

US EPA ARCHIVE DOCUMENT



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

FEB 19 1991

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Carcinogenic Risk for Simazine Registered Commodities.

FROM: Richard Griffin, DRES *R. Griff*
Dietary Exposure Section
Science and Coordination Branch HED

TO: Philip Poli
Special Review Branch
SRRD, (H7508C)

As requested, carcinogenic risk per commodity based on the residue/usage information of Table 1. and a Q_1^* value of 0.12 (mg/kg/day)⁻¹.

Avocados	2.3 E-8	Poultry Meats	1.8 E-8
Bananas/Plantains	5.6 E-8	Fish	1.7 E-6
Olives	3.4 E-9	Milk	8.9 E-8
Artichokes	2.9 E-8	Eggs	2.1 E-8
Asparagus	1.4 E-7		
Cane Sugar	6.2 E-7	TOTAL	1.4 E-5
Cane Molasses	8.3 E-8		
Olive Oil	8.8 E-9		
Grapefruit	6.2 E-7		
Lemons	1.2 E-7		
Oranges	5.7 E-6		
Apples	1.9 E-6		
Pears	3.7 E-7		
Cherries	2.0 E-7		
Peaches	4.5 E-7		
Plums	8.9 E-9		
Caneberries	8.6 E-8		
Blueberries	5.4 E-8		
Cranberries	2.0 E-7		
Currants	3.1 E-9		
Grapes	4.7 E-7		
Strawberries	2.1 E-7		
Sweet Corn	1.4 E-7		
Grain Corn	8.0 E-8		
Almonds	1.5 E-8		
Filberts/Hazelnuts	4.8 E-9		
Pecans	5.8 E-9		
Walnuts	2.9 E-8		
Red Meats	2.8 E-8		

CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Simazine	Caswell #740	2yr feeding - rat	Reduction in weight gains	Reduction in weight gains	PADI UF -->300	Reproduction - rat	HED complete 04/25/86.				
CAS No. 122-34-9	NOEL= 0.5200 mg/kg	hematological changes in females.	hematological changes in females.	OPP Rfd= 0.002000	Teratology - rat	EPA verified 06/24/86.					
A.I. CODE: 080807	LEL= 5.3000 mg/kg	Evidence of oncogenicity in rats; negative in mouse.	Evidence of oncogenicity in rats; negative in mouse.	EPA Rfd= 0.002000		HED reassess 05/25/89.					
CFR No. 180.213	ONCO: Positive - 1 species			q*: 0.12000		EPA verified 06/15/89.					ON IRIS.

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TMRG TYPE (UG/KG/DAY)	TMRG	%RFD	TMRG ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
06001AA	AVOCADOS	0.250	P	0.003134	0.157	0.00000037608	0.01500	0.000188	0.009	0.00000002256
06002AA	BANANAS-UNSPECIFIED	0.200	P	0.000659	0.033	0.00000007908	0.00200	0.000007	0.000	0.00000000084
06002AB	BANANAS-FRESH	0.200	P	0.044808	2.240	0.00000537696	0.00200	0.000396	0.020	0.00000004752
06002DA	BANANAS-DRIED	0.200	P	0.000350	0.018	0.00000004200	0.00200	0.000011	0.001	0.00000000132
06009AA	OLIVES	0.250	P	0.000794	0.040	0.00000009528	0.00200	0.000002	0.000	0.00000000024
06016AA	PLANTAINS	0.200	P	0.000327	0.016	0.00000003924	0.00900	0.000011	0.001	0.00000000132
13018AA	ARTICHOKES-GLOBE	0.500	P	0.001606	0.080	0.00000019272	0.00900	0.000017	0.001	0.00000000204
16002AA	ASPARAGUS	10.000	P	0.131098	6.555	0.00001573176	0.00900	0.000000	0.000	0.00000000024
25003SA	CANE SUGAR	0.250	P	0.183941	9.197	0.00002207292	0.00200	0.000002	0.000	0.00000000024
25003SB	SUGAR-MOLASSES	1.000	P	0.010521	0.526	0.00000126252	0.07500	0.000241	0.012	0.000000002892
270160A	OLIVE OIL	0.250	P	0.001464	0.073	0.00000017568	0.09000	0.001052	0.053	0.00000012624
65015AA	WATER-FOOD BASED	0.010	P	0.205512	10.276	0.00002466144	0.09000	0.000128	0.006	0.0000001536
65015AC	WATER-NON-FOOD BASED	0.010	P	0.129700	6.485	0.00001556400	0.00700	0.000590	0.030	0.00000007080

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			PADI	UF		
Stimazine Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding- rat NOEL= 0.5200 mg/kg 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species	Reduction in weight gains in hematological changes in females. Evidence of oncogenicity in rats; negative in mouse.	OPP Rfd= 0.002000 EPA Rfd= 0.002000	500 0.12000	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. On IRIS.

