvalerate should be 1.0 lb ai/A/season (this is specified in the petition). The label specifies a minimum PHI of 21 days (Crop Protection Chemicals Reference, 5th edition, 1989). Data appear in the following table. As in the case of sweet corn, no distinction has been made among husks, shucks, forage, silage and fodder. Data obtained from 2x the maximum rate have been scaled to 1x the maximum.

Table 2

State	Application Rate	PHI	Residue	Scaled Residue/Average
GA	0.2 x 5	21 days	1.66, 1.07 ppm	2.8 ppm
	0.4 x 5	21	9.90, 9.63	<u>4.9</u>
				<u>3.8 ppm</u>
GA	0.2 x 5	14	1.3	1.3
	0.4 x 5	14	5.2	<u>2.6</u>
				<u>2.0 ppm</u>

//

TX	0.2 x 5	21	4.9	4.9
	0.2 x 5	21	12.1	12.1
	0.4 x 5	21	7.8	3.9
				<u>7.0±4.5 ppm</u>
TX	0.2 x 5	14	3.3	3.3
	0.2 x 5	14	3.6	3.6
	0.4 x 5	14	7.3	3.6
	0.4 x 5	14	7.2	3.6
				<u>3.5±0.2 ppm</u>
KS	0.1 x 6	12	0.35	0.70
	0.1 x 6	12	0.26	0.52
	0.2 x 6	12	0.65	0.65
	0.2 x 6	12	1.10	1.10
	0.2 x 6	25	2.49	2.49
	0.2 x 6	25	2.05	2.05
				<u>1.25±0.82 ppm</u>
WI	0.4 x 5	17	8.1	4.0
	0.4 x 5	17	10.9	5.4
	0.4 x 5	21	17.6	8.8
	0.4 x 5	21	15.1	7.6
				<u>6.4±2.1 ppm</u>
OH	0.2 x 5	14	8.2	8.2
	0.4 x 5	14	2.9	1.4
	0.4 x 5	14	6.7	3.4
				<u>4.3±3.5 ppm</u>
SD	0.2 x 5	14	4.5	4.5
	0.2 x 5	14	4.0	4.0
	0.4 x 5	14	6.6	3.3
	0.4 x 5	14	5.5	2.8
				<u>3.6±0.8 ppm</u>
MI	0.2 x 5	23	12.1	12.1
	0.2 x 5	23	12.0	12.0
	0.4 x 5	23	30.9	15.4
	0.4 x 5	23	24.3	12.2
				<u>12.9±1.6 ppm</u>
MO	0.4 x 5	23	<0.02	<0.02
	0.4 x 5	23	0.05	0.025
	0.4 x 5	23	0.18	0.09
	0.4 x 5	23	0.21	0.10
	0.4 x 5	23	0.74	0.37
	0.4 x 5	23	0.55	0.22
	0.4 x 5	23	0.15	0.08
				<u>0.13±0.12 ppm</u>

The average residue from the 10 field trials is calculated to be 4.5 ± 3.6 ppm. Since forage/silage moisture content is about 75%, on a dry weight basis this value is 18 ppm.

Fenvalerate was not detected in either sweet or field corn grain. The current tolerance of 0.02 ppm will be used in calculations.

1. Hachment 33

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Fenvalerate (Pydrin)		20mm feeding- mouse		Decr erythrocyte count,		ADI	UF --> 100	No data gaps.		HED complete 08/15/86.	
Caswell #077A		MOEL= 4.5000 mg/kg		incr in MCV; granulomatous		OPP RfD= 0.045000				EPA verified 09/16/86.	
CAS No. 51630-58-1		30.00 ppm		changes in liver & lymph		EPA RfD= 0.025000				HED complete 11/14/88.	
A.I. CODE: 109301		LEL= 15.0000 mg/kg		nodes.						EPA not scheduled.	
CFR No. 180.379		100.00 ppm		No evidence of oncogeni-						WHO last reviewed 1986.	
		ONCO: Negative- 2 species		city in rats or mice.						On IRIS.	

