



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

DATE: January 18, 2006

SUBJECT: Sulfuryl Fluoride and Fluoride Chronic Dietary Exposure Assessments for the Section 3 Registration of Sulfuryl Fluoride as a Fumigant for Various Foods and Food Processing Facilities.

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Executive Summary

Chronic 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 the requested registration of sulfuryl fluoride as a fumigant for pest management in foods and food processing facilities.

Assessments were conducted for food-borne residues of sulfuryl fluoride and fluoride anion, both of which may result from fumigation of foods and food processing facilities. For clarity, HED has conducted two sets of analyses. The first addresses all registered and proposed food fumigation uses for sulfuryl fluoride. These uses represent intentional, direct treatment of foods and include dried fruits, stored cereal grains, herbs and spices, dried peas and beans, tree nuts, cocoa beans, coconut, coffee beans, cottonseed, ginger, powdered milk, cheese, peanut, pine nut, and ham. The second analysis addresses inadvertent residues that may occur during space fumigations of grain milling facilities and food processing facilities. Because of the possibility of a food being intentionally fumigated (e.g., post-harvest fumigation of cocoa beans) and subsequently inadvertently fumigated (e.g., the same cocoa beans in a cocoa processing facility), the results of these two sets of analyses should be added together to get total dietary exposure estimates for sulfuryl fluoride and fluoride anion resulting from the two different intended uses.

A chronic population-adjusted dose (cPAD) of 0.003 mg/kg/day was used to assess dietary risk resulting from the consumption of sulfuryl fluoride. A separate analysis, using the toxicological findings of the Office of Water, was made for fluoride residues resulting from the use of sulfuryl fluoride. The RfD of 8 mg/day used in the fluoride risk assessments was selected to be protective of crippling skeletal fluorosis. The residue values used in the assessments are average values obtained from fumigation trials conducted with cereal grain commodities, tree nuts, dried fruits, finished foods (e.g., snack chips, cookies, etc.), and ingredient foods (powdered milk, powdered eggs, baking soda, etc.). The assessment incorporates estimates of the percentage of crops treated for the food fumigations and percentage of facilities and throughput treated (i.e., proportion of material that might be exposed during fumigation relative to the total annual production) for the space fumigations. As such, these assessments should be considered to be moderately refined. For fluoride, there are other potential sources of exposure that may be estimated using DEEM. These are background levels of fluoride that naturally occur in foods, fluoride in drinking water, and fluoride that results from the use of cryolite. Exposures from those sources were previously estimated (M. Doherty, D309014, 10/12/04) and will be combined with these food- and space-fumigation estimates in the forthcoming aggregate human health risk assessment.

Based on the available residue and use data, combined (food and space fumigation) chronic dietary exposure estimates for sulfuryl fluoride range from 0.000056 to 0.000225 mg/kg/day, depending on the population subgroup. Similarly, exposure estimates for fluoride anion range from 0.0829 to 0.6665 mg/day (note that in order to match the units of the RfD, exposure estimates for fluoride have been converted from mg/kg/day to mg/day). The estimates for

sulfuryl fluoride are less than or equal to 8% of the cPAD; those for fluoride are less than or equal to 8% of the RfD. Generally, HED is concerned when risk estimates exceed 100% of the dietary risk metric.

HED notes that this assessment is predicated upon the removal of dried eggs from the list of "Commodities That Can Be Fumigated" on the ProFume Label. Dow AgroSciences recently submitted a proposed label with that deletion.

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). For most instances, 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. In the case of fluoride, HED has relied on the analysis of the Office of Water.

For non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD (sulfuryl fluoride) or 100% of the maximum contaminant level (MCL) (fluoride anion). References which discuss 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 assessments for sulfuryl fluoride and fluoride anion were conducted in October of 2004 (M. Doherty, D309014, 10/12/2004). Those analyses include estimates of fluoride exposure from the use of sulfuryl fluoride and cryolite, as well as exposure through drinking water and background residues of fluoride in foods. Those exposure estimates should be combined with estimates from the current assessment to obtain total dietary exposure estimates.