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPH)	THRC		ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	ARC ONCO RISK	ARC ONCO RISK	
			TYPE (UG/KG/DAY)	%RFD					
CROP GROUP TOTALS FOR UNSPECIFIED:									
02002AA	GRAPEFRUIT-UNSPECIFIED	0.250	P	0.000000	0.713914	35.696	0.00008566968	0.401	0.00000096228
	00 NOT SPECIFIED					0.000	0.00000000000	0.000	0.00000000000
02002AB	GRAPEFRUIT-PULP	0.250	P	0.017116		0.856	0.00000205392	0.077	0.0000018468
	10 RAW-FRESH OR NFS							0.000	0.00000000024
	21 COOKED-NFS								
02002JA	GRAPEFRUIT-JUICE	0.250	P	0.040613		2.031	0.00000487356	0.177	0.00000042372
	15 RAW-FRESH OR CANNED							0.006	0.00000001488
	31 COOKED-FRESH OR CANNED								
02004AA	LEMONS-UNSPECIFIED	0.250	P	0.000517		0.026	0.00000006204	0.003	0.00000006000
	10 RAW-FRESH OR NFS							0.000	0.00000000024
	22 COOKED-FRESH-BAKED								
02004AB	LEMONS-PULP	0.250	P	0.000054		0.003	0.00000000648	0.000	0.00000000036
	10 RAW-FRESH OR NFS							0.000	0.00000000024
	31 COOKED-FRESH OR CANNED								
02004HA	LEMONS-PEEL	0.250	P	0.000064		0.003	0.00000000768	0.000	0.00000000072
	10 RAW-FRESH OR NFS							0.000	0.00000000012
	21 COOKED-NFS								
02004JA	LEMONS-JUICE	0.250	P	0.009478		0.474	0.00000113736	0.010	0.0000002496
	10 RAW-FRESH OR NFS							0.007	0.0000001608
	15 RAW-FRESH OR CANNED							0.016	0.0000003816
	21 COOKED-NFS							0.014	0.0000003456
	31 COOKED-FRESH OR CANNED								
02006AA	ORANGES-UNSPECIFIED	0.250	P	0.000000		0.000	0.00000000000	0.000	0.00000000000
	00 NOT SPECIFIED								
02006AB	ORANGES-PULP	0.250	P	0.037588		1.879	0.00000451056	0.169	0.00000040500
	10 RAW-FRESH OR NFS							0.000	0.00000000096
	21 COOKED-NFS								
02006HA	ORANGES-PEEL	0.250	P	0.000034		0.002	0.00000000408	0.000	0.00000000000
	21 COOKED-NFS							0.000	0.00000000024
	22 COOKED-FRESH-BAKED							0.000	0.00000000012
	31 COOKED-FRESH OR CANNED								
02006JA	ORANGES-JUICE	0.250	P	0.492627		24.631	0.00005911524	2.144	0.00000514632
	15 RAW-FRESH OR CANNED							0.073	0.00000017400
	31 COOKED-FRESH OR CANNED								
CROP GROUP TOTALS FOR CITRUS FRUITS:									
					0.598091	29.905	0.00007177092	2.697	0.00000647160

CHEMICAL INFORMATION		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
Simazine	Caswell #740	2yr feeding - rat	Reduction in weight gains	Reduction in weight gains	PADI UF -->300	Reproduction - rat	HED complete 04/25/86.				
CAS No. 122-34-9	NOEL= 0.5200 mg/kg	hematological changes in females.	hematological changes in females.	OPP RfD= 0.002000	Teratology - rat	EPA verified 06/24/86.					
A.I. CODE: 080807	LEL= 5.3000 mg/kg	Evidence of oncogenicity in rats; negative in mouse.	Evidence of oncogenicity in rats; negative in mouse.	EPA RfD= 0.002000		HED reassess 05/25/89.					
CFR No. 180.213	OMCO: Positive - 1 species			q*: 0.12000		EPA verified 06/15/89.					

