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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: 22-DEC-2005

SUBJECT: **Flusilazole** Acute, Chronic and Cancer Dietary Exposure and Risk Assessments for a Petition for Temporary Tolerances on Soybeans. PP#: 05MN12.

PC Code: 128835
DP #: 319451

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Dietary Exposure Science Advisory Council (DESAC)
HED (7509C)

and

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TO: George F. Kramer, Ph.D., Risk Assessor
RAB1/HED (7509C)

Executive Summary

Acute, chronic and cancer dietary risk assessments were conducted using the Dietary Exposure Evaluation Model (DEEM-FCID™, Version 2.03), which uses food consumption data from the USDA's Continuing Surveys of Food Intakes by Individuals (CSFII) from 1994-1996 and 1998. The analyses were performed to support a proposed Section 18 Quarantine Exemption for the application of flusilazole (1-[[bis(4-fluorophenyl)methylsilyl]methyl]-1*H*-1,2,4-triazole) to soybeans for control of the Australasian soybean rust.

Acute Dietary Exposure Results and Characterization

The Tier 1 acute analysis assumed 100% crop treated, DEEM™ 7.81 default processing factors and tolerance-level residues. Drinking water was incorporated directly into the dietary assessment using the 1-in-10 year annual peak concentration for surface water generated by the PRZM (Pesticide Root Zone Model)-EXAMS (Exposure Analysis Modeling System) model as a high-end estimate. As an appropriate endpoint attributable to a single dose was not identified for the general U.S. population (including infants and children), the acute risk analysis was performed only for females 13-49 years of age. The resulting acute dietary exposure and risk estimates using the DEEM-FCID™ model at the 95th percentile were 0.000143 mg/kg/day and 0.7% of the acute population-adjusted dose (aPAD), respectively. The risk estimate is thus below HED's level of concern (100% aPAD).

Chronic Dietary Exposure Results and Characterization

The Tier 1 chronic analysis assumed 100% crop treated, DEEM™ 7.81 default processing factors and tolerance-level residues. Drinking water was incorporated directly into the dietary assessment using the 1-in-10 year annual average concentration for surface water generated by the PRZM-EXAMS model as a high-end estimate. The resulting chronic food risk estimates (<9% chronic population-adjusted dose (cPAD)); all infants < 1 year old were the most highly exposed population subgroup) were less than HED's level of concern (100% cPAD).

Cancer Dietary Exposure Results and Characterization

The cancer analysis assumed 100% crop treated, DEEM™ 7.81 default processing factors and tolerance-level residues. Drinking water was incorporated directly into the dietary assessment using the 30-year average annual concentration for surface water generated by the PRZM-EXAMS model as a high-end estimate. The resulting cancer risk for the general U.S. population (1.6×10^{-7}) was less than HED's level of concern (generally 1×10^{-6}).

I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For acute and chronic assessments, the risk is expressed as a percentage of a maximum acceptable dose (i.e., the dose which HED has concluded will result in no unreasonable adverse health effects). This dose is referred to as the PAD. The PAD is equivalent to the Reference Dose (RfD) divided by the special FQPA Safety Factor.

For acute and non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. HED is generally concerned when estimated cancer risk exceeds one in one million (i.e., the risk exceeds 1×10^{-6}). References which discuss the acute and chronic risk assessments in more detail are available on the EPA/pesticides web site: "Available

Information on Assessing Exposure from Pesticides, A User's Guide," 6/21/2000, web link: http://www.epa.gov/fedrgstr/EPA-PEST/2000/July/Day-12/6061.pdf ; or see SOP 99.6 (8/20/99).

The most recent dietary risk assessment for flusilazole was conducted by R. Tomerlin (7/14/89).