LISTING OF EXPOSURE BY RAC FOR: NON-NURSING INFANTS (<1 YEAR OLD)

FOOD CODE	FOOD NAME	TOLERANCE (PPM)		NEW PENDING PUBLISHED		THRC (UG/KG/DAY)		THRC (UG/KG/DAY)		THRC (UG/KG/DAY)	
		NEW	PENDING	PUBLISHED	THRC	THRC	THRC	THRC	THRC	THRC	THRC
10014AA	SQUASH-WINTER			1.00000		0.368900		0.8197			
10017AA	BITTER MELON			0.05000		0.000000		0.0000			
10020AA	TOMELGOURD			0.05000		0.000000		0.0000			
CROP GROUP TOTALS FOR FRUITING VEGETABLES (CUCURBITTS):											
GRAND TOTAL THRC:	0.412460					0.412460		0.9165			

GRAND TOTAL % OF THE RfD: 0.9166

02001AA	CITRUS CITRON			0.05000		0.000000		0.0000			
02002AA	GRAPEFRUIT-UNSPECIFIED			0.05000		0.000000		0.0000			
02002AB	GRAPEFRUIT-PULP			0.05000		0.000000		0.0000			
02002JA	GRAPEFRUIT-JUICE			0.05000		0.005530		0.0122			
02003AA	KUMQUATS			0.05000		0.000000		0.0000			
02004AA	LEMONS-UNSPECIFIED			0.05000		0.000002		0.0000			
02004AB	LEMONS-PULP			0.05000		0.000000		0.0000			
02004HA	LEMONS-PEEL			0.05000		0.000001		0.0000			
02004JA	LEMONS-JUICE			0.05000		0.000183		0.0004			
02005AA	LINES-UNSPECIFIED			0.05000		0.000000		0.0000			
02005AB	LINES-PULP			0.05000		0.000000		0.0000			
02005HA	LINES-PEEL			0.05000		0.000000		0.0000			
02005JA	LINES-JUICE			0.05000		0.000003		0.0000			
02006AA	ORANGES-UNSPECIFIED			0.05000		0.000000		0.0000			
02006AB	ORANGES-PULP			0.05000		0.001949		0.0043			
02006HA	ORANGES-PEEL			0.05000		0.000003		0.0000			
02006JA	ORANGES-JUICE			0.05000		0.132114		0.2935			
02007AA	TANGELOS			0.05000		0.000000		0.0000			
02008AA	TANGERINES			0.05000		0.000115		0.0002			
02008JA	TANGERINE-JUICE			0.05000		0.000000		0.0000			
CROP GROUP TOTALS FOR CITRUS FRUITS:											
GRAND TOTAL THRC:	0.139900					0.139900		0.3108			

GRAND TOTAL % OF THE RfD: 0.3109

04001AA	APPLES-FRESH			2.00000		5.707992		12.6844			
04001DA	APPLES-DRIED			2.00000		0.000000		0.0000			
04001JA	APPLES-JUICE			2.00000		10.392626		23.0947			
04002AA	CRABAPPLES			0.05000		0.000000		0.0000			
04003AA	PEARS-FRESH			2.00000		3.156118		7.0135			
04003DA	PEARS-DRIED			2.00000		0.000000		0.0000			

13

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	UF		
Fenvalerate (Pydrin) Caswell #077A CAS No. 51630-58-1 A.I. CODE: 109301 CFR No. 180.379	20mm feeding- mouse NOEL= 4,5000 mg/kg 30.00 ppm LEL= 15.0000 mg/kg 100.00 ppm ONCO: Negative- 2 species	Decr erythrocyte count, incr in MCV; granulomatous changes in liver & lymph nodes. No evidence of oncogeni- city in rats or mice.	OPP RfD= 0.045000 EPA RfD= 0.025000	-->100	No data gaps.	HED complete 08/15/86. EPA verified 09/16/86. HED complete 11/14/88. EPA not scheduled. WHO last reviewed 1986. On IRIS.

LISTING OF EXPOSURE BY RAC FOR: NON-NURSING INFANTS (<1 YEAR OLD)

FOOD CODE	FOOD NAME	---EXISTING TOLERANCES---		---NEW & PENDING TOLERANCES---	
		NEW	PENDING	THRC (UG/KG/DAY)	XRFD
04004AA	QUINCES	0.05000		0.000000	0.0000
CROP GROUP TOTALS FOR POME FRUITS:				19.256736	42.7927
GRAND TOTAL THRC:		19.256736			42.7927