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)		TMRC (UG/KG/DAY)		TMRC ONCO RISK		ANTICIPATED RESIDUE (PPM)		ARC (UG/KG/DAY)		ARC ONCO RISK	
		TYPE	VALUE	TYPE	VALUE	%RFD	ONCO RISK	%RFD	ONCO RISK	%RFD	ONCO RISK		
04001AA	APPLES-FRESH	0.250	P	0.114182	5.709	0.00001370184	0.02000	0.006149	0.307	0.0000073788			
	10 RAW-FRESH OR NFS						0.02000	0.000133	0.007	0.0000001596			
	21 COOKED-NFS						0.02000	0.002381	0.119	0.0000028572			
04001DA	APPLES-DRIED	0.250	P	0.000413	0.021	0.00000004956	0.02000	0.000472	0.024	0.00000005664			
	10 RAW-FRESH OR NFS						0.02000	0.000016	0.001	0.00000000192			
	22 COOKED-FRESH-BAKED						0.02000	0.000006	0.000	0.00000000072			
04001JA	APPLES-JUICE	0.250	P	0.083118	4.156	0.00000997416	0.02000	0.000010	0.001	0.00000000120			
	15 RAW-FRESH OR CANNED						0.02000	0.005126	0.256	0.00000061512			
	31 COOKED-FRESH OR CANNED						0.02000	0.001523	0.076	0.00000018276			
04003AA	PEARS-FRESH	0.250	P	0.030618	1.531	0.00000367416	0.02500	0.001318	0.066	0.00000015816			
	10 RAW-FRESH OR NFS						0.02500	0.001166	0.058	0.00000013992			
	31 COOKED-FRESH OR CANNED						0.02500	0.000571	0.029	0.00000006852			
	51 COOKED-CANNED						0.02500	0.000007	0.000	0.00000000084			
04003DA	PEARS-DRIED	0.250	P	0.000052	0.003	0.00000000624	0.02500	0.000005	0.000	0.00000000060			
	62 COOKED-FRESH OR FROZEN-BAKED						0.02500	0.000001	0.000	0.00000000012			
	10 RAW-FRESH OR NFS												
	21 COOKED-NFS												
CROP GROUP TOTALS FOR POME FRUITS:													
		0.228383		0.228383	11.419	0.00002740596	0.02500	0.018884	0.944	0.00000226608			
05002AA	CHERRIES-FRESH	0.250	P	0.008044	0.402	0.00000096528	0.04500	0.000332	0.017	0.00000003984			
	10 RAW-FRESH OR NFS						0.04500	0.000199	0.010	0.00000002388			
	21 COOKED-NFS						0.04500	0.000564	0.028	0.00000006768			
	31 COOKED-FRESH OR CANNED						0.04500	0.000353	0.018	0.00000004236			
	62 COOKED-FRESH OR FROZEN-BAKED						0.04500	0.000000	0.000	0.00000000000			
05002DA	CHERRIES-DRIED	0.250	P	0.000001	0.064	0.00000015336	0.04500	0.000211	0.011	0.00000002532			
	00 NOT SPECIFIED						0.04500	0.000019	0.001	0.00000000228			
05002JA	CHERRIES-JUICE	0.250	P	0.001278	2.692	0.00000664176	0.01750	0.001758	0.088	0.00000021096			
	15 RAW-FRESH OR CANNED						0.01750	0.000172	0.009	0.00000002064			
	21 COOKED-NFS						0.01750	0.001398	0.070	0.00000016776			
05004AA	PEACHES-FRESH	0.250	P	0.053848	0.004	0.0000001044	0.01750	0.000441	0.022	0.000000005292			
	10 RAW-FRESH OR NFS						0.01750	0.000003	0.000	0.00000000036			
	21 COOKED-NFS						0.01750	0.000003	0.000	0.00000000036			

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 02/19/91

PAGE: 4

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Simazine Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding- rat NOEL= 0.5200 mg/kg 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species	Reduction in weight gains hematological changes in females. Evidence of oncogenicity in rats; negative in mouse.	PADI UF -->300 OPP Rfd= 0.002000 EPA Rfd= 0.002000 g*: 0.12000	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. On IRIS.

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TMRC TYPE (UG/KG/DAY)	REFERENCE DOSES		TMRC ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
				PADI	%RFD					
05005AA	PLUMS(DAMSONS)-FRESH 10 RAW-FRESH OR NFS	0.250	P 0.006216	0.311	0.00000074592	0.01200	0.000223	0.011	0.00000002676	
05005DA	31 COOKED-FRESH OR CANNED PLUMS-PRUNES(DRIED) 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	0.250	P 0.004355	0.218	0.00000052260	0.01200	0.000075	0.004	0.00000000900	
05005JA	PLUMS, PRUNE-JUICE 10 RAW-FRESH OR NFS 62 COOKED-FRESH OR FROZEN-BAKED	0.250	P 0.004814	0.241	0.00000057768	0.01200	0.000231	0.012	0.00000002772	
CROP GROUP TOTALS FOR STONE FRUITS:										
01002AA	BLACKBERRIES 10 RAW-FRESH OR NFS 21 COOKED-NFS 62 COOKED-FRESH OR FROZEN-BAKED	0.250	P 0.001607	0.080	0.00000019284	0.05000	0.000040	0.002	0.00000000480	
01003AA	BOYSENBERRIES 10 RAW-FRESH OR NFS	0.250	P 0.000183	0.009	0.00000002196	0.05000	0.000142	0.007	0.00000001704	
01004AA	DEWBERRIES 00 NOT SPECIFIED	0.250	P 0.000586	0.029	0.00000007032	0.05000	0.000139	0.007	0.00000001668	
01005AA	LOGANBERRIES 00 NOT SPECIFIED	0.250	P 0.000051	0.003	0.00000000612	0.05000	0.000117	0.006	0.00000001404	
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	0.250	P 0.000717	0.036	0.00000008604	0.05000	0.000102	0.005	0.00000001224	
01009AA	BLUEBERRIES 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED 62 COOKED-FRESH OR FROZEN-BAKED	0.250	P 0.002262	0.113	0.000000027144	0.05000	0.000268	0.013	0.00000003216	
01010AA	CRANBERRIES 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	0.250	P 0.003753	0.188	0.000000045036	0.05000	0.000054	0.003	0.00000000648	
01010JA	CRANBERRIES-JUICE 15 RAW-FRESH OR CANNED 31 COOKED-FRESH OR CANNED	0.250	P 0.004697	0.235	0.000000056364	0.05000	0.00024	0.001	0.00000000288	

