

US EPA ARCHIVE DOCUMENT

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 1 of 13

3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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: 4/19/2005

SUBJECT: **Amicarbazone** Acute and Chronic Dietary Exposure Assessments for the Section 3 Registration Action

PC Code: 114004
DB Barcode: D313745

PP# 0F6131: Field Corn, Cotton, Soybeans, Wheat, and Animal Commodities

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Executive Summary

Acute and chronic dietary risk assessments were conducted for the new active ingredient amicarbazone 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 Section 3 requests for tolerances on field corn, wheat, soybeans, and cotton.

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Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 2 of 13

Acute Dietary Exposure Results and Characterization

A conservative acute dietary exposure analysis was performed for amicarbazone. The analysis was based on tolerance level residues (modified by DEEM default processing factors) and the assumption that 100% of the crop will be treated. The estimated drinking water concentration was included in the analysis. The concentration used in the assessment was slightly higher than the final value recommended by EFED. The risk estimates for all population subgroups are below HED's level of concern. At the 95th percentile of exposure, the risk estimate for the general U.S. population is 7% of the acute population adjusted dose (aPAD). The most highly exposed population subgroup is All Infants, which utilizes 23% of the aPAD. For all population subgroups, the major contributor to the exposure estimates is drinking water.

Chronic Dietary Exposure Results and Characterization

A conservative chronic dietary exposure analysis was performed for amicarbazone. The analysis was based on tolerance level residues (modified by DEEM default processing factors) and the assumption that 100% of the crop will be treated. The estimated drinking water concentration was included in the analysis. The concentration used in the assessment was slightly higher than the final value recommended by EFED. The risk estimates for all population subgroups are below HED's level of concern. The risk estimate for the general U.S. population is 14% of the chronic population adjusted dose (cPAD). The most highly exposed population subgroup is All Infants, which utilizes 39% of the cPAD. For all population subgroups, the major contributor to the exposure estimates is drinking water.

Cancer Dietary Exposure Results and Characterization

A cancer dietary exposure analysis was not performed because it was determined that amicarbazone was not likely to cause cancer in humans.

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 population adjusted dose (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. References that 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 in Food, 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).

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 3 of 13

Amicarbazone is a new active ingredient, as a result, no previous dietary exposure analyses have been performed for the chemical.

The commodities for which amicarbazone tolerances are being requested are field corn, cotton, soybeans, wheat, milk, poultry liver, and the fat, meat, and meat byproducts of cattle, goats, hogs, horses, and sheep.

II. Residue Information

As amicarbazone is a new active ingredient, no tolerances have been listed in the Code of Federal Regulations. HED is recommending in favor of tolerances for the combined residues of amicarbazone and its metabolites DA amicarbazone and isopropyl-2-OH-DA amicarbazone. For risk assessment purposes, additional metabolites need to be included with the three residues to be used for tolerance enforcement. For assessing human dietary exposure to residues in wheat grain (or any other rotated cereal grains), the two glucose conjugates of DA OH MKH 3586 should be included. These conjugates constituted about 30% of the grain TRR at the 138- and 364-day plant back intervals. In ruminants, the metabolite tBuOH MKH 3586 is to be included based on the fact that it was the highest level residue in milk (28% TRR) as well as a major metabolite ($\geq 10\%$ TRR) in muscle and kidney. For poultry, it is recommended that the metabolites iPr-Acid DA MKH 3586, iPr-1-OH DA MKH 3586, and iPr-Ene DA MKH 3586 be considered in the risk assessment because of their presence as major residues in liver, fat, or eggs. These additional metabolites all contain the triazolinone ring and, therefore, will be considered toxicologically equivalent to the parent. In order to account for these metabolites in the dietary analysis, the tolerances were multiplied by factors that account for their contribution to the exposure. These factors are given in Table 1 along with the recommended tolerances.