05001AA	APRICOTS-FRESH	10.00000		3.853573	8.5634
05001DA	APRICOTS-DRIED	10.00000		0.000000	0.0000
05002AA	CHERRIES-FRESH	10.00000		0.694646	1.5436
05002DA	CHERRIES-DRIED	10.00000		0.000000	0.0000
05002JA	CHERRIES-JUICE	10.00000		0.393163	0.8736
05003AA	NECTARINES	10.00000		0.000000	0.0000
05004AA	PEACHES-FRESH	10.00000		20.867392	46.3719
05004DA	PEACHES-DRIED	10.00000		0.000000	0.0000
05005AA	PLUMS(DANSONS)-FRESH	10.00000		2.949880	6.5552
05005DA	PLUMS-PRUNES(DRIED)	10.00000		1.520457	3.3787
05005JA	PLUMS/PRUNE-JUICE	10.00000		1.700999	3.7799
CROP GROUP TOTALS FOR STONE FRUITS:				31.980110	71.0669
GRAND TOTAL THRC:		31.980110			71.0669

01002AA	BLACKBERRIES	3.00000		0.002105	0.0046
01003AA	BOYSENBERRIES	3.00000		0.000000	0.0000
01004AA	DEWBERRIES	3.00000		0.000000	0.0000
01005AA	LOGANBERRIES	3.00000		0.000000	0.0000
01006AA	RASPBERRIES	3.00000		0.000000	0.0000
01007AA	YOUNGBERRIES	3.00000		0.000000	0.0000
01009AA	BLUEBERRIES	3.00000		0.241646	0.5369
01010AA	CRANBERRIES	0.05000		0.000788	0.0017
01010JA	CRANBERRIES-JUICE	0.05000		0.000000	0.0000
01011AA	CURRANTS	3.00000		0.000000	0.0000
01012AA	ELDERBERRIES	3.00000		0.000000	0.0000
01013AA	GOOSEBERRIES	3.00000		0.000000	0.0000
01014AA	GRAPES-FRESH	0.05000		0.001237	0.0027
01014DA	GRAPES-RAISINS	0.05000		0.000207	0.0004
01014JA	GRAPES-JUICE	0.05000		0.010409	0.0231
01015AA	HUCKLEBERRIES (GAYLUSSACIA)	3.00000		0.000000	0.0000
01016AA	STRAWBERRIES	0.05000		0.001363	0.0030

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	UF		
Fenvalerate (Pydrin) Caswell #077A CAS No. 51630-58-1 A.I. CODE: 109301 CFR No. 180.379	20mm feeding- mouse NOEL= 4,5000 mg/kg 30.00 ppm LEL= 15,0000 mg/kg 100.00 ppm ONCO: Negative- 2 species	Decr erythrocyte count, incr in MCV; granulocytosis changes in liver & lymph nodes. No evidence of oncogeni- city in rats or mice.	OPP RfD= 0.045000 EPA RfD= 0.025000	-->100	No data gaps.	HED complete 08/15/86. EPA verified 09/16/86. HED complete 11/14/88. EPA not scheduled. WHO last reviewed 1986. On IRIS.

LISTING OF EXPOSURE BY RAC FOR: NON-NURSING INFANTS (<1 YEAR OLD)

FOOD CODE	FOOD NAME	TOLERANCE (PPM)		TMR		TMR	
		NEW	PENDING	EXISTING	PENDING	NEW	PENDING
53001BB	BEEF(ORGAN MEATS)-OTHER	1.50000		0.004662		0.0103	
53001DA	BEEF-DRIED	1.50000		0.000000		0.0000	
53001FA	BEEF(BONELESS)-FAT (BEEF TALLOW)	1.50000		0.286921		0.6376	
53001KA	BEEF(ORGAN MEATS)-KIDNEY	1.50000		0.000000		0.0000	
53001LA	BEEF(ORGAN MEATS)-LIVER	1.50000		0.046851		0.1041	
53001MA	BEEF(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000		1.841779		4.0928	
53002BA	GOAT-MEAT BYPRODUCTS	1.50000		0.000000		0.0000	
53002BB	GOAT(ORGAN MEATS)-OTHER	1.50000		0.000000		0.0000	
53002FA	GOAT(BONELESS)-FAT	1.50000		0.000000		0.0000	
53002KA	GOAT(ORGAN MEATS)-KIDNEY	1.50000		0.000000		0.0000	
53002LA	GOAT(ORGAN MEATS)-LIVER	1.50000		0.000000		0.0000	
53002MA	GOAT(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000		0.000000		0.0000	
53003AA	HORSE	0.05000		0.000000		0.0000	
53004AA	RABBIT	1.50000		0.000000		0.0000	
53005BA	SHEEP-MEAT BYPRODUCTS	1.50000		0.000000		0.0000	
53005BB	SHEEP(ORGAN MEATS)-OTHER	1.50000		0.000000		0.0000	
53005FA	SHEEP(BONELESS)-FAT	1.50000		0.010879		0.0241	
53005KA	SHEEP(ORGAN MEATS)-KIDNEY	1.50000		0.000000		0.0000	
53005LA	SHEEP(ORGAN MEATS)-LIVER	1.50000		0.000000		0.0000	
53005MA	SHEEP(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000		0.094572		0.2101	
53006BA	PORK-MEAT BYPRODUCTS	1.50000		0.008611		0.0191	
53006BB	PORK(ORGAN MEATS)-OTHER	1.50000		0.002304		0.0051	
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD)	1.50000		0.219770		0.4883	
53006KA	PORK(ORGAN MEATS)-KIDNEY	1.50000		0.000000		0.0000	
53006LA	PORK(ORGAN MEATS)-LIVER	1.50000		0.022602		0.0502	
53006MA	PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000		0.662613		1.4724	
CROP GROUP TOTALS FOR RED MEAT:				3.218092		7.1513	