2.0 x 10⁻⁷

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			PADI	UF		
Simazine Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding - rat NOEL= 0.5200 mg/kg 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species	Reduction in weight gains in females. Evidence of oncogenicity in rats; negative in mouse.	OPP Rfd= 0.002000 EPA Rfd= 0.002000	300	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. On IRIS.

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	EFFECTS TYPE	TMRC (UG/KG/DAY)	%RFD	TMRC ONCO RISK	ANTICIPATED			
							RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
01011AA	CURRENTS 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED	0.250	P	0.000137	0.007	0.00000001644	0.05000	0.000001	0.000	0.00000000012
01014AA	GRAPES-FRESH 10 RAW-FRESH OR NFS 21 COOKED-NFS 31 COOKED-FRESH OR CANNED	0.250	P	0.010948	0.547	0.00000131376	0.01750	0.000425	0.021	0.00000005100
01014DA	GRAPES-RAISINS 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED	0.250	P	0.018246	0.912	0.00000218952	0.01750	0.000014	0.001	0.0000000168
01014JA	GRAPES-JUICE 10 RAW-FRESH OR NFS 15 RAW-FRESH OR CANNED 21 COOKED-NFS	0.250	P	0.027029	1.351	0.00000324348	0.01750	0.000769	0.038	0.00000009228
01016AA	STRAWBERRIES 10 RAW-FRESH OR NFS 21 COOKED-NFS 70 RAW-FROZEN	0.250	P	0.008677	0.434	0.00000104124	0.01750	0.000176	0.009	0.00000002112
CROP GROUP TOTALS FOR SMALL FRUITS AND BERRIES:										
15004AA	CORN, POP	0.250	P	0.001693	0.085	0.00000020316	0.05000	0.000249	0.012	0.00000002988
15005AA	CORN, SHEET	0.250	P	0.059177	2.959	0.00000710124	0.05000	0.000277	0.014	0.00000003324
24002EA	CORN, GRAIN-ENDOSPERM 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED 23 COOKED-FRESH-BOILED	0.250	P	0.041350	2.068	0.00000496200	0.05000	0.000186	0.009	0.00000002232
24002HA	CORN, GRAIN-BRAN 00 NOT SPECIFIED	0.250	P	0.000000	0.000	0.00000000000	0.02000	0.000001	0.000	0.00000000012
24002SA	CORN SUGAR 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED	0.250	P	0.036437	1.822	0.00000437244	0.02000	0.000044	0.002	0.00000000528
270020A	CORN, GRAIN-OIL 18 PROCESSED OIL	0.250	P	0.005700	0.285	0.00000068400	0.02000	0.000253	0.013	0.00000003036
CROP GROUP TOTALS FOR SMALL FRUITS AND BERRIES:										
01011AA	CURRENTS	0.250	P	0.000137	0.007	0.00000001644	0.05000	0.000001	0.000	0.00000000012
01014AA	GRAPES-FRESH	0.250	P	0.010948	0.547	0.00000131376	0.05000	0.000425	0.021	0.00000005100
01014DA	GRAPES-RAISINS	0.250	P	0.018246	0.912	0.00000218952	0.05000	0.000014	0.001	0.0000000168
01014JA	GRAPES-JUICE	0.250	P	0.027029	1.351	0.00000324348	0.05000	0.000769	0.038	0.00000009228
01016AA	STRAWBERRIES	0.250	P	0.008677	0.434	0.00000104124	0.05000	0.000176	0.009	0.00000002112
15004AA	CORN, POP	0.250	P	0.001693	0.085	0.00000020316	0.05000	0.000249	0.012	0.00000002988
15005AA	CORN, SHEET	0.250	P	0.059177	2.959	0.00000710124	0.05000	0.000277	0.014	0.00000003324
24002EA	CORN, GRAIN-ENDOSPERM	0.250	P	0.041350	2.068	0.00000496200	0.05000	0.000186	0.009	0.00000002232
24002HA	CORN, GRAIN-BRAN	0.250	P	0.000000	0.000	0.00000000000	0.02000	0.000001	0.000	0.00000000012
24002SA	CORN SUGAR	0.250	P	0.036437	1.822	0.00000437244	0.02000	0.000044	0.002	0.00000000528
270020A	CORN, GRAIN-OIL	0.250	P	0.005700	0.285	0.00000068400	0.02000	0.000253	0.013	0.00000003036