II. Residue Information

Sulfuryl fluoride is a fumigant and has been registered for post-harvest control of pests in foods (stored cereal grains, tree nuts, dried fruits) and in grain milling facilities. The current request would expand the list of foods intended for direct fumigation and would expand uses to all food processing facilities. The residues of concern for sulfuryl fluoride are the parent compound and the fluoride anion, and separate assessments have been conducted for each. Tolerances for sulfuryl fluoride are listed in 40 CFR 180.575; those for fluoride anion are in 40 CFR 180.145.

Residue estimates for sulfuryl fluoride and fluoride are from trials conducted in fumigation chambers and grain milling facilities. Detailed information for chamber-fumigated commodities may be found in the Residue and Analytical Chemistry Summary Documents for Sulfuryl Fluoride (M. Doherty, D317730, 7/13/05; M. Doherty, D283007, 1/13/04). The available data

were translated to DEEM food entries as shown in Table 1. The Biological and Economic Analysis Division has provided HED with estimates of the percentage of food that is likely to be intentionally fumigated (see Attachment 12 to the 12/12/04 assessment referenced above) as well as the percentage of processing facilities that will likely be fumigated, the frequency of fumigation, as well as the extent of a given facility's production that would be exposed during fumigation (e-mail from C. Cook to C. Swartz dated 5/5/05; Attachment 9). The estimates of percent of commodity treated for the food fumigations are presented in Table 2 and range from 2% for stored cereal grains to 100% for commodities such as dried peas/beans and powdered milk. For the fumigation of food processing facilities, it is estimated that approximately 40% of the processing facilities would receive sulfuryl fluoride fumigation with, on average, 2.5 fumigations per year. Approximately one day's worth of production could be stored on-site and the facilities typically operate over 300 days per year. Combining these estimates gives a fraction of commodity treated estimate of $0.4 \times 2.5 \div 300 = 0.003$. This estimate was rounded up to 0.004 for the space fumigation analyses. For grain mills, HED assumed that 40% of the facilities would be treated, that there could be 3 fumigations per year, and 2 days worth of production exposed, giving a fraction of commodity treated estimate of $0.4 \times 6 \div 300 = 0.008$. Since cereal grain commodities could be exposed to sulfuryl fluoride at the mill and at the food processing facility, these two percent-commodity-treated estimates were added together for an overall inadvertent cereal grain commodity treated estimate of 1.1% $[(0.003 + 0.008) \times 100]$.

Since commodities would be exposed in their "final" form, processing factors are not used in this assessment. In the case of egg, only dried food forms are included in the analysis since that is the form that would be present in the processing facility. For milk, entries are restricted to the dried food form and the cured form; the latter to represent cheese. Ham is represented as cured pork.

The previous dietary risk assessment included a 0.1X processing factor for flour commodities to account for the practice of drawing down grain in the mills prior to fumigation and then flushing any residual grain/flour out of the mill with fresh material during startup and mill equilibration. The present assessment has removed that 0.1X factor to account for the ProFume label having been revised in 2005 to eliminate blending of fumigated flour with untreated flour.

This assessment addresses only the uses requested under PP#3F6573. The results of these analyses will be added to those of the previous analyses when HED conducts its aggregate human health risk assessments for sulfuryl fluoride and fluoride.

| DEEM Food | Fumigated Food or Commodity | Average Residue, ppm | |
|-----------------|-----------------------------|----------------------|----------------|
| | | Sulfuryl Fluoride | Fluoride Anion |
| Alfalfa, seed | Wheat Grain | 0.090 | 4.00 |
| Almond | Almond | 0.030 | 4.70 |
| Almond, oil | Corn Oil | 6.800 | 1.20 |
| Amaranth, grain | Wheat Grain | 0.090 | 4.00 |
| Apple, dried | Fig | 0.037 | 1.20 |
| Apricot, dried | Fig | 0.037 | 1.20 |