7.1513

GRAND TOTAL TMR: 3.218092 GRAND TOTAL % OF THE RfD: 7.1513

55008BA	TURKEY-BYPRODUCTS	0.05000		0.000000		0.0000	
55008LA	TURKEY-GIBLETS (LIVER)	0.05000		0.000000		0.0000	
55008MA	TURKEY-FLESH(W/O SKIN, W/O BONES)	0.05000		0.005996		0.0133	
55008MB	TURKEY-FLESH(+SKIN,W/O BONES)	0.05000		0.004048		0.0090	
55008MC	TURKEY-UNSPECIFIED	0.05000		0.000000		0.0000	
55013BA	POULTRY, OTHER-BYPRODUCTS	0.05000		0.000000		0.0000	
55013LA	POULTRY, OTHER-GIBLETS(LIVER)	0.05000		0.000000		0.0000	
55013MA	POULTRY, OTHER-FLESH (+SKIN, W/O BONES)	0.05000		0.000000		0.0000	
55015BA	CHICKEN-BYPRODUCTS	0.05000		0.000000		0.0000	

15

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 01/22/90

PAGE: 24

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
Fenvalerate (Pydrin)		20mm feeding- mouse	Decr erythrocyte count, incr in MCV; granulomatous changes in liver & lymph nodes.	ADI	UF -->100	No data gaps.	HED complete 08/15/86.
Caswell #077A		NOEL= 4,5000 mg/kg		OPP	RfD= 0.045000		EPA verified 09/16/86.
CAS No. 51630-58-1		30.00 ppm		EPA	RfD= 0.025000		HED complete 11/14/88.
A.I. CODE: 109301		LEL= 15.0000 mg/kg					EPA not scheduled.
CFR No. 180.379		100.00 ppm	No evidence of oncogeni- city in rats or mice.				WHO last reviewed 1986.
		ONCO: Negative- 2 species					On IRIS.

LISTING OF EXPOSURE BY RAC FOR: NON-NURSING INFANTS (<1 YEAR OLD)

FOOD CODE	FOOD NAME	NEW	PENDING	PUBLISHED	THRC	THRC	THRC	THRC
					(UG/KG/DAY)	XRFD	(UG/KG/DAY)	XRFD

55015LA	CHICKEN-GIBLETS(LIVER)	0.05000			0.000800	0.0017		
55015MA	CHICKEN-FLESH(W/O SKIN, W/O BONES)	0.05000			0.016417	0.0364		
55015MB	CHICKEN-FLESH(+SKIN, W/O BONES)	0.05000			0.025422	0.0564		
CROP GROUP TOTALS FOR POULTRY:								
GRAND TOTAL THRC:	0.052703				0.052703	0.1171		

GRAND TOTAL % OF THE RfD: 0.1171

53010AA	FISH-UNSPECIFIED	0.05000			0.000000	0.0000		
53013AA	FISH-SHELLFISH	0.05000			0.000014	0.0000		
53015AA	FISH-ROE, CAVIAR	0.05000			0.000000	0.0000		
53016AA	FISH-FRESHWATER FINFISH	0.05000			0.000174	0.0003		
53017AA	FISH-SALTWATER FINFISH	0.05000			0.002809	0.0062		
53017DA	FISH-FINFISH-SALTWATER-DRIED	0.05000			0.000000	0.0000		
CROP GROUP TOTALS FOR FISH:								
GRAND TOTAL THRC:	0.002997				0.002997	0.0066		

GRAND TOTAL % OF THE RfD: 0.0067

500000B	MILK-NON-FAT SOLIDS	0.30000			15.132544	33.6278		
50000FA	MILK-FAT SOLIDS	7.00000			9.973340	22.1639		
50000SA	MILK SUGAR (LACTOSE)	0.30000			0.909141	2.0203		
55014AA	EGGS-WHOLE	0.05000			0.023568	0.0523		
55014AB	EGGS-WHITE ONLY	0.05000			0.000206	0.0004		
55014AC	EGGS-YOLK ONLY	0.05000			0.006446	0.0143		
CROP GROUP TOTALS FOR DAIRY PRODUCTS:								
GRAND TOTAL THRC:	26.045245				26.045245	57.8783		

GRAND TOTAL % OF THE RfD: 57.8783

POPULATION SUBGROUP TOTALS

POPULATION TOTAL THRC 87.995849 POPULATION TOTAL % OF THE RfD 195.5463

0.000000 0.0000

16

Attachment 4

CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Fenvalerate (Pydrin)	20mm feeding- mouse	NOEL=	4.5000 mg/kg	Decr erythrocyte count,	incr in MCV; granulomatous	ADI UF -->100	No data gaps.			HED complete 08/15/86.	
Caswell #077A	NOEL=	30.00 ppm		changes in liver & lymph	nodes.	OPP RfD= 0.045000				EPA verified 09/16/86.	
CAS No. 51630-58-1	LEL=	15.0000 mg/kg		No evidence of oncogeni-	city in rats or mice.	EPA RfD= 0.025000				HED complete 11/14/88.	
A.I. CODE: 109301	ONCO: Negative: 2 species	100.00 ppm								EPA not scheduled.	
CFR No. 180.379										WHO last reviewed 1986.	
										On IRIS.	

LISTING OF EXPOSURE BY RAC FOR: CHILDREN (1-6 YEARS OLD)

FOOD CODE	FOOD NAME	NEW PENDING PUBLISHED		EXISTING TOLERANCES		NEW & PENDING TOLERANCES	
		NEW	PENDING	PPM	THRC (UG/KG/DAY)	THRC (UG/KG/DAY)	THRC (UG/KG/DAY)
10014AA	SQUASH-WINTER	1.00000			0.036503	0.0811	
10017AA	BITTER MELON	0.05000			0.000000	0.0000	
10020AA	TOMELGOURD	0.05000			0.000000	0.0000	
CROP GROUP TOTALS FOR FRUITING VEGETABLES (CUCURBITS):					0.326057	0.7245	
GRAND TOTAL THRC:		0.326057					0.7246

FOOD CODE	FOOD NAME	NEW PENDING PUBLISHED		EXISTING TOLERANCES		NEW & PENDING TOLERANCES	
		NEW	PENDING	PPM	THRC (UG/KG/DAY)	THRC (UG/KG/DAY)	THRC (UG/KG/DAY)
02001AA	CITRUS CITRUS	0.05000			0.000007	0.0000	
02002AA	GRAPEFRUIT-UNSPECIFIED	0.05000			0.000000	0.0000	
02002AB	GRAPEFRUIT-PULP	0.05000			0.002183	0.0048	
02002JA	GRAPEFRUIT-JUICE	0.05000			0.003341	0.0074	
02003AA	KUMQUATS	0.05000			0.000000	0.0000	
02004AA	LEMONS-UNSPECIFIED	0.05000			0.000197	0.0004	
02004AB	LEMONS-PULP	0.05000			0.000008	0.0000	
02004HA	LEMONS-PEEL	0.05000			0.000002	0.0000	
02004JA	LEMONS-JUICE	0.05000			0.001228	0.0027	
02005AA	LIMES-UNSPECIFIED	0.05000			0.000000	0.0000	
02005AB	LIMES-PULP	0.05000			0.000000	0.0000	
02005HA	LIMES-PEEL	0.05000			0.000000	0.0000	
02005JA	LIMES-JUICE	0.05000			0.000163	0.0003	
02006AA	ORANGES-UNSPECIFIED	0.05000			0.000000	0.0000	
02006AB	ORANGES-PULP	0.05000			0.019010	0.0422	
02006HA	ORANGES-PEEL	0.05000			0.000017	0.0000	
02006JA	ORANGES-JUICE	0.05000			0.164259	0.3650	
02007AA	TANGELOS	0.05000			0.000361	0.0008	
02008AA	TANGERINES	0.05000			0.001127	0.0025	
02008JA	TANGERINE-JUICE	0.05000			0.000000	0.0000	
CROP GROUP TOTALS FOR CITRUS FRUITS:					0.191903	0.4264	
GRAND TOTAL THRC:		0.191903					0.4265