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)	EFFECTS		REFERENCE DOSES		ANTICIPATED RESIDUE		ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
			TYPE	TMRC (UG/KG/DAY)	%RFD	TMRC ONCO RISK	(PPM)	ARC (UG/KG/DAY)			
CROP GROUP TOTALS FOR CEREAL GRAINS:											
		0.144357		0.144357	7.218	0.00001732284		0.001865	0.001865	0.093	0.00000022380
03001AA	ALMONDS	0.250	P	0.000701	0.035	0.00000008412	0.04500	0.000059	0.000059	0.003	0.00000000708
	21 COOKED-NFS						0.04500	0.000042	0.000042	0.002	0.00000000504
	22 COOKED-FRESH-BAKED						0.04500	0.000025	0.000025	0.001	0.00000000300
03005AA	FILBERTS, HAZELNUTS	0.250	P	0.000099	0.005	0.00000001188	0.10000	0.000035	0.000035	0.002	0.00000000420
	10 RAW-FRESH OR NFS						0.10000	0.000003	0.000003	0.000	0.00000000036
	21 COOKED-NFS						0.10000	0.000002	0.000002	0.000	0.00000000024
	22 COOKED-FRESH-BAKED						0.10000	0.000002	0.000002	0.000	0.00000000024
03007AA	MACADAMIA NUTS (BUSH NUTS)	0.250	P	0.000012	0.001	0.00000000144	0.10000	0.000005	0.000005	0.000	0.00000000060
	10 RAW-FRESH OR NFS						0.10000	0.000007	0.000007	0.000	0.00000000084
03008AA	PECANS	0.100	P	0.000482	0.024	0.000000005784	0.01000	0.000001	0.000001	0.000	0.00000000012
	10 RAW-FRESH OR NFS						0.01000	0.000011	0.000011	0.001	0.00000000132
	21 COOKED-NFS						0.01000	0.000023	0.000023	0.001	0.00000000276
	22 COOKED-FRESH-BAKED						0.01000	0.000006	0.000006	0.000	0.00000000072
03009AA	WALNUTS	0.200	P	0.000965	0.048	0.00000011580	0.05000	0.000072	0.000072	0.004	0.00000000864
	10 RAW-FRESH OR NFS						0.05000	0.000002	0.000002	0.000	0.00000000024
	21 COOKED-NFS						0.05000	0.000167	0.000167	0.008	0.00000002004
	22 COOKED-FRESH-BAKED						0.05000	0.000167	0.000167	0.008	0.00000002004
CROP GROUP TOTALS FOR TREE NUTS:											
		0.002259		0.002259	0.113	0.00000027108	0.05000	0.000460	0.000460	0.023	0.00000005520
53001BA	BEEF-MEAT BYPRODUCTS	0.020	P	0.000353	0.018	0.00000004236	0.00010	0.000002	0.000002	0.000	0.00000000024
	21 COOKED-NFS						0.00010	0.000000	0.000000	0.000	0.00000000000
53001BB	BEEF(ORGAN MEATS)-OTHER	0.020	P	0.000121	0.006	0.00000001452	0.00010	0.000001	0.000001	0.000	0.00000000012
	21 COOKED-NFS						0.00010	0.000000	0.000000	0.000	0.00000000000
	51 COOKED-CANNED						0.00010	0.000000	0.000000	0.000	0.00000000000
53001DA	BEEF-DRIED	0.020	P	0.000051	0.003	0.00000000612	0.00010	0.000000	0.000000	0.000	0.00000000000
	21 COOKED-NFS						0.00010	0.000000	0.000000	0.000	0.00000000000
53001FA	BEEF(BONELESS)-FAT (BEEF TALLOW)	0.020	P	0.007442	0.372	0.00000089304	0.00010	0.000000	0.000000	0.000	0.00000000000
	10 RAW-FRESH OR NFS						0.00010	0.000015	0.000015	0.001	0.00000000180
	21 COOKED-NFS						0.00010	0.000002	0.000002	0.000	0.00000000024
	22 COOKED-FRESH-BAKED						0.00010	0.000003	0.000003	0.000	0.00000000036
	23 COOKED-FRESH-BOILED						0.00010	0.000014	0.000014	0.001	0.00000000168
	24 COOKED-FRESH-BROILED						0.00010	0.000002	0.000002	0.000	0.00000000024
	25 COOKED-FRESH-FRIED						0.00010	0.000002	0.000002	0.000	0.00000000024

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Simazine	Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding- rat NOEL= 0.5200 mg/kg 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species	Reduction in weight gains in females. Evidence of oncogenicity in rats; negative in mouse.	PADI UF -->300 OPP Rfd= 0.002000 EPA Rfd= 0.002000 Q*: 0.12000	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. On IRIS.