Commodity	Tolerance (ppm)	Metabolite Factor	Value Used in Assessment
Field Corn Grain	0.05	-	0.05
Undelinted Cotton Seed	0.07	-	0.07
Soybean Seed	0.8	-	0.8
Wheat Grain	0.1	1.7	0.17
Wheat Milled Byproducts	0.15	1.7	0.255
Milk	0.01	1.6	0.016
Meat of cattle, goats, hogs, horses, and sheep	0.01	1.2	0.012
Fat of cattle, goats, hogs, horses, and sheep	0.01	-	0.01
Liver of cattle, goats, horses, sheep	1.0	-	1.0

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 4 of 13

Table 1. Recommended Tolerances			
Commodity	Tolerance (ppm)	Metabolite Factor	Value Used in Assessment
Meat Byproducts (except liver) of cattle, goats, horses, and sheep	0.1	1.2	0.12
Hog liver	0.1	-	0.1
Meat Byproducts (except liver) of hogs	0.01	1.2	0.012
Poultry liver	0.01	1.8	0.018

HED is recommending in favor of tolerances for other animal commodities; however, these commodities are animal feed items and not human food items. They may have contributed to the dietary burden calculations for the animal commodities included in the analysis, but they do not appear in the analyses directly.

Estimated drinking water concentrations were provided by EFED (Memo, D288178, M. Ruhman, 2/3/05). The screening level (Tier 1) surface water and groundwater estimates were calculated using the FIRST and SCI-GROW Models, respectively. The groundwater value of 0.1029 ppm was greater than the surface water values of 0.0134 and 0.0214 ppm. As a result, the groundwater value was used in the analyses. A value of 0.1052 ppm was entered for both water, direct, all sources and water, indirect, all sources. The entered value is slightly higher than the final recommended concentration of 0.1029 ppm from EFED.

Processing Factors

The only processing factors used in the analyses are two DEEM default factors. A value of 1.92 was used for dried beef, and a value of 1.5 was used for field corn syrup.

III. DEEM-FCID™ Program and Consumption Information

Amicarbazone acute and chronic dietary exposure assessments were conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database (DEEM-FCID™, Version 2.03) which incorporates consumption data from USDA's Continuing Surveys of Food Intakes by Individuals (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. Consumption data are averaged for the entire U.S. population and within population subgroups for chronic exposure assessment, but are retained as individual consumption events for acute exposure assessment. Based on analysis of the 1994-96, 98 CSFII consumption data which took

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 5 of 13

into account dietary patterns and survey respondents, HED concluded that it is 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 exposure and risk 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 (Tier 1 or Tier 2) exposure assessment, or "matched" in multiple random pairings with residue values and then summed in a probabilistic (Tier 3/4) 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

The toxicity database for amicarbazone was evaluated by Kim Kosick, a toxicologist from Registration Action Branch 2 (RAB2) of the Health Effects Division. RAB2 toxicologists (along with K. Kosick) selected toxicological endpoints for risk assessment. The toxicology endpoint selection was reviewed by HED's Risk Assessment Review Committee (RARC). The Committee members were in agreement with the selected endpoints (RARC Meeting, 3/31/05). Based on reliable data, no additional safety factor is necessary to protect the safety of infants and children in assessing amicarbazone exposures and risks (i.e., the FQPA safety factor has been reduced to 1x). Amicarbazone is not likely to be a carcinogen, so a cancer risk assessment has not been conducted. The doses and endpoints selected for dietary exposure and risk assessment are shown in Table 2.

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 6 of 13

Table 2. Summary of Toxicology Endpoint Selection for Amicarbazone			
Exposure Scenario	Dose (mg/kg/day) UF	FQPA Safety Factor and Level of Concern for Risk Assessment	Endpoint for Risk Assessment
Acute Dietary <u>general population including infants and children</u>	NOAEL = 10 mg/kg/day UF = 100x Acute RfD = 0.10 mg/kg/day	Special FQPA SF = 1x aPAD = 0.10 mg/kg/day	Acute Neurotoxicity Screening Battery LOAEL = 20 mg/kg/day, based on eyelid ptosis, decreased approach response, red nasal staining in males.
Chronic Dietary <u>all populations</u>	NOAEL = 2.3 mg/kg/day UF = 100x Chronic RfD = 0.023mg/kg/day	Special FQPA SF = 1x cPAD = 0.023 mg/kg/day	Chronic Rat and Chronic Dog LOAEL = 25.3 and 8.7, respectively, based on RAT - decreased BW and BWG DOG - liver effects, including increased absolute and relative liver weights, and O- demethylase in males; increased globulin and cytochrome p450 in females; and increased triglycerides and cholesterol in both sexes
Cancer	Classification: Amicarbazone has been classified as not likely to be a carcinogen.		There was no treatment-related increase in tumor incidence when compared to control. Dosing was considered adequate.