214
310

FOOD CODE	FOOD NAME	NEW PENDING PUBLISHED		EXISTING TOLERANCES		NEW & PENDING TOLERANCES	
		NEW	PENDING	PPM	THRC (UG/KG/DAY)	THRC (UG/KG/DAY)	THRC (UG/KG/DAY)
04001AA	APPLES-FRESH	2.00000			2.455424	5.4564	
04001DA	APPLES-DRIED	2.00000			0.005456	0.0121	
04001JA	APPLES-JUICE	2.00000			2.982009	6.6266	
04002AA	CRABAPPLES	0.05000			0.000000	0.0000	
04003AA	PEARS-FRESH	2.00000			0.524246	1.1649	
04003DA	PEARS-DRIED	2.00000			0.000000	0.0000	

17

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Fenvalerate (Pydrin)	20mm feeding- mouse	Decr erythrocyte count,	AD1 UF -->100	No data gaps.		HED complete 08/15/86.		HED complete 08/15/86.		HED complete 08/15/86.	
Caswell #077A	NOEL= 4.5000 mg/kg	incr in MCV; granulomatous	OPP Rfd= 0.045000			EPA verified 09/16/86.		EPA verified 09/16/86.		EPA verified 09/16/86.	
CAS No. 51630-58-1	30.00 ppm	changes in liver & lymph	EPA Rfd= 0.025000			EPA not scheduled.		EPA not scheduled.		EPA not scheduled.	
A.I. CODE: 109301	LEL= 15.0000 mg/kg	nodes.				WHO last reviewed 1986.		WHO last reviewed 1986.		WHO last reviewed 1986.	
CFR No. 180.379	100.00 ppm	No evidence of oncogeni-				On IRIS.		On IRIS.		On IRIS.	
	ONCO: Negative- 2 species	city in rats or mice.									

LISTING OF EXPOSURE BY RAC FOR: CHILDREN (1-6 YEARS OLD)

FOOD CODE	FOOD NAME	TOLERANCE (PPM)		EXISTING TOLERANCES		NEW & PENDING TOLERANCES	
		NEW	PENDING	TMRC (UG/KG/DAY)	XRFD	TMRC (UG/KG/DAY)	XRFD
04004AA	QUINCES			0.05000		0.00000	0.0000
CROP GROUP TOTALS FOR POME FRUITS:				5.967135		5.967135	13.2603
GRAND TOTAL TMRC:		5.967135					
GRAND TOTAL % OF THE Rfd:			13.2603				

05001AA	APRICOTS-FRESH	10.00000		1.011595		2.2479	
05001DA	APRICOTS-DRIED	10.00000		0.057162		0.1270	
05002AA	CHERRIES-FRESH	10.00000		0.839413		1.8653	
05002DA	CHERRIES-DRIED	10.00000		0.000000		0.0000	
05002JA	CHERRIES-JUICE	10.00000		0.220874		0.4908	
05003AA	NECTARINES	10.00000		0.176596		0.3924	
05004AA	PEACHES-FRESH	10.00000		4.726402		10.5031	
05004DA	PEACHES-DRIED	10.00000		0.000000		0.0000	
05005AA	PLUMS(DAMSONS)-FRESH	10.00000		0.489100		1.0868	
05005DA	PLUMS-PRUNES(DRIED)	10.00000		0.243927		0.5420	
05005JA	PLUMS/PRUNE-JUICE	10.00000		0.153776		0.3417	
CROP GROUP TOTALS FOR STONE FRUITS:				7.918845		17.5974	
GRAND TOTAL TMRC:		7.918845					
GRAND TOTAL % OF THE Rfd:			17.5974				