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)	TMRC TYPE (UG/KG/DAY)	%RFD	TMRC ONCO RISK	ANTICIPATED RESIDUE (PPM)	ARC (UG/KG/DAY)	%RFD	ARC ONCO RISK
53001KA	BEEF(ORGAN MEATS)-KIDNEY 21 COOKED-NFS	0.020	P 0.000010	0.001	0.000000000120	0.00020	0.000000	0.000	0.000000000000
53001LA	BEEF(ORGAN MEATS)-LIVER 25 COOKED-FRESH-FRIED	0.020	P 0.000414	0.021	0.00000004968	0.00060	0.000012	0.001	0.0000000144
53001MA	BEEF(ORGAN MEATS)-LIVER 31 COOKED-FRESH OR CANNED	0.020	P 0.000414	0.021	0.00000004968	0.00060	0.000000	0.000	0.000000000000
53002BA	BEEF(ORGAN MEATS)-LIVER 10 RAW-FRESH OR NFS	0.020	P 0.023240	1.162	0.00000278880	0.00010	0.000000	0.000	0.000000000000
53002BB	BEEF(ORGAN MEATS)-LIVER 22 COOKED-FRESH-BAKED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000069	0.003	0.0000000828
53002FA	BEEF(ORGAN MEATS)-LIVER 23 COOKED-FRESH-BOILED	0.020	P 0.000001	0.000	0.000000000012	0.00010	0.000000	0.000	0.000000000000
53002KA	BEEF(ORGAN MEATS)-LIVER 24 COOKED-FRESH-BROILED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000005	0.000	0.0000000060
53002LA	BEEF(ORGAN MEATS)-LIVER 00 NOT SPECIFIED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000007	0.000	0.00000000084
53002MA	BEEF(ORGAN MEATS)-LIVER 00 NOT SPECIFIED	0.020	P 0.000004	0.000	0.000000000048	0.00010	0.000035	0.002	0.0000000420
53003AA	BEEF(ORGAN MEATS)-LIVER 23 COOKED-FRESH-BOILED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53005BA	BEEF(ORGAN MEATS)-LIVER 25 COOKED-FRESH-FRIED	0.020	P 0.000001	0.000	0.000000000012	0.00010	0.000000	0.000	0.000000000000
53005BB	BEEF(ORGAN MEATS)-LIVER 23 COOKED-FRESH-BOILED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53005FA	BEEF(ORGAN MEATS)-LIVER 25 COOKED-FRESH-FRIED	0.020	P 0.000004	0.000	0.000000000048	0.00010	0.000000	0.000	0.000000000000
53005KA	BEEF(ORGAN MEATS)-LIVER 00 NOT SPECIFIED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53005LA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000001	0.000	0.000000000012	0.00010	0.000000	0.000	0.000000000000
53005MA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53006BA	BEEF(ORGAN MEATS)-LIVER 00 NOT SPECIFIED	0.020	P 0.000086	0.004	0.00000001032	0.00010	0.000000	0.000	0.000000000000
53006CA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53006DA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53006EA	BEEF(ORGAN MEATS)-LIVER 00 NOT SPECIFIED	0.020	P 0.000000	0.000	0.000000000000	0.00010	0.000000	0.000	0.000000000000
53006FA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000250	0.013	0.00000003000	0.00010	0.000000	0.000	0.000000000000
53006GA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000502	0.025	0.00000006024	0.00010	0.000001	0.000	0.00000000012
53006HA	BEEF(ORGAN MEATS)-LIVER 00 NOT SPECIFIED	0.020	P 0.000502	0.025	0.00000006024	0.00010	0.000000	0.000	0.000000000000
53006IA	BEEF(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P 0.000502	0.025	0.00000006024	0.00010	0.000003	0.000	0.00000000036