Table 1. Translation of Available Residue Data into DEEM Food Forms

| DEEM Food | Fumigated Food or Commodity | Average Residue, ppm | |
|----------------------------|-----------------------------|----------------------|----------------|
| | | Sulfuryl Fluoride | Fluoride Anion |
| Arrowroot, flour | Wheat Flour | 0.008 | 32.57 |
| Banana, dried | Fig | 0.037 | 1.20 |
| Barley, bran | Corn Bran | 0.020 | 24.00 |
| Barley, flour | Corn Flour | 0.020 | 17.10 |
| Barley, pearled barley | Corn Grain | 0.020 | 4.00 |
| Basil, dried leaves | Basil | 0.010 | 51.18 |
| Bean, great northern, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, black, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, broad, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, cowpea, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, kidney, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, lima, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, mung, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, navy, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, pink, seed | Cocoa Beans | 0.117 | 13.16 |
| Bean, pinto, seed | Cocoa Beans | 0.117 | 13.16 |
| Beef, meat, dried | Beef Jerky | 0.005 | 31.32 |
| Beet, sugar, molasses | Sugar | 0.002 | 0.77 |
| Brazil nut | Pecan | 2.400 | 8.60 |
| Buckwheat, flour | Wheat Flour | 0.008 | 32.57 |
| Butternut | Cocoa Beans | 0.117 | 13.16 |
| Cashew | Pecan | 2.400 | 8.60 |
| Chestnut | Pecan | 2.400 | 8.60 |
| Chickpea, flour | Wheat Flour | 0.008 | 32.57 |
| Chickpea, seed | Cocoa Beans | 0.117 | 13.16 |
| Chicory, roots | Ground Coffee | 0.816 | 10.79 |
| Chive | Parsley | 0.162 | 52.20 |
| Chrysanthemum, garland | Parsley | 0.162 | 52.20 |
| Cinnamon | Peppercorns | 0.015 | 5.96 |
| Cinnamon-babyfood | Peppercorns | 0.015 | 5.96 |
| Cocoa bean, chocolate | Cocoa Beans | 0.117 | 13.16 |
| Cocoa bean, powder | Cocoa Beans | 0.117 | 13.16 |
| Coconut, dried | Coconut | 0.900 | 35.18 |
| Coconut, meat | Coconut | 0.900 | 35.18 |
| Coconut, milk | Coconut | 0.900 | 35.18 |
| Coconut, oil | Corn Oil | 6.800 | 1.20 |
| Coffee, instant | Ground Coffee | 0.816 | 10.79 |
| Coffee, roasted bean | Coffee Beans | 0.011 | 7.15 |
| Coriander, seed | Peppercorns | 0.015 | 5.96 |
| Corn, field, bran | Corn Bran | 0.020 | 24.00 |
| Corn, field, flour | Corn Flour | 0.020 | 17.10 |
| Corn, field, meal | Corn Meal | 0.020 | 24.00 |
| Corn, field, oil | Corn Oil | 6.800 | 1.20 |
| Corn, field, starch | Corn Starch | 0.020 | 4.60 |
| Corn, field, syrup | Corn Syrup | 0.020 | 1.20 |
| Corn, pop | Corn Grain | 0.020 | 4.00 |

| DEEM Food | Fumigated Food or Commodity | Average Residue, ppm | |
|------------------------------|-----------------------------|----------------------|----------------|
| | | Sulfuryl Fluoride | Fluoride Anion |
| Cottonseed, oil | Corn Oil | 6.800 | 1.20 |
| Cranberry, dried | Raisin | 0.001 | 1.20 |
| Currant, dried | Raisin | 0.001 | 1.20 |
| Date | Fig | 0.037 | 1.20 |
| Dill, seed | Chili Peppers | 0.247 | 26.35 |
| Egg, white (dried) | Powdered Eggs | 0.444 | 755.34 |
| Egg, whole (dried) | Powdered Eggs | 0.444 | 755.34 |
| Fig, dried | Fig | 0.037 | 1.20 |
| Filbert | Pecan | 2.400 | 8.60 |
| Filbert, oil | Corn Oil | 6.800 | 1.20 |
| Flaxseed, oil | Corn Oil | 6.800 | 1.20 |
| Garlic, dried | Garlic Powder | 0.002 | 15.80 |
| Ginger, dried | Garlic Powder | 0.002 | 15.80 |
| Grape, raisin | Raisin | 0.001 | 1.20 |
| Guar, seed | Chili Peppers | 0.247 | 26.35 |
| Herbs, other | Basil | 0.010 | 51.18 |
| Hickory nut | Pecan | 2.400 | 8.60 |
| Lentil, seed | Cocoa Beans | 0.117 | 13.16 |
| Lychee, dried | Fig | 0.037 | 1.20 |
| Macadamia nut | Pecan | 2.400 | 8.60 |
| Mango, dried | Fig | 0.037 | 1.20 |
| Maple syrup | Sugar | 0.002 | 0.77 |
| Maple, sugar | Sugar | 0.002 | 0.77 |
| Marjoram | Basil | 0.010 | 51.18 |
| Milk, fat (dried) | Powdered Whole Milk | 1.453 | 1.69 |
| Milk, nonfat solids (dried) | Powdered Nonfat Milk | 0.002 | 2.36 |
| Milk, sugar (lactose, dried) | Powdered Nonfat Milk | 0.002 | 2.36 |
| Milk, water (dried) | Powdered Nonfat Milk | 0.002 | 2.36 |
| Milk, fat (cured) | Powdered Cheese | 0.408 | 4.48 |
| Milk, nonfat solids (cured) | Powdered Cheese | 0.408 | 4.48 |
| Milk, water (cured) | Powdered Cheese | 0.408 | 4.48 |
| Oat, bran | Wheat Bran | 0.008 | 35.95 |
| Oat, flour | Wheat Flour | 0.008 | 32.57 |
| Oat, groats/rolled oats | Wheat Grain | 0.090 | 4.00 |
| Olive, oil | Corn Oil | 6.800 | 1.20 |
| Onion, dry bulb, dried | Onion Powder | 0.002 | 1.17 |
| Palm, oil | Corn Oil | 6.800 | 1.20 |
| Papaya, dried | Fig | 0.037 | 1.20 |
| Parsley, dried leaves | Parsley | 0.162 | 52.20 |
| Pea, dry | Cocoa Beans | 0.117 | 13.16 |
| Pea, pigeon, seed | Cocoa Beans | 0.117 | 13.16 |
| Peach, dried | Fig | 0.037 | 1.20 |
| Peanut | Peanuts | 0.145 | 11.30 |
| Peanut, butter | Peanuts | 0.145 | 11.30 |
| Peanut, oil | Corn Oil | 6.800 | 1.20 |
| Pear, dried | Fig | 0.037 | 1.20 |

Table 1. Translation of Available Residue Data into DEEM Food Forms

| DEEM Food | Fumigated Food or Commodity | Average Residue, ppm | |
|--------------------------------|-----------------------------|----------------------|----------------|
| | | Sulfuryl Fluoride | Fluoride Anion |
| Pecan | Pecan | 2.400 | 8.60 |
| Pepper, bell, dried | Chili Peppers | 0.247 | 26.35 |
| Pepper, black and white | Peppercorns | 0.015 | 5.96 |
| Pepper, nonbell, dried | Chili Peppers | 0.247 | 26.35 |
| Peppermint, oil | Corn Oil | 6.800 | 1.20 |
| Pine nut | Pecan | 2.400 | 8.60 |
| Pineapple, dried | Fig | 0.037 | 1.20 |
| Pistachio | Pecan | 2.400 | 8.60 |
| Plantain, dried | Fig | 0.037 | 1.20 |
| Plum, prune, dried | Prune | 0.001 | 0.70 |
| Pork (cured) | Ham | 0.002 | 18.08 |
| Potato, chips | Doritos | 0.138 | 5.95 |
| Potato, dry (granules/ flakes) | Egg Noodles | 0.002 | 17.65 |
| Potato, flour | Wheat Flour | 0.008 | 32.57 |
| Psyllium, seed | Chili Peppers | 0.247 | 26.35 |
| Pumpkin, seed | Almond | 0.030 | 4.70 |
| Quinoa, grain | Wheat Grain | 0.090 | 4.00 |
| Rapeseed, oil | Corn Oil | 6.800 | 1.20 |
| Rice, bran | Rice Brown | 0.021 | 5.30 |
| Rice, brown | Rice Brown | 0.021 | 5.30 |
| Rye, flour | Wheat Flour | 0.008 | 32.57 |
| Safflower, oil | Corn Oil | 6.800 | 1.20 |
| Sesame, oil | Corn Oil | 6.800 | 1.20 |
| Sesame, seed | Chili Peppers | 0.247 | 26.35 |
| Sorghum, syrup | Corn Syrup | 0.020 | 1.20 |
| Soybean, flour | Corn Flour | 0.020 | 17.10 |
| Soybean, oil | Corn Oil | 6.800 | 1.20 |
| Soybean, soy milk | Powdered Whole Milk | 1.453 | 1.69 |
| Spearmint, oil | Corn Oil | 6.800 | 1.20 |
| Spices, other | Chili Peppers | 0.247 | 26.35 |
| Sugarcane, molasses | Sugar | 0.002 | 0.77 |
| Sugarcane, sugar | Sugar | 0.002 | 0.77 |
| Sunflower, oil | Corn Oil | 6.800 | 1.20 |
| Sunflower, seed | Chili Peppers | 0.247 | 26.35 |
| Tea, dried | Basil | 0.010 | 51.18 |
| Tea, instant | Basil | 0.010 | 51.18 |
| Tomato, dried | Fig | 0.037 | 1.20 |
| Triticale, flour | Wheat Flour | 0.008 | 32.57 |
| Turmeric | Chili Peppers | 0.247 | 26.35 |
| Walnut | Walnut | 0.600 | 5.60 |
| Wheat, bran | Wheat Bran | 0.008 | 35.95 |
| Wheat, flour | Wheat Flour | 0.008 | 32.57 |
| Wheat, germ | Wheat Germ | 0.020 | 58.00 |
| Wild rice | Brown Rice | 0.005 | 31.32 |

| Table 2. Estimates of Percent of Commodities Treated with Sulfuryl Fluoride | |
|---|--------------------|
| Food | % Treated Estimate |
| Food Fumigations | |
| Cheese | 100 |
| Cocoa bean | 100 |
| Coconut | 100 |
| Coffee bean | 100 |
| Cottonseed | 100 |
| Dried fruits | 40 |
| Dried peas and bean | 100 |
| Ginger | 100 |
| Ginseng | 100 |
| Ham | 100 |
| Herbs and spices | 100 |
| Peanut | 100 |
| Pine nut | 100 |
| Powdered milk | 100 |
| Stored cereal grain | 2 |
| Tree nuts | 20 |
| Space Fumigations | |
| Cereal grain commodities | 1.1 |
| All other commodities | 0.4 |

III. DEEM-FCID™ Program and Consumption Information

The sulfuryl fluoride and fluoride 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. 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.

IV. Toxicological Information

Sulfuryl Fluoride. On October 21, 2003, HED's Hazard Identification Assessment Review Committee (HIARC) met to re-evaluate the potential for increased susceptibility of infants and children from exposure to sulfuryl fluoride, as required by the Food Quality Protection Act (FQPA) of 1996, according to the 2002 OPP 10X Guidance Document. This re-evaluation was conducted to update the decision which was reached on April 11, 2001 using previous OPP policy. The findings of those meetