



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

APR 12 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#8E3583. Tolerance Request For Residues of
Permethrin in or on Dry Bulb Onions: TAS Dietary
Exposure Assessment.

FROM: Susan L. Stanton
Tolerance Assessment Program
HED/RCB (TS-769C)

Susan L. Stanton 04/11/88

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

TO: Hoyt Jamerson, PM-43
Emergency Response and Minor Use Section
Registration Division (TS-767C)

Action Requested

Provide a dietary exposure analysis of the proposed tolerance of 0.1 ppm for residues of the insecticide permethrin in or on dry bulb onions.

RCB has reviewed the petition and, TOX considerations permitting, recommends establishment of the proposed tolerance (memo Flood to Jamerson, 04/06/88).

Discussion

1. A routine chronic analysis was conducted using a Reference Dose (ADI) of 0.05 mg/kg body weight/day based on a NOEL of 5 mg/kg/day from a 2-year rat feeding study with a safety factor of 100. This value has been approved by the Tox Branch ADI Committee (09/12/86) and verified by the Agency reference dose committee (10/28/86).

2. The food uses evaluated were those published in 40 CFR 180.378, the proposed use on dry bulb onions, and other pending tolerances (including proposed tolerances on avocados, papayas, and sunflower seeds and a proposed increase in the tolerance for

asparagus from 1 to 2 ppm). Table 1 provides a complete listing of residue information.

3. The TAS routine chronic analysis calculates the Theoretical Maximum Residue Contribution (TMRC) for the U.S. population and each of 22 population subgroups (see Table 2) and compares this exposure estimate to the reference dose (ADI in this case).

The TMRC from all food uses (including the new use on dry bulb onions and other pending tolerances) for the U.S. Population is calculated to be 0.015518 mg/kg body weight/day, which occupies approximately 31% of the ADI. The two most highly exposed population subgroups are infants (TMRC = 0.029017 mg/kg/day or 58% of the ADI) and children, ages 1 to 6 (TMRC = 0.024635 or 49% of the ADI). Table 3 provides a more detailed summary of the analysis for these 3 populations and includes estimates of exposure by tolerance type (published, new action, and other pending).

4. This analysis uses tolerance level residues with an assumption of 100% crop treated, a conservative approach that likely overestimates exposure significantly. However, since estimated exposure and risk using this approach are acceptable, no further data are required at this time.

cc: TAS File
Reading File
circ.
PP#8E3583

TOX (Rathman)
Permethrin SF
PMSD

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Table 1

CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

DATE: 04/11/88

PAGE: 1

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Permethrin	2yr feeding- rat	Decreased liver weights.		100	No data gaps.	TOX complete 9/12/86.
Caswell #652BB	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000		Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RfD= 0.050000		weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity			noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),	WHO RfD 0.050000		not considered toxicolo-	mixture).
	ONCO: Pending NOTE	negative rat.	Type: ADI		gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PUBLISHED
03001AA	ALMONDS	2F2675		0.0500
03005AA	FILBERTS/HAZELNUTS	4F3130		0.0500
03009AA	WALNUTS	4F3130		0.0500
03011AA	PISTACHIO NUTS	4F2995		0.1000
04001AA	APPLES-FRESH	1F2562		0.0500
04001DA	APPLES-DRIED	1F2562		0.0500
04001JA	APPLES-JUICE	1F2562		0.0500
04003AA	PEARS-FRESH	0F2425		3.0000
04003DA	PEARS-DRIED	0F2425		3.0000
05002AA	CHERRIES-FRESH	5F3271		3.0000
05002DA	CHERRIES-DRIED	5F3271		3.0000
05002JA	CHERRIES-JUICE	5F3271		3.0000
05004AA	PEACHES-FRESH	3F2802		5.0000
05004DA	PEACHES-DRIED	3F2802		5.0000
06001AA	AVOCADOS	4E3146	1.0000	
06010AA	PAPAVAS-UNSPECIFIED	4E3146	1.0000	
06010AB	PAPAVAS-PULP	4E3186	1.0000	
06010DA	PAPAVAS-DRIED	4E3186	1.0000	
06010JA	PAPAVAS-JUICE	4E3186	1.0000	
06018AA	KIWI	1E2514	1.0000	
08022AA	HORSERADISH	0E2377		2.0000
10002AA	CANTALOUPE-UNSPECIFIED	5E3225		1.0000
10002AB	CANTALOUPE-PULP	5E3225		3.0000
10011AA	PUMPKIN	3E2861		3.0000
11001AA	EGPLANT	3E2892		2.0000
11003AA	PEPPERS (SWEET/GARDEN)	3E2892		1.0000
11005AA	TOMATOES-WHOLE	4F2985		1.0000
11005JA	TOMATOES-JUICE	4F2985		2.0000
11005RA	TOMATOES-PUREE	4F2985		2.0000
11005TA	TOMATOES-PASTE	4F2985		2.0000
11005UA	TOMATOES-CATSUP	4F2985		2.0000
13002AA	CELERY	8F2099		5.0000
13003AA	CHICORY (FRENCH OR BELGIAN ENDIVE)	4F3018		20.0000
13005AA	BROCCOLI	9F2207		1.0000
13006AA	BRUSSEL SPROUTS	9F2207		1.0000
13007AA	CABBAGE-GREEN AND RED	9F2192		6.0000
13008AA	CAULIFLOWER	9F2207		1.0000
13009AA	COLLARDS	6E3360		20.0000
13010AA	CABBAGE-CHINESE/CELERY (INC. BOK CHOY)	9F2192		6.0000
13013AA	LETTUCE-LEAFY VARIETIES	4F3018		20.0000

Table 1 (con't)

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DATE: 04/11/88

CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
			ADI	SF -->	100	No data gaps.	
Permethrin	2yr feeding- rat	Decreased liver weights.					TOX complete 9/12/86.
Caswell #652BB	NOEL= 5,0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000			Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RfD= 0.050000			weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity				noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),	WHO RfD 0.050000			not considered toxicolo-	mixture).
	ONCO: Pending NOTE	negative rat.	Type: ADI			gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)		PUBLISHED
			NEW	PENDING	
13014AA	DANDELION	4F3018			20.0000
13015AA	ENDIVE (CURLY AND ESCAROLE)	4F3018			20.0000
13016AA	FENNEL	8F2099			5.0000
13017AA	CRESS (GARDEN/FIELD)	4F3018			20.0000
13018AA	ARTICHOKES-GLOBE	4F3114			10.0000
13020AA	LETTUCE-UNSPECIFIED	4F3018			20.0000
13022AA	PARSLEY	4F3018			20.0000
13023AA	RHUBARB	4F3018			20.0000
13024AA	SPINACH	2E2701			20.0000
13025AA	SWISS CHARD	4F3018			20.0000
13026AA	TURNIPS-TOPS	6E3360			20.0000
13027AA	WATERCRESS	4E3113			5.0000
13039AA	CRESS/UPLAND	4F3018			20.0000
13045AA	LETTUCE-HEAD VARIETIES	9F2192			20.0000
14007AA	GARLIC	8E3583	0.1000		
14011AA	ONIONS-DRY-BULB (CIPOLLINI)	8E3583	0.1000		
14011DA	ONIONS-DEHYDRATED OR DRIED	8E3583	0.1000		
14013AA	POTATOES(WHITE)-WHOLE	0F2307			0.0500
14013AB	POTATOES(WHITE)-UNSPECIFIED	0F2307			0.0500
14013AC	POTATOES(WHITE)-PEELED	0F2307			0.0500
14013DA	POTATOES(WHITE)-DRY	0F2307			0.0500
14013HA	POTATOES(WHITE)-PEEL ONLY	0F2307			0.0500
14017AA	SHALLOTS	8E3583	0.1000		
14019AA	TURNIPS-ROOTS	6E3360			1.0000
15004AA	CORN/POP	1F2476			0.0500
15005AA	CORN/SWEET	3F2781			0.1000
15018AA	SUNFLOWER-SEEDS	4F2981	0.0500		
15029AA	SOYBEANS-SPROUTED SEEDS	9F2196			0.0500
16002AA	ASPARAGUS	3E2914			1.0000
16002AA	ASPARAGUS	8F3595	1.0000		
16003AA	MUSHROOMS	2E2752			6.0000
24002EA	CORN/GRAIN-ENDOSPERM	1F2476			0.0500
24002HA	CORN/GRAIN-BRAN	1F2476			0.0500
24002SA	CORN SUGAR	1F2476			0.0500
27002QA	CORN/GRAIN-OIL	1F2476			0.0500
27003OA	COTTONSEED-OIL				0.5000
27003WA	COTTONSEED-MEAL				0.5000
27010OA	SOYBEANS-OIL				0.0500
27011OA	SUNFLOWER-OIL		0.0500		
28023AA	SOYBEANS-UNSPECIFIED	9F2196			0.0500
		4F2981			
		9F2196			

Table 1 (con't)

DATE: 04/11/88

CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

PAGE: 3

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Permethrin	2yr feeding- rat	Decreased liver weights.		100	No data gaps.	TOX complete 9/12/86.
Caswell #652BB	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RED= 0.050000		Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	Weights noted at 5 mg/kg.	EPA RED= 0.050000		weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity			noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),	WHO RED 0.050000		not considered toxicolo-	mixture).
	ONCO: Pending NOTE	negative rat.	Type: ADI		gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PUBLISHED
28023AB	SOYBEANS-MATURE/SEEDS DRY	9F2196		0.0500
28023WA	SOYBEANS-FLOUR/FULL FAT	9F2196		0.0500
28023WB	SOYBEANS-FLOUR/LOW FAT	9F2196		0.0500
28023WC	SOYBEANS-FLOUR/DEFATTED	9F2196		0.0500
50000FA	MILK-FAT SOLIDS	3F2781		3.7500 H
53001BA	BEEF-MEAT BYPRODUCTS	1F2564		1.0000
53001BB	BEEF (ORGAN MEATS)-OTHER	1F2564		1.0000
53001DA	BEEF-DRIED	1F2564		0.1500
53001FA	BEEF (BONELESS)-FAT (BEEF TALLOW)	1F2564		2.0000
53001XA	BEEF (ORGAN MEATS)-KIDNEY	1F2564		1.0000
53001LA	BEEF (ORGAN MEATS)-LIVER	1F2564		1.0000
53001WA	BEEF (BONELESS)-LEAN (W/O REMOVABLE FAT)	1F2564		0.1500
53002BA	GOAT-MEAT BYPRODUCTS	1F2564		1.0000
53002BB	GOAT (ORGAN MEATS)-OTHER	1F2564		1.0000
53002FA	GOAT (BONELESS)-FAT	1F2564		2.0000
53002KA	GOAT (ORGAN MEATS)-KIDNEY	1F2564		1.0000
53002LA	GOAT (ORGAN MEATS)-LIVER	1F2564		1.0000
53002WA	GOAT (BONELESS)-LEAN (W/O REMOVABLE FAT)	1F2564		0.1500
53003AA	HORSE	1F2564		2.0000
53003BA	SHEEP-MEAT BYPRODUCTS	1F2564		1.0000
53005BA	SHEEP (ORGAN MEATS)-OTHER	1F2564		1.0000
53005BB	SHEEP (BONELESS)-FAT	1F2564		2.0000
53005FA	SHEEP (ORGAN MEATS)-KIDNEY	1F2564		1.0000
53005LA	SHEEP (ORGAN MEATS)-LIVER	1F2564		1.0000
53005WA	SHEEP (BONELESS)-LEAN (W/O REMOVABLE FAT)	1F2564		0.1500
53006BA	PORK-MEAT BYPRODUCTS	1F2546		3.0000
53006BB	PORK (ORGAN MEATS)-OTHER	1F2546		3.0000
53006FA	PORK (BONELESS)-FAT (INCLUDING LARD)	1F2546		2.0000
53006KA	PORK (ORGAN MEATS)-KIDNEY	1F2546		3.0000
53006LA	PORK (ORGAN MEATS)-LIVER	1F2546		3.0000
53006WA	PORK (BONELESS)-LEAN (W/O REMOVABLE FAT)	1F2546		0.1500
55008BA	TURKEY-BYPRODUCTS	1F2564		0.0500
55008LA	TURKEY-GIBLETS (LIVER)	1F2564		0.0500
55008WA	TURKEY-FLESH (W/O SKIN & W/O BONES)	1F2564		0.0500
55008MB	TURKEY-FLESH (+SKIN & W/O BONES)	1F2564		0.0500
55008MC	TURKEY-UNSPECIFIED	1F2564		0.0500
55013BA	POULTRY/OTHER-BYPRODUCTS	1F2564		0.0500
55013LA	POULTRY/OTHER-GIBLETS (LIVER)	1F2564		0.0500
55013WA	POULTRY/OTHER-FLESH (+SKIN & W/O BONES)	1F2564		0.0500
55014AA	EGGS-WHOLE	1F2564		0.0500

Table 1 (con't)

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DATE: 04/11/88

CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Permethrin	2yr feeding- rat	Decreased liver weights.	ADI SF --> 100	No data gaps.	TOX complete 9/12/86.
Caswell #652BB	NOEL= 5,0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000	Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RfD= 0.050000	weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25,0000 mg/kg	Evidence of oncogenicity		noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),	WHO RfD 0.050000	not considered toxicolo-	mixture).
	ONCO: Pending NOTE	negative rat.	Type: ADI	gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	NEW	TOLERANCE (PPM)	PUBLISHED
55014AB	EGGS-WHITE ONLY	1F2564			0.0500
55014AC	EGGS-YOLK ONLY	1F2564			0.0500
55015BA	CHICKEN-BYPRODUCTS	1F2564			0.0500
55015LA	CHICKEN-GIBLETS(LIVER)	1F2564			0.0500
55015MA	CHICKEN-FLESH(W/O SKIN & W/O BONES)	1F2564			0.0500
55015MB	CHICKEN-FLESH(+SKIN & W/O BONES)	1F2564			0.0500
90997AA	INEST. RACS--TOLERANCE TOO SPECIFIC	1F2546			
90999AA	FEED RACS--INEST. FROM USDA SURVEY	2F2675			

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Table 3

TOLERANCE ASSESSMENT SUMMARY FOR Permethrin
CASWELL #652BB

DATE: 04/11/88

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

EXISTING TOLERANCES (PUBLISHED ONLY)		
RESULT IN A TMRC OF:	0.015461	MG/KG/DAY
THE EXISTING TMRC IS EQUIVALENT TO:	30.921034	% OF THE ADI.
PROPOSED NEW TOLERANCES (CURRENT PETITION ONLY)		
RESULT IN A TMRC OF:	0.000011	MG/KG/DAY
THESE NEW TOLERANCES WILL OCCUPY:	0.021640	% OF THE ADI.
IF THE NEW TOLERANCES (CURRENT PETITION ONLY)		
ARE APPROVED THE RESULTANT TMRC WILL BE:	0.015471	MG/KG/DAY
THE NEW TMRC WILL OCCUPY	30.942674	% OF THE ADI.
OTHER PENDING TOLERANCES EXCLUDING THE		
CURRENT NEW PETITION HAVE A TMRC OF:	0.000047	MG/KG/DAY
THIS TMRC WILL OCCUPY	0.093232	% OF THE ADI.
IF ALL PENDING TOLERANCES (INCLUDING THE		
CURRENT NEW PETITION) ARE GRANTED		
THE RESULTANT TMRC WILL BE:	0.015518	MG/KG/DAY
THE TOTAL TMRC WILL OCCUPY	31.035906	% OF THE ADI.

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

EXISTING TOLERANCES (PUBLISHED ONLY)		
RESULT IN A TMRC OF:	0.029004	MG/KG/DAY
THE EXISTING TMRC IS EQUIVALENT TO:	58.007220	% OF THE ADI.
PROPOSED NEW TOLERANCES (CURRENT PETITION ONLY)		
RESULT IN A TMRC OF:	0.000004	MG/KG/DAY
THESE NEW TOLERANCES WILL OCCUPY:	0.008126	% OF THE ADI.
IF THE NEW TOLERANCES (CURRENT PETITION ONLY)		
ARE APPROVED THE RESULTANT TMRC WILL BE:	0.029008	MG/KG/DAY
THE NEW TMRC WILL OCCUPY	58.015346	% OF THE ADI.
OTHER PENDING TOLERANCES EXCLUDING THE		
CURRENT NEW PETITION HAVE A TMRC OF:	0.000009	MG/KG/DAY
THIS TMRC WILL OCCUPY	0.017870	% OF THE ADI.
IF ALL PENDING TOLERANCES (INCLUDING THE		
CURRENT NEW PETITION) ARE GRANTED		
THE RESULTANT TMRC WILL BE:	0.029017	MG/KG/DAY
THE TOTAL TMRC WILL OCCUPY	58.033216	% OF THE ADI.

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

EXISTING TOLERANCES (PUBLISHED ONLY)		
RESULT IN A TMRC OF:	0.024570	MG/KG/DAY
THE EXISTING TMRC IS EQUIVALENT TO:	49.140124	% OF THE ADI.
PROPOSED NEW TOLERANCES (CURRENT PETITION ONLY)		
RESULT IN A TMRC OF:	0.000018	MG/KG/DAY
THESE NEW TOLERANCES WILL OCCUPY:	0.036422	% OF THE ADI.
IF THE NEW TOLERANCES (CURRENT PETITION ONLY)		
ARE APPROVED THE RESULTANT TMRC WILL BE:	0.024588	MG/KG/DAY
THE NEW TMRC WILL OCCUPY	49.176546	% OF THE ADI.
OTHER PENDING TOLERANCES EXCLUDING THE		
CURRENT NEW PETITION HAVE A TMRC OF:	0.000047	MG/KG/DAY
THIS TMRC WILL OCCUPY	0.093248	% OF THE ADI.
IF ALL PENDING TOLERANCES (INCLUDING THE		
CURRENT NEW PETITION) ARE GRANTED		
THE RESULTANT TMRC WILL BE:	0.024635	MG/KG/DAY
THE TOTAL TMRC WILL OCCUPY	49.269794	% OF THE ADI.

Table 2

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 04/11/88

PAGE: 1

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
			ADI	100			
Permethrin	2yr feeding- rat	Decreased liver weights.	OPP RfD= 0.050000		No data gaps.		TOX complete 9/12/86.
Caswell #6528B	NOEL= 5.0000 mg/kg	Slight increase in liver	EPA RfD= 0.050000		Slight increase in liver		EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.			weights at 5 mg/kg only		WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity	WHO RfD 0.050000		noted in 1/3 rat studies,		(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),			not considered toxicolo-		mixture).
	ONCO: Pending NOTE	negative rat.	Type: ADI		gically significant.		On IRIS.
POPULATION SUBGROUP							
TOTAL TMRC (MG/KG BODY WEIGHT/DAY)			NEW TMRC		EFFECT OF ANTICIPATED RESIDUES		
			AS PERCENT	OF RFD			
CURRENT TMRC*			NEW TMRC**		DIFFERENCE		
					AS PERCENT		
					OF RFD		
					ARC		
					%RFD		
U.S. POPULATION - 48 STATES		0.015461	0.015518		31.035906	0.114872	
U.S. POPULATION - SPRING SEASON		0.015735	0.015817		31.633384	0.163478	
U.S. POPULATION - SUMMER SEASON		0.016169	0.016211		32.421766	0.084274	
U.S. POPULATION - FALL SEASON		0.014907	0.014956		29.911758	0.098718	
U.S. POPULATION - WINTER SEASON		0.015028	0.015085		30.169246	0.112472	
NORTHEAST REGION		0.015873	0.015927		31.853304	0.107594	
NORTH CENTRAL REGION		0.015109	0.015154		30.307972	0.089814	
SOUTHERN REGION		0.014257	0.014302		28.603532	0.089026	
WESTERN REGION		0.017503	0.017606		35.212982	0.206042	
HISPANICS		0.015958	0.016041		32.081274	0.165814	
NON-HISPANIC WHITES		0.015344	0.015402		30.804630	0.117614	
NON-HISPANIC BLACKS		0.015686	0.015723		31.446558	0.074382	
NON-HISPANIC OTHERS		0.017983	0.018033		36.065520	0.098988	
NURSING INFANTS (< 1 YEAR OLD)		0.013301	0.013302		26.604746	0.003662	
NON-NURSING INFANTS (< 1 YEAR OLD)		0.029004	0.029017		58.033216	0.025996	
FEMALES (13+ YEARS, PREGNANT)		0.012279	0.012308		24.615902	0.058328	
FEMALES 13+ YEARS, NURSING		0.016248	0.016290		32.580772	0.084986	
CHILDREN (1-6 YEARS OLD)		0.024570	0.024635		49.269794	0.129670	
CHILDREN (7-12 YEARS OLD)		0.020830	0.020867		41.733462	0.073700	
MALES (13-19 YEARS OLD)		0.014273	0.014309		28.617734	0.071498	
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)		0.013113	0.013166		26.332452	0.107274	
MALES (20 YEARS AND OLDER)		0.012813	0.012874		25.748808	0.122180	
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)		0.013810	0.013876		27.752200	0.132374	

*Current TMRC does not include new or pending tolerances.

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

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