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Stimazine Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding- rat NOEL= 0.5200 mg/kg 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species	Reduction in weight gains in hematological changes in females. Evidence of oncogenicity in rats; negative in mouse.	PADI UF -->300 OPP RfD= 0.002000 EPA RfD= 0.002000 q*: 0.12000	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. 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
530068B	PORK(ORGAN MEATS)-OTHER 21 COOKED-NFS	0.020	P	0.000077	0.004	0.00000000924	0.00010 0.00010	0.000000 0.000000	0.000 0.000	0.000000000000 0.000000000000
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD) 10 RAW-FRESH OR NFS 21 COOKED-NFS	0.020	P	0.004164	0.208	0.000000049968	0.00010 0.00010 0.00010	0.000000 0.000010 0.000002	0.000 0.001 0.000	0.000000000000 0.000000000120 0.000000000024
53006KA	PORK(ORGAN MEATS)-KIDNEY 25 COOKED-FRESH-FRIED 21 COOKED-NFS	0.020	P	0.000000	0.000	0.000000000000	0.00010	0.000006	0.000	0.000000000072 0.000000000000
53006LA	PORK(ORGAN MEATS)-LIVER 21 COOKED-NFS	0.020	P	0.000096	0.005	0.00000001152	0.00060 0.00060	0.000003 0.000000	0.000 0.000	0.000000000036 0.000000000000
53006MA	PORK(BONELESS)-LEAN (W/O REMOVABLE FAT) 21 COOKED-NFS 26 COOKED-FRESH-PICKLED, CORNED, OR CURED	0.020	P	0.007825	0.391	0.000000093900	0.00010 0.00010 0.00010	0.000018 0.000005 0.000016	0.001 0.000 0.001	0.000000000216 0.000000000060 0.000000000192
CROP GROUP TOTALS FOR RED MEAT: = 2.8 x 10 ⁻⁸										
55008BA	TURKEY-BYPRODUCTS 21 COOKED-NFS	0.020	P	0.000005	0.000	0.000000000060	0.00030 0.00030	0.000000 0.000000	0.000 0.000	0.000000000000 0.000000000000
55008LA	TURKEY-GIBLETS (LIVER) 21 COOKED-NFS	0.020	P	0.000001	0.000	0.000000000012	0.00040 0.00040	0.000000 0.000000	0.000 0.000	0.000000000000 0.000000000000
55008MA	TURKEY-FLESH(W/O SKIN, W/O BONES) 21 COOKED-NFS	0.020	P	0.000159	0.008	0.00000001908	0.00030 0.00030	0.000001 0.000001	0.000 0.000	0.000000000012 0.000000000000
55008MB	TURKEY-FLESH(+SKIN, W/O BONES) 21 COOKED-NFS	0.020	P	0.000963	0.048	0.00000011556	0.00030 0.00030	0.000001 0.000001	0.000 0.000	0.000000000012 0.000000000000
55008MC	TURKEY-UNSPECIFIED 21 COOKED-NFS	0.020	P	0.000002	0.000	0.000000000024	0.00030	0.000000	0.000	0.000000000000
55013BA	POULTRY, OTHER-BYPRODUCTS 00 NOT SPECIFIED	0.020	P	0.000000	0.000	0.000000000000	0.00030	0.000000	0.000	0.000000000000
55013LA	POULTRY, OTHER-GIBLETS(LIVER) 25 COOKED-FRESH-FRIED	0.020	P	0.000005	0.000	0.000000000060	0.00040	0.000000	0.000	0.000000000000
55013MA	POULTRY, OTHER-FLESH (+SKIN, W/O BONES) 21 COOKED-NFS	0.020	P	0.000108	0.005	0.00000001296	0.00030	0.000002	0.000	0.000000000024

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Simazine Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding - rat 0.5200 mg/kg NOEL= 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species mouse.	Reduction in weight gains hematological changes in females. Evidence of oncogenicity in rats; negative in mouse.	PADI UF -->300 OPP RfD= 0.002000 EPA RfD= 0.002000 q*: 0.12000	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. On IRIS.

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

FOOD CODE	FOODNAME/FOODFORM	TOLERANCE (PPM)		TMR		TMR		TMR		ANTICIPATED RESIDUE (PPM)		ARC (UG/KG/DAY)		ARC	
		TYPE	VALUE	TYPE	VALUE	%RFD	ONCO RISK	%RFD	ONCO RISK	%RFD	ONCO RISK	%RFD	ONCO RISK	%RFD	ONCO RISK
55015BA	CHICKEN-BYPRODUCTS 00 NOT SPECIFIED	0.020	P	0.000000	0.000	0.000000000000		0.00030	0.000000	0.000	0.000000000000		0.000	0.000000000000	
55015LA	CHICKEN-GIBLETS(LIVER) 21 COOKED-NFS 25 COOKED-FRESH-FRIED 26 COOKED-FRESH-PICKLED, CORNED, OR CURED CHICKEN-FLESH(W/O SKIN, W/O BONES)	0.020	P	0.000101	0.005	0.00000001212		0.00040	0.000000	0.000	0.000000000000		0.000	0.000000000000	
55015MA	CHICKEN-FLESH(+SKIN, W/O BONES) 21 COOKED-NFS 22 COOKED-FRESH-BAKED 25 COOKED-FRESH-FRIED 31 COOKED-FRESH OR CANNED 53 COOKED-CANNED-BOILED	0.020	P	0.001203	0.060	0.00000014436		0.00030	0.000012	0.001	0.00000000144		0.001	0.00000000144	
55015MB	CHICKEN-FLESH(+SKIN, W/O BONES) 21 COOKED-NFS 25 COOKED-FRESH-FRIED	0.020	P	0.007586	0.379	0.00000091032		0.00030	0.000062	0.003	0.0000000744		0.003	0.0000000744	
CROP GROUP TOTALS FOR POULTRY:				0.010133	0.507	0.00000121596		0.00030	0.000154	0.008	0.0000001848		0.008	0.00000169824	
53010AA	FISH-UNSPECIFIED 21 COOKED-NFS	12.000	P	0.004948	0.247	0.00000059376		0.46800	0.000193	0.010	0.0000002316		0.010	0.0000002316	
53016AA	FISH-FRESHWATER FINFISH 21 COOKED-NFS 25 COOKED-FRESH-FRIED	12.000	P	0.357918	17.896	0.00004295016		0.46800	0.007008	0.350	0.00000084096		0.348	0.00000083412	
CROP GROUP TOTALS FOR FISH:				0.362866	18.143	0.00004354392		0.46800	0.014152	0.708	0.00000169824		0.708	0.00000169824	
50000DB	MILK-NON-FAT SOLIDS 10 RAW-FRESH OR NFS 21 COOKED-NFS 51 COOKED-CANNED	0.020	P	0.142727	7.136	0.00001712724		0.00007	0.000399	0.020	0.0000004788		0.004	0.0000000972	
50000FA	MILK-FAT SOLIDS 10 RAW-FRESH OR NFS 21 COOKED-NFS 51 COOKED-CANNED	0.020	P	0.067896	3.395	0.00000814752		0.00007	0.000186	0.009	0.0000002232		0.003	0.0000000600	
50000SA	MILK SUGAR (LACTOSE) 21 COOKED-NFS 51 COOKED-CANNED	0.020	P	0.000749	0.037	0.00000008988		0.00007	0.000000	0.000	0.000000000000		0.000	0.000000000000	
55014AA	EGGS-WHOLE 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED	0.020	P	0.011290	0.565	0.00000135480		0.00030	0.000001	0.000	0.00000000012		0.005	0.0000001128	

Handwritten notes:
 = 1.8 x 10^-8
 = 1.7 x 10^-6
 8.9 x 10^-8

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 02/19/91

PAGE: 10

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Simazine	Caswell #740 CAS No. 122-34-9 A.I. CODE: 080807 CFR No. 180.213	2yr feeding- rat NOEL= 0.5200 mg/kg 10.00 ppm LEL= 5.3000 mg/kg 100.00 ppm ONCO: Positive - 1 species	Reduction in weight gains hematological changes in females. Evidence of oncogenicity in rats; negative in mouse.	PADI UF -->300 OPP Rfd= 0.002000 EPA Rfd= 0.002000 Q*: 0.12000	Reproduction - rat Teratology - rat	HED complete 04/25/86. EPA verified 06/24/86. HED reassess 05/25/89. EPA verified 06/15/89. 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
55014AB	23 COOKED-FRESH-BOILED 25 COOKED-FRESH-FRIED EGGS-WHITE ONLY 10 RAW-FRESH OR NFS 21 COOKED-NFS 22 COOKED-FRESH-BAKED 62 COOKED-FRESH OR FROZEN-BAKED 81 COOKED-FROZEN	0.020	P	0.000184	0.009	0.00000002208	0.00030 0.00030	0.000007 0.000049	0.000 0.002	0.00000000084 0.00000000588
55014AC	EGGS-YOLK ONLY 10 RAW-FRESH OR NFS 21 COOKED-NFS 25 COOKED-FRESH-FRIED 31 COOKED-FRESH OR CANNED	0.020	P	0.000133	0.007	0.00000001596	0.00030 0.00030 0.00030 0.00030 0.00030	0.000000 0.000001 0.000001 0.000001 0.000000	0.000 0.000 0.000 0.000 0.000	0.00000000000 0.00000000000 0.00000000012 0.00000000000 0.00000000000
CROP GROUP TOTALS FOR DAIRY PRODUCTS:				0.222979	11.149	0.00002675748		0.000911	0.046	0.00000010932

GRAND TOTALS FOR U.S. POPULATION - 48 STATES

2.485155 124.258 0.00029821860 0.113360 5.668 0.00001360320

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