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 3 and 4 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.

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 7 of 13

Results of Acute Dietary Exposure Analysis

The results of the acute dietary exposure analysis at the 95th, 99th, and 99.9th percentiles of exposure are reported in Table 3. As this assessment was a conservative one, using 100%CT assumptions, the relevant exposure percentile is the 95th.

Table 3. Results of Acute Dietary Exposure Analysis							
Population Subgroup	aPAD (mkd)*	95 th Percentile		99 th Percentile		99.9 th Percentile	
		Exposure (mkd)	% aPAD	Exposure (mkd)	% aPAD	Exposure (mkd)	% aPAD
General U.S. Population	0.10	0.007269	7	0.012290	12	0.023443	23
All Infants (< 1 year old)	0.10	0.023444	23	0.033330	33	0.055763	56
Children 1-2 years old	0.10	0.012278	12	0.018915	19	0.040343	40
Children 3-5 years old	0.10	0.011188	11	0.016204	16	0.031611	32
Children 6-12 years old	0.10	0.007855	8	0.011595	12	0.017152	17
Youth 13-19 years old	0.10	0.005720	6	0.008829	9	0.014222	14
Adults 20-49 years old	0.10	0.006141	6	0.009739	10	0.016470	16
Adults 50+ years old	0.10	0.005370	5	0.007497	8	0.011951	12
Females 13-49 years old	0.10	0.006099	6	0.009600	10	0.015649	16

*mkd: milligram per kilogram per day

Results of Chronic Dietary Exposure Analysis

The results of the chronic dietary exposure analysis are reported in the summary table below. The chronic dietary risk estimates for the general U.S. population and all population subgroups are below HED's level of concern.

Table 4. Summary of Dietary Exposure and Risk for Amicarbazone						
Population Subgroup*	Acute Dietary (95 th Percentile)		Chronic Dietary		Cancer	
	Dietary Exposure (mg/kg/day)	% aPAD	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	Risk
General U.S. Population	0.007269	7	0.003240	14	N/A	N/A
All Infants (< 1 year old)	0.023444	23	0.008859	39		

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 8 of 13

Table 4. Summary of Dietary Exposure and Risk for Amicarbazone						
Population Subgroup*	Acute Dietary (95 th Percentile)		Chronic Dietary		Cancer	
	Dietary Exposure (mg/kg/day)	% aPAD	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	Risk
Children 1-2 years old	0.012278	12	0.005957	26		
Children 3-5 years old	0.011188	11	0.005572	24		
Children 6-12 years old	0.007855	8	0.003846	17		
Youth 13-19 years old	0.005720	6	0.002651	12		
Adults 20-49 years old	0.006141	6	0.002866	13		
Adults 50+ years old	0.005370	5	0.002803	12		
Females 13-49 years old	0.006099	6	0.002827	12		

Contribution of Drinking Water to Total Exposure

A critical element contribution (CEC) analysis was performed for both the acute and chronic analyses in order to determine the contribution of drinking water to the total risk estimates. Water was a major source of dietary exposure to amicarbazone. In the acute analysis, water contributed between 64 and 87% of the total exposure. In the chronic analysis, water contributed between 55 and 82% of the total exposure. The values for the various population subgroups are given in table 5 below.