01002AA	BLACKBERRIES	3.00000		0.038479		0.0855	
01003AA	BOYSENBERRIES	3.00000		0.014521		0.0322	
01004AA	DEWBERRIES	3.00000		0.000000		0.0000	
01005AA	LOGANBERRIES	3.00000		0.000000		0.0000	
01006AA	RASPBERRIES	3.00000		0.008379		0.0186	
01007AA	YOUNGBERRIES	3.00000		0.000000		0.0000	
01009AA	BLUEBERRIES	3.00000		0.045257		0.1005	
01010AA	CRANBERRIES	0.05000		0.002571		0.0057	
01010JA	CRANBERRIES-JUICE	0.05000		0.001362		0.0030	
01011AA	CURRANTS	3.00000		0.001861		0.0041	
01012AA	ELDERBERRIES	3.00000		0.002869		0.0063	
01013AA	GOOSEBERRIES	3.00000		0.002328		0.0051	
01014AA	GRAPES-FRESH	0.05000		0.006518		0.0144	
01014DA	GRAPES-RAISINS	0.05000		0.003606		0.0080	
01014JA	GRAPES-JUICE	0.05000		0.018827		0.0418	
01015AA	HUCKLEBERRIES (GAYLUSSACIA)	3.00000		0.000000		0.0000	
01016AA	STRAWBERRIES	0.05000		0.002983		0.0066	

18

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	UF -->100		
Fenvalerate (Pydrin)	20mm feeding- mouse	Decr erythrocyte count,	OPP RfD= 0.045000		No data gaps.	HED complete 08/15/86.
Caswell #077A	NOEL= 4.5000 mg/kg	incr in MCV; granulomatous	EPA RfD= 0.025000			EPA verified 09/16/86.
CAS No. 51630-58-1	30.00 ppm	changes in liver & lymph				HED complete 11/14/88.
A.I. CODE: 109301	LEL= 15.0000 mg/kg	nodes.				EPA not scheduled.
CFR No. 180.379	100.00 ppm	No evidence of oncogeni-				WHO last reviewed 1986.
	ONCO: Negative- 2 species	city in rats or mice.				On IRIS.

LISTING OF EXPOSURE BY RAC FOR: CHILDREN (1-6 YEARS OLD)

FOOD CODE	FOOD NAME	EXISTING TOLERANCES--		NEW & PENDING TOLERANCES--	
		THRC (UG/KG/DAY)	%RfD	THRC (UG/KG/DAY)	%RfD
5300188	BEEF(ORGAN MEATS)-OTHER	1.50000	0.0453		
53001DA	BEEF-DRIED	1.50000	0.008934		0.0198
53001FA	BEEF(BONELESS)-FAT (BEEF TALLOW)	1.50000	1.003875		2.2308
53001KA	BEEF(ORGAN MEATS)-KIDNEY	1.50000	0.002866		0.0063
53001LA	BEEF(ORGAN MEATS)-LIVER	1.50000	0.042423		0.0942
53001NA	BEEF(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000	3.146527		6.9922
53002BA	GOAT-MEAT BYPRODUCTS	1.50000	0.000000		0.0000
53002BB	GOAT(ORGAN MEATS)-OTHER	1.50000	0.000000		0.0000
53002FA	GOAT(BONELESS)-FAT	1.50000	0.000000		0.0000
53002KA	GOAT(ORGAN MEATS)-KIDNEY	1.50000	0.000000		0.0000
53002LA	GOAT(ORGAN MEATS)-LIVER	1.50000	0.000000		0.0000
53002NA	GOAT(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000	0.000000		0.0000
53003AA	HORSE	0.05000	0.000129		0.0002
53003BA	SHEEP-MEAT BYPRODUCTS	1.50000	0.000000		0.0000
53003BB	SHEEP(ORGAN MEATS)-OTHER	1.50000	0.000000		0.0000
53003FA	SHEEP(BONELESS)-FAT	1.50000	0.005667		0.0125
53003KA	SHEEP(ORGAN MEATS)-KIDNEY	1.50000	0.000000		0.0000
53003LA	SHEEP(ORGAN MEATS)-LIVER	1.50000	0.000000		0.0000
53003NA	SHEEP(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000	0.017575		0.0390
53006BA	PORK-MEAT BYPRODUCTS	1.50000	0.090093		0.2002
53006BB	PORK(ORGAN MEATS)-OTHER	1.50000	0.012886		0.0286
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD)	1.50000	0.638643		1.4192
53006KA	PORK(ORGAN MEATS)-KIDNEY	1.50000	0.000000		0.0000
53006LA	PORK(ORGAN MEATS)-LIVER	1.50000	0.011962		0.0265
53006NA	PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1.50000	1.045976		2.3243
CROP GROUP TOTALS FOR RED MEAT:			6.122728		13.6060