II. Residue Information

Residues of Concern in Plants: HED has reviewed apple, grape, and wheat metabolism studies (see Memos C. Trichilo, 2/12/88; W. Hazel, 1/3/90; S. Funk, 10/4/90; and F. Griffith, 12/20/90). The total toxic residue (TTR) was tentatively identified as flusilazole plus IN-F7321 and IN-H7169; the parent compound was deemed adequate to serve as a marker for the TTR in the tolerance expression (Memo W. Hazel, 8/21/90). The wheat metabolism study was reviewed subsequently to this decision (S. Funk, 10/4/90). In wheat straw, metabolites IN-377722 and IN-37738 (and their conjugates) comprised a significant portion of the identified residue. As these metabolites are also closely related to the parent, HED will include them in the TTR. For the purposes of this Section 18 request only, HED concludes that the nature of the residue in plants is adequately understood and the residue of concern for tolerance expression is flusilazole *per se* and the residues of concern for this risk assessment are flusilazole plus IN-F7321, IN-H7169, IN-377722 and IN-37738 (and their conjugates). The smallest portion of the TTR comprised of flusilazole was 31% in wheat straw. Using these data and since soybean metabolism data are not available, HED concludes that a factor of 3.2X should be used to adjust residue data on flusilazole *per se* to account for potential metabolite residues. Additionally, the Agency does have concern about potential toxicity to 1,2,4-triazole and two conjugates, triazolylalanine and triazolyl acetic acid, metabolites common to most of the triazole fungicides. To support the extension of existing and granting of new parent triazole-derivative fungicide tolerances, EPA is conducting a human-health assessment for aggregate exposure to 1,2,4-triazole in a separate document.

Established Tolerances: There are currently no established tolerances for flusilazole.

Recommended Tolerances: Based on the residue chemistry data submitted with the current petition, HED recommended for establishment of the following food tolerance (G. Kramer, DP# 319073):

Table 1. Tolerance Assessment Summary for Flusilazole

Commodity	Recommended Tolerance (ppm)
Soybean, seed	0.01
Soybean, oil	0.03

Residue Inputs in the Acute, Chronic and Cancer Analysis: The Tier 1 acute, chronic and cancer DEEM™ analyses assumed 100% crop treated and tolerance-level residues for all commodities (Table 2). A factor of 3.2X was used to adjust the flusilazole residues in order to account for potential metabolite residues.

Table 2. Data and Residue Estimates Used in Acute, Chronic and Cancer Dietary Analyses

RAC	Food Forms	Data Source[1]	No. of Samples	No. of Quantifiable Residues	LOQ (ppm)	Processing Factors	Anticipated Residue Estimate
Soybean	seed	319073	18	0	0.01	-	0.032[3]
	flour					1[2]	0.032[3]
	flour-babyfood					1[2]	0.032[3]
	soy milk-babyfood					1[2]	0.032[3]
	oil					3	0.096[3]
	oil-babyfood					3	0.096[3]

[1] DP #.
[2] DEEM™ (ver 7.76) default processing factor
[3] A factor of 3.2X was used to adjust the flusilazole residues in order to account for potential metabolite residues

Environmental Fate Assessment: Based on the submitted flusilazole environmental fate data, its physical-chemical properties, and the proposed use patterns, fusilazole is expected to be persistent and to have low mobility in soil. Fusilazole is stable to hydrolysis and to aqueous photolysis, but undergoes relatively slow degradation via microbially-mediated metabolism, with much of the apparent loss of the compound attributed to the formation of non-extractable residues. Microbially-mediated cleavage of the parent at the methylene bridge yields the minor degradates [bis(4-fluorophenyl)methyl]silanol (silanol) and 1*H*-1,2,4-triazole (triazole); there are no major degradates (i.e., >10%). In anaerobic flooded sediments, flusilazole undergoes very slow transformation, with relatively rapid dissipation from the water column to the sediment phase, where it remains as parent and bound residues. In aerobic flooded sediments, flusilazole is essentially stable to degradation, but partitions predominantly to the sediment phase. While the silanol degradate has low to moderate mobility in soil, the triazole has very high mobility. However, both of the degradates appear to degrade more rapidly than they are formed, and do not reach major degradate levels (i.e., >10%) in the laboratory studies. Based on these data and for the purposes of this Section 18 request only, HED concludes that the residue of concern for drinking water is flusilazole *per se*.

Ground and Surface Water Estimated Environmental Concentrations (EECs): A Tier II water assessment was conducted for the proposed use of flusilazole on soybeans using the proposed maximum application rate for soybean; 0.206 lbs ai/acre with two applications at a 21-day interval. The estimated drinking-water concentrations (EDWCs) of flusilazole in surface water from PRZM/EXAMS are presented in Table 3. The Screening Concentration in Ground Water (SCI-GROW) model version 2.3 was used to estimate the concentration of flusilazole in ground water. SCI-GROW estimated the concentration of flusilazole in shallow ground water sources to be 0.05 µg/L.