Table 5. Contribution of Residues in Drinking Water to Total Dietary Exposure		
Population Subgroup	Acute Dietary (95 th Percentile)	Chronic Dietary
General U.S. Population	67%	68%
All Infants (< 1 year old)	87%	82%
Children 1-2 years old	68%	55%
Children 3-5 years old	70%	55%
Children 6-12 years old	64%	55%
Youth 13-19 years old	80%	61%
Adults 20-49 years old	84%	72%

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 9 of 13

Table 5. Contribution of Residues in Drinking Water to Total Dietary Exposure		
Population Subgroup	Acute Dietary (95 th Percentile)	Chronic Dietary
Adults 50+ years old	86%	78%
Females 13-49 years old	85%	73%

VI. Discussion of Uncertainties

These dietary exposure analyses are very conservative. As a result, the assumptions made will considerably overestimate actual exposure. There are no uncertainties that will cause an underestimation of dietary risk to the general U.S. population or any population subgroup.

VII. Conclusions

Acute and chronic dietary exposure analyses were performed for amicarbazone. The analyses were based on tolerance level residues (modified by DEEM default processing factors) and the assumption that 100% of the crop will be treated. The estimated drinking water concentration included in the analyses was slightly higher than the final level recommended by EFED. HED considers these analyses to be conservative and unrefined. In both the acute and chronic analyses, the general U.S. population and all population subgroups have risk estimates that are below HED's level of concern. In the acute analysis, the most highly exposed subgroup (All Infants) utilizes 23% of the aPAD. The general U.S. population utilizes 7% of the aPAD. In the chronic analysis, the most highly exposed subgroup (All Infants) utilizes 39% of the cPAD. The general U.S. population utilizes 14% of the cPAD. For all population subgroups, the major contributor to the exposure estimates is drinking water.

As these dietary exposure analyses were very conservative, HED is confident that they do not underestimate risk to the general U.S. population or any population subgroup

VIII. List of Attachments

Attachment 1: Residue Input File
Attachment 2: Results of Acute Dietary Exposure Analysis
Attachment 3: Results of Chronic Dietary Exposure Analysis