GRAND TOTAL THRC: 6.122728 GRAND TOTAL % OF THE RfD: 13.6061

55008BA	TURKEY-BYPRODUCTS	0.05000	0.000023		0.0000
55008LA	TURKEY-GIBLETS (LIVER)	0.05000	0.000000		0.0000
55008MA	TURKEY-FLESH(W/O SKIN, W/O BONES)	0.05000	0.000581		0.0012
55008MB	TURKEY-FLESH(+SKIN,W/O BONES)	0.05000	0.004031		0.0089
55008MC	TURKEY-UNSPECIFIED	0.05000	0.000012		0.0000
55013BA	POULTRY, OTHER-BYPRODUCTS	0.05000	0.000000		0.0000
55013LA	POULTRY, OTHER-GIBLETS(LIVER)	0.05000	0.000006		0.0000
55013MA	POULTRY, OTHER-FLESH (+SKIN,W/O BONES)	0.05000	0.000445		0.0009
55015BA	CHICKEN-BYPRODUCTS	0.05000	0.000000		0.0000

19

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
		20mm feeding- mouse	Decr erythrocyte count, incr in MCV; granulomatous changes in liver & lymph nodes.	ADI	UF --> 100	No data gaps.		
Fenvalerate (Pydrin)	NOEL= 4,5000 mg/kg			OPP RfD= 0.045000				HED complete 08/15/86.
Caswell #077A	30.00 ppm			EPA RfD= 0.025000				EPA verified 09/16/86.
CAS No. 51630-58-1	LEL= 15,0000 mg/kg							EPA complete 11/14/88.
A.I. CODE: 109301	100.00 ppm							EPA not scheduled.
CFR No. 180.379	ONCO: Negative- 2 species		No evidence of oncogenicity in rats or mice.					WHO last reviewed 1986.
								On IRIS.

LISTING OF EXPOSURE BY RAC FOR: CHILDREN (1-6 YEARS OLD)

FOOD CODE	FOOD NAME	TOLERANCE (PPM)-----		---EXISTING TOLERANCES---		-NEW & PENDING TOLERANCES-	
		NEW	PENDING	TMRC (UG/KG/DAY)	XRfD	TMRC (UG/KG/DAY)	XRfD
55015LA	CHICKEN-GIBLETS(LIVER)	0.05000		0.000428	0.0009		
55015MA	CHICKEN-FLESH(W/O SKIN, W/O BONES)	0.05000		0.006190	0.0137		
55015MB	CHICKEN-FLESH(+SKIN, W/O BONES)	0.05000		0.039844	0.0885		
CROP GROUP TOTALS FOR POULTRY:				0.051560	0.1145		
GRAND TOTAL TMRC:	0.051560						
GRAND TOTAL % OF THE RfD:		0.1146					
53010AA	FISH-UNSPECIFIED	0.05000		0.000000	0.0000		
53013AA	FISH-SHELLFISH	0.05000		0.001033	0.0022		
53015AA	FISH-ROE, CAVIAR	0.05000		0.000000	0.0000		
53016AA	FISH-FRESHWATER FINFISH	0.05000		0.001485	0.0033		
53017AA	FISH-SALTWATER FINFISH	0.05000		0.015968	0.0354		
53017DA	FISH-FINFISH-SALTWATER-DRIED	0.05000		0.000000	0.0000		
CROP GROUP TOTALS FOR FISH:				0.018486	0.0410		
GRAND TOTAL TMRC:	0.018486						
GRAND TOTAL % OF THE RfD:		0.0411					

500000B	MILK, NON-FAT SOLIDS	0.30000		6.358867	14.1308		
50000FA	MILK-FAT SOLIDS	7.00000		8.440169	18.7559		
50000SA	MILK SUGAR (LACTOSE)	0.30000		0.001677	0.0037		
55014AA	EGGS-WHOLE	0.05000		0.063686	0.1415		
55014AB	EGGS-WHITE ONLY	0.05000		0.000800	0.0017		
55014AC	EGGS-YOLK ONLY	0.05000		0.000512	0.0011		
CROP GROUP TOTALS FOR DAIRY PRODUCTS:				14.865711	33.0349		
GRAND TOTAL TMRC:	14.865711						
GRAND TOTAL % OF THE RfD:		33.0349					

POPULATION SUBGROUP TOTALS				45.866150	101.9247	0.012899	0.0286
POPULATION TOTAL TMRC	45.879049	POPULATION TOTAL % OF THE RfD	101.9534				

20