Table 3. Tier II PRZM/EXAMS Fusilazole[1] EDWCs in Index Reservoir corrected for percent crop area (PCA = 0.41 for soybeans).

	EDWC (ug/L)		
Conditions	1-in-10-Year Peak	1-in-10-Year Average Annual	30-Year Average Annual
Ground Spray	1.73	0.87	0.66
Aerial Spray	1.81	0.92	0.72

[1] Two applications, by ground spray (gs) and aerial spray (as) at 0.206 lb ai/ac with a 21-day interval and first application on June 1.

III. DEEM-FCID™ Program and Consumption Information

Cyproconazole acute, chronic and cancer dietary exposure assessments were conducted using the DEEM-FCID™, Version 2.0 software, which incorporates consumption data from USDA's CSFII, 1994-1996 and 1998. The 1994-96, 98 data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g. apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. For chronic exposure assessment, consumption data are averaged for the entire U.S. population and within population subgroups, but for acute exposure assessment are retained as individual consumption events. Based on analysis of the 1994-96, 98 CSFII consumption data, which took into account dietary patterns and survey respondents, HED concluded that it is most appropriate to report risk for the following population subgroups: the general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, females 13-49, and adults 50+ years old.

For chronic dietary exposure assessment, an estimate of the residue level in each food or food-form (e.g., orange or orange juice) on the food commodity residue list is multiplied by the average daily consumption estimate for that food/food form. The resulting residue consumption estimate for each food/food form is summed with the residue consumption estimates for all other food/food forms on the commodity residue list to arrive at the total average estimated exposure. Exposure is expressed in mg/kg body weight/day and as a percent of the cPAD. This procedure is performed for each population subgroup.

For acute exposure assessments, individual one-day food consumption data are used on an individual-by-individual basis. The reported consumption amounts of each food item can be multiplied by a residue point estimate and summed to obtain a total daily pesticide exposure for a deterministic exposure assessment, or "matched" in multiple random pairings with residue values and then summed in a probabilistic assessment. The resulting distribution of exposures is expressed as a percentage of the aPAD on both a user (i.e., those who reported eating relevant commodities/food forms) and a per-capita (i.e., those who reported eating the relevant commodities as well as those who did not) basis. In accordance with HED policy, per capita exposure and risk are reported for all tiers of analysis. However, for Tiers 1 and 2, significant

differences in user vs. per capita exposure and risk are identified and noted in the risk assessment.

IV. Toxicological Information

Table 4. Summary of Toxicological Dose and Endpoints for Flusilazole Used in Human Risk Assessment

Exposure Scenario	Dose Used in Risk Assessment, UF	Special FQPA SF* and Level of Concern for Risk Assessment	Study and Toxicological Effects
Acute Dietary (general population)	Not applicable	None	An endpoint of concern attributable to a single dose for general population was not identified.
Acute Dietary (Females 13+)	NOAEL = 2.0 mg/kg/day UF = 100X **Acute RfD = 0.02 mg/kg**	FQPA SF = 1X **aPAD** = 0.02 mg/kg (aRfD)/1X (FQPA SF) = 0.02 mg/kg	Developmental toxicity - rat; LOAEL = 10 mg/kg/day based on distended ureter, small renal papilla, large renal pelvis, increased skeletal variations.
Chronic Dietary (All populations)	NOAEL= 0.2 mg/kg/day UF = 100X **Chronic RfD** = **0.002** mg/kg/day	FQPA SF = **1X** **cPAD** = 0.002mg/kg/day (c RfD)/1X (FQPA SF) = **0.002** mg/kg/day	Chronic oral toxicity - dog; LOAEL = 0.7 mg/kg/day, based on increased increased liver weights & hypertrophy of centrilobular hepatocytes.
Cancer	Q1* $(mg/kg/day)^{-1}$ is 2.84×10^{-3} in human based on female mouse liver adenoma and/or carcinoma combined tumor rates.		