cc: D. Dotson

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 10 of 13

Attachment 1: Residue Input File for Amicarbazone

Filename: C:\DEEMFCID\Amicarbazone\Amicarbazone.R98 Chemical: Amicarbazone

NOAEL (Chronic): 2.3 mg/kg bw/day

PAD (Chronic): 0.023 mg/kg bw/day

NOAEL (Acute): 10 mg/kg bw/day

PAD (Acute): 0.1 mg/kg bw/day

Date created/last modified: 03-18-2005/11:41:43/8

Program ver. 2.03

EPA Code	Crop Grp	Commodity Name	Def Res (ppm)	Adj. Factors #1	Adj. Factors #2	Comment
21000440	M	Beef, meat	0.012000	1.000	1.000	
21000441	M	Beef, meat-babyfood	0.012000	1.000	1.000	
21000450	M	Beef, meat, dried	0.012000	1.920	1.000	
21000460	M	Beef, meat byproducts	0.120000	1.000	1.000	
21000461	M	Beef, meat byproducts-babyfood	0.120000	1.000	1.000	
21000470	M	Beef, fat	0.010000	1.000	1.000	
21000471	M	Beef, fat-babyfood	0.010000	1.000	1.000	
21000480	M	Beef, kidney	0.120000	1.000	1.000	
21000490	M	Beef, liver	1.000000	1.000	1.000	
21000491	M	Beef, liver-babyfood	1.000000	1.000	1.000	
40000940	P	Chicken, liver	0.018000	1.000	1.000	
15001200	15	Corn, field, flour	0.050000	1.000	1.000	
15001201	15	Corn, field, flour-babyfood	0.050000	1.000	1.000	
15001210	15	Corn, field, meal	0.050000	1.000	1.000	
15001211	15	Corn, field, meal-babyfood	0.050000	1.000	1.000	
15001220	15	Corn, field, bran	0.050000	1.000	1.000	
15001230	15	Corn, field, starch	0.050000	1.000	1.000	
15001231	15	Corn, field, starch-babyfood	0.050000	1.000	1.000	
15001240	15	Corn, field, syrup	0.050000	1.500	1.000	
15001241	15	Corn, field, syrup-babyfood	0.050000	1.500	1.000	
15001250	15	Corn, field, oil	0.050000	1.000	1.000	
15001251	15	Corn, field, oil-babyfood	0.050000	1.000	1.000	
95001280	O	Cottonseed, oil	0.070000	1.000	1.000	
95001281	O	Cottonseed, oil-babyfood	0.070000	1.000	1.000	
23001690	M	Goat, meat	0.012000	1.000	1.000	
23001700	M	Goat, meat byproducts	0.120000	1.000	1.000	
23001710	M	Goat, fat	0.010000	1.000	1.000	
23001720	M	Goat, kidney	0.120000	1.000	1.000	
23001730	M	Goat, liver	1.000000	1.000	1.000	
24001890	M	Horse, meat	0.012000	1.000	1.000	
27002220	D	Milk, fat	0.016000	1.000	1.000	
27002221	D	Milk, fat - baby food/infant for	0.016000	1.000	1.000	
27012230	D	Milk, nonfat solids	0.016000	1.000	1.000	
27012231	D	Milk, nonfat solids-baby food/in	0.016000	1.000	1.000	
27022240	D	Milk, water	0.016000	1.000	1.000	
27022241	D	Milk, water-babyfood/infant form	0.016000	1.000	1.000	
27032251	D	Milk, sugar (lactose)-baby food/	0.016000	1.000	1.000	
25002900	M	Pork, meat	0.012000	1.000	1.000	
25002901	M	Pork, meat-babyfood	0.012000	1.000	1.000	
25002910	M	Pork, skin	0.012000	1.000	1.000	
25002920	M	Pork, meat byproducts	0.012000	1.000	1.000	
25002921	M	Pork, meat byproducts-babyfood	0.012000	1.000	1.000	
25002930	M	Pork, fat	0.010000	1.000	1.000	
25002931	M	Pork, fat-babyfood	0.010000	1.000	1.000	
25002940	M	Pork, kidney	0.012000	1.000	1.000	
25002950	M	Pork, liver	0.100000	1.000	1.000	
60003020	P	Poultry, other, liver	0.018000	1.000	1.000	
26003390	M	Sheep, meat	0.012000	1.000	1.000	
26003391	M	Sheep, meat-babyfood	0.012000	1.000	1.000	
26003400	M	Sheep, meat byproducts	0.120000	1.000	1.000	
26003410	M	Sheep, fat	0.010000	1.000	1.000	
26003411	M	Sheep, fat-babyfood	0.010000	1.000	1.000	
26003420	M	Sheep, kidney	0.120000	1.000	1.000	
26003430	M	Sheep, liver	1.000000	1.000	1.000	

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 11 of 13

06003470	6	Soybean, seed	0.800000	1.000	1.000
06003480	6	Soybean, flour	0.800000	1.000	1.000
06003481	6	Soybean, flour-babyfood	0.800000	1.000	1.000
06003490	6	Soybean, soy milk	0.800000	1.000	1.000
06003491	6	Soybean, soy milk-babyfood or in	0.800000	1.000	1.000
06003500	6	Soybean, oil	0.800000	1.000	1.000
06003501	6	Soybean, oil-babyfood	0.800000	1.000	1.000
50003830	P	Turkey, liver	0.018000	1.000	1.000
86010000	O	Water, direct, all sources	0.105200	1.000	1.000
86020000	O	Water, indirect, all sources	0.105200	1.000	1.000
15004010	15	Wheat, grain	0.170000	1.000	1.000
15004011	15	Wheat, grain-babyfood	0.170000	1.000	1.000
15004020	15	Wheat, flour	0.255000	1.000	1.000
15004021	15	Wheat, flour-babyfood	0.255000	1.000	1.000
15004030	15	Wheat, germ	0.255000	1.000	1.000
15004040	15	Wheat, bran	0.255000	1.000	1.000

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745
Page: 12 of 13

Attachment 2: Results of Acute Dietary Exposure Analysis

U.S. Environmental Protection Agency Ver. 2.02
 DEEM-FCID ACUTE Analysis for AMICARBAZONE (1994-98 data)
 Residue file: Amicarbazone.R98 Adjustment factor #2 NOT used.
 Analysis Date: 03-18-2005/11:45:33 Residue file dated: 03-18-2005/11:41:43/8
 NOAEL (Acute) = 10 mg/kg body-wt/day
 PAD (Acute) = 0.10 mg/kg body-wt/day
 Daily totals for food and foodform consumption used.