UF = uncertainty factor, FQPA SF = Special FQPA safety factor, NOEL = no observed adverse effect level, LEL = lowest observed adverse effect level, PAD = population adjusted dose (a = acute, c = chronic) RfD = reference dose, MOE = margin of exposure, LOC = level of concern, NA = Not Applicable

NOTE: The Special FQPA Safety Factor **assumes** that the hazard and exposure databases (dietary food, drinking water, and residential) are complete and that the risk assessment for each potential exposure scenario includes all metabolites and/or degradates of concern and does not underestimate the potential risk for infants and children.

V. Results/Discussion

As stated above, for acute and chronic assessments, HED is concerned when dietary risk exceeds 100% of the PAD. The DEEM-FCID™ analyses estimate the dietary exposure of the U.S. population and various population subgroups. The results reported in Tables 5 and 6 are for the general U.S. Population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, females 13-49, adults 20-49, and adults 50+ years. The acute risk analysis was performed only for females 13-49 years of age.

Results of Acute Dietary Exposure Analysis

The Tier 1 acute analysis assumed 100% crop treated, DEEM™ 7.81 default processing factors and tolerance-level residues. Drinking water was incorporated directly in the dietary assessment using the 1-in-10 year annual peak concentration for surface water generated by the PRZM-EXAMS model. As an appropriate endpoint attributable to a single dose was not identified for the general U.S. population (including infants and children), the acute analysis was performed only for females 13-49 years of age. The resulting acute dietary exposure and risk estimates using the DEEM-FCID™ model at the 95th percentile were 0.000143 mg/kg/day and 0.7% of the aPAD, respectively. The risk estimate is thus below HED's level of concern (100% aPAD).

Table 5. Results of Acute Dietary Exposure Analysis

Population Subgroup	aPAD (mg/kg/day)	95th Percentile		99th Percentile		99.9th Percentile	
		Exposure (mg/kg/day)	% aPAD	Exposure (mg/kg/day)	% aPAD	Exposure (mg/kg/day)	% aPAD
Females 13-49 years old	0.02	0.000143	0.7	0.000211	1.0	0.000323	1.6

Chronic Dietary Exposure Results and Characterization

The Tier 1 chronic analysis assumed 100% crop treated, DEEM™ 7.81 default processing factors and tolerance-level residues. Drinking water was incorporated directly into the dietary assessment using the 1-in-10 year annual average concentration for surface water generated by the PRZM-EXAMS model as a high-end estimate. The resulting chronic food risk estimates (<9% cPAD); all infants < 1 year old were the most highly exposed population subgroup) were less than HED's level of concern (100% cPAD).

Cancer Dietary Exposure Results and Characterization

The cancer analysis assumed 100% crop treated, DEEM™ 7.81 default processing factors and tolerance-level residues. Drinking water was incorporated directly into the dietary assessment using the 30-year average annual concentration for surface water generated by the PRZM-EXAMS model as a high-end estimate. The resulting cancer risk for the general U.S. population (1.6×10^{-7}) was less than HED's level of concern (generally 1×10^{-6}).

Table 7. Summary of Chronic & Cancer Dietary Exposures and Risks for Cyproconazole				
Population Subgroup*	Chronic Dietary		Cancer	
	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	Risk
General U.S. Population	0.000062	3.1	0.000058	1.6×10^{-7}
All Infants (< 1 year old)	**0.000171**	8.5	N/A	N/A
Children 1-2 years old	0.000119	6.0		
Children 3-5 years old	0.000119	6.0		
Children 6-12 years old	0.000086	4.3		
Youth 13-19 years old	0.000058	2.9		
Adults 20-49 years old	0.000053	2.6		
Adults 50+ years old	0.000046	2.3		
Females 13-49 years old	0.0000051	2.5		

VI. Characterization of Inputs/Outputs

HED concludes that the acute, chronic and cancer risk estimates are conservative since they assumed tolerance-level based on field-trial data (maximum application rate; minimum pre-harvest interval; frozen immediately after harvest) and assumed that 100% of the crop was treated. The analyses could be further refined through the use of the %CT for soybeans, residue monitoring data and/or preparation/cooking factors. Additionally, the drinking water estimates are very conservative and could be refined by the use of water monitoring data and/or data on the effects of water treatment on flusilazole that may reach drinking water sources.

VII. Conclusions

Based on the proposed use of flusilazole, the acute dietary risk estimate is 0.7% of the aPAD for females 13-49 years of age, the chronic dietary risks are <9% cPAD and the cancer risk for the general U.S. population is 1.6×10^{-7} and are, therefore, all less than HED's level of concern.

VIII. List of Attachments

1. Acute Food/Water Residue Input file.
2. Chronic Food/Water Residue Input file.
3. Cancer Food/Water Residue Input file.
4. Acute Results file.
5. Chronic Results file.
6. Cancer Results File.

cc: G. Kramer, C. Rodia (RD)
G.F. Kramer:806T:CM#2:(703)305-5079:7509C:RAB1

Attachment 1- Acute Food/Water Residue Input File

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID Acute analysis for FLUSILAZOLE
Residue file name: C:\Documents and Settings\gkramer\GK\##Flusilazole\FlusilazoleAcute.R98
Analysis Date 12-08-2005 Residue file dated: 12-01-2005/10:07:57/8
Reference dose (aRfD) = 0.02 mg/kg bw/day

EPA Code	Crop Grp	Food Name	Def Res (ppm)	Adj.Factors #1	#2	Comment
06003470	6	Soybean, seed	0.032000	1.000	1.000	
06003480	6	Soybean, flour	0.032000	1.000	1.000	
06003481	6	Soybean, flour-babyfood	0.032000	1.000	1.000	
06003490	6	Soybean, soy milk	0.032000	1.000	1.000	
06003491	6	Soybean, soy milk-babyfood or in	0.032000	1.000	1.000	
06003500	6	Soybean, oil	0.096000	1.000	1.000	
06003501	6	Soybean, oil-babyfood	0.096000	1.000	1.000	
86010000	O	Water, direct, all sources	0.001810	1.000	1.000	
86020000	O	Water, indirect, all sources	0.001810	1.000	1.000	

Attachment 2 - Chronic Food/Water Residue Input File

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U.S. Environmental Protection Agency                                    Ver. 2.00
DEEM-FCID Chronic analysis for FLUSILAZOLE                          1994-98 data
Residue file: C:\Documents and Settings\gkramer\GK\##Flusilazole\FlusilazoleChron.R98
                                                              Adjust. #2 NOT used
Analysis Date 12-08-2005          Residue file dated: 12-01-2005/10:04:56/8
Reference dose (RfD) = 0.002 mg/kg bw/day
```

Food Crop EPA Code	Grp	Food Name	Residue (ppm)	Adj.Factors #1	Adj.Factors #2	Comment
06003470	6	Soybean, seed	0.032000	1.000	1.000	
06003480	6	Soybean, flour	0.032000	1.000	1.000	
06003481	6	Soybean, flour-babyfood	0.032000	1.000	1.000	
06003490	6	Soybean, soy milk	0.032000	1.000	1.000	
06003491	6	Soybean, soy milk-babyfood or in	0.032000	1.000	1.000	
06003500	6	Soybean, oil	0.096000	1.000	1.000	
06003501	6	Soybean, oil-babyfood	0.096000	1.000	1.000	
86010000	O	Water, direct, all sources	0.000920	1.000	1.000	
86020000	O	Water, indirect, all sources	0.000920	1.000	1.000	

Attachment 3 - Cancer Food/Water Residue Input File

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U.S. Environmental Protection Agency                                    Ver. 2.00
DEEM-FCID Chronic analysis for FLUSILAZOLE                           1994-98 data
Residue file: C:\Documents and Settings\gkramer\GK\##Flusilazole\FlusilazoleCancer.R98
                                                                Adjust. #2 NOT used
Analysis Date 12-08-2005          Residue file dated: 12-01-2005/10:07:09/8
Q* = 0.00284
```

Food Crop EPA Code	Grp	Food Name	Residue (ppm)	Adj.Factors #1	Adj.Factors #2	Comment
06003470	6	Soybean, seed	0.032000	1.000	1.000	
06003480	6	Soybean, flour	0.032000	1.000	1.000	
06003481	6	Soybean, flour-babyfood	0.032000	1.000	1.000	
06003490	6	Soybean, soy milk	0.032000	1.000	1.000	
06003491	6	Soybean, soy milk-babyfood or in	0.032000	1.000	1.000	
06003500	6	Soybean, oil	0.096000	1.000	1.000	
06003501	6	Soybean, oil-babyfood	0.096000	1.000	1.000	
86010000	O	Water, direct, all sources	0.000720	1.000	1.000	
86020000	O	Water, indirect, all sources	0.000720	1.000	1.000	