=====
 Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	% aRfD	Exposure	% aRfD	Exposure	% aRfD
U.S. Population:	0.007269	7.27	0.012290	12.29	0.023443	23.44
All infants:	0.023444	23.44	0.033330	33.33	0.055763	55.76
Children 1-2 yrs:	0.012278	12.28	0.018915	18.91	0.040343	40.34
Children 3-5 yrs:	0.011188	11.19	0.016204	16.20	0.031611	31.61
Children 6-12 yrs:	0.007855	7.86	0.011595	11.60	0.017152	17.15
Youth 13-19 yrs:	0.005720	5.72	0.008829	8.83	0.014222	14.22
Adults 20-49 yrs:	0.006141	6.14	0.009739	9.74	0.016470	16.47
Adults 50+ yrs:	0.005370	5.37	0.007497	7.50	0.011951	11.95
Females 13-49 yrs:	0.006099	6.10	0.009600	9.60	0.015649	15.65

Amicarbazone
PC Code: 114004

Dietary Exposure Assessment

DP Barcode: D313745

Page: 13 of 13

Attachment 3: Results of Chronic Dietary Exposure Analysis

U.S. Environmental Protection Agency Ver. 2.00
 DEEM-FCID Chronic analysis for AMICARBAZONE (1994-98 data)
 Residue file name: C:\DEEMFCID\Amicarbazone\Amicarbazone.R98
 Adjustment factor #2 NOT used.
 Analysis Date 03-18-2005/11:43:20 Residue file dated: 03-18-2005/11:41:43/8
 NOAEL (Chronic) = 2.3 mg/kg bw/day
 PAD (Chronic) = 0.023 mg/kg bw/day

Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of PAD
U.S. Population (total)	0.003240	14.1%
U.S. Population (spring season)	0.003226	14.0%
U.S. Population (summer season)	0.003382	14.7%
U.S. Population (autumn season)	0.003175	13.8%
U.S. Population (winter season)	0.003175	13.8%
Northeast region	0.003031	13.2%
Midwest region	0.003322	14.4%
Southern region	0.003087	13.4%
Western region	0.003584	15.6%
Hispanics	0.003555	15.5%
Non-hispanic whites	0.003177	13.8%
Non-hispanic blacks	0.003135	13.6%
Non-hisp/non-white/non-black	0.003828	16.6%
All infants (< 1 year)	0.008859	38.5%
Nursing infants	0.003223	14.0%
Non-nursing infants	0.010998	47.8%
Children 1-6 yrs	0.005592	24.3%
Children 7-12 yrs	0.003654	15.9%
Females 13-19 (not preg or nursing)	0.002474	10.8%
Females 20+ (not preg or nursing)	0.002887	12.6%
Females 13-50 yrs	0.002960	12.9%
Females 13+ (preg/not nursing)	0.003040	13.2%
Females 13+ (nursing)	0.004003	17.4%
Males 13-19 yrs	0.002806	12.2%
Males 20+ yrs	0.002779	12.1%
Seniors 55+	0.002793	12.1%
Children 1-2 yrs	0.005957	25.9%
Children 3-5 yrs	0.005572	24.2%
Children 6-12 yrs	0.003846	16.7%
Youth 13-19 yrs	0.002651	11.5%
Adults 20-49 yrs	0.002866	12.5%
Adults 50+ yrs	0.002803	12.2%
Females 13-49 yrs	0.002827	12.3%



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R112052

Chemical: Amicarbazone

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