Attachment 4 - Acute Results File

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U.S. Environmental Protection Agency                                    Ver. 2.02
DEEM-FCID ACUTE Analysis for FLUSILAZOLE                          (1994-98 data)
Residue file: flusilazoleAcute.R98                    Adjustment factor #2 used.
Analysis Date: 12-01-2005/10:15:52    Residue file dated: 12-01-2005/10:07:57/8
Daily totals for food and foodform consumption used.
Run Comment: "
```

Summary calculations (per capita):

	95th Percentile Exposure	95th Percentile % aRfD	99th Percentile Exposure	99th Percentile % aRfD	99.9th Percentile Exposure	99.9th Percentile % aRfD
Females 13-50 yrs:	0.000143	0.71	0.000211	1.05	0.000323	1.62

Attachment 5 - Chronic Results File

```
U.S. Environmental Protection Agency                                    Ver. 2.00
DEEM-FCID Chronic analysis for FLUSILAZOLE                          (1994-98 data)
Residue file name: C:\Documents and Settings\gkramer\GK\##Flusilazole\flusilazoleChron.R98
                                                  Adjustment factor #2 NOT used.
Analysis Date 12-01-2005/10:10:07     Residue file dated: 12-01-2005/10:04:56/8
Reference dose (RfD, Chronic) = .002 mg/kg bw/day
```

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Percent of Rfd
U.S. Population (total)	0.000062	3.1%
U.S. Population (spring season)	0.000062	3.1%
U.S. Population (summer season)	0.000062	3.1%
U.S. Population (autumn season)	0.000061	3.1%
U.S. Population (winter season)	0.000062	3.1%
Northeast region	0.000057	2.9%
Midwest region	0.000064	3.2%
Southern region	0.000061	3.0%
Western region	0.000065	3.3%
Hispanics	0.000065	3.3%
Non-hispanic whites	0.000061	3.0%
Non-hispanic blacks	0.000064	3.2%
Non-hisp/non-white/non-black	0.000070	3.5%
All infants (< 1 year)	0.000171	8.5%
Nursing infants	0.000059	2.9%
Non-nursing infants	0.000214	10.7%
Children 1-6 yrs	0.000117	5.9%
Children 7-12 yrs	0.000082	4.1%
Females 13-19 (not preg or nursing)	0.000052	2.6%
Females 20+ (not preg or nursing)	0.000049	2.4%
Females 13-50 yrs	0.000054	2.7%
Females 13+ (preg/not nursing)	0.000059	2.9%
Females 13+ (nursing)	0.000065	3.2%
Males 13-19 yrs	0.000063	3.2%
Males 20+ yrs	0.000052	2.6%
Seniors 55+	0.000046	2.3%
Children 1-2 yrs	0.000119	6.0%
Children 3-5 yrs	0.000119	6.0%
Children 6-12 yrs	0.000086	4.3%
Youth 13-19 yrs	0.000058	2.9%
Adults 20-49 yrs	0.000053	2.6%
Adults 50+ yrs	0.000046	2.3%
Females 13-49 yrs	0.000051	2.5%

Attachment 6 - Cancer Results File

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U.S. Environmental Protection Agency                                 Ver. 2.00
DEEM-FCID Chronic analysis for FLUSILAZOLE                      (1994-98 data)
Residue file name: C:\Documents and Settings\gkramer\GK\##Flusilazole\flusilazoleCancer.R98
                                                 Adjustment factor #2 NOT used.
Analysis Date 12-01-2005/10:11:49     Residue file dated: 12-01-2005/10:07:09/8
Q* = 0.00284
===============================================================================
                   Total exposure by population subgroup
-------------------------------------------------------------------------------

                                                      Total Exposure
                                            -----------------------------------
          Population                           mg/kg          Lifetime risk
           Subgroup                          body wt/day      (Q*= .00284)
--------------------------------------      -------------    -------------
U.S. Population (total)                        0.000058         1.64E-07
```

13544

R119804

Chemical: Flusilazole

PC Code: 128835
HED File Code: 14000 Risk Reviews
Memo Date: 12/22/2005
File ID:
Accession #: 412-06-0012

HED Records Reference Center
2/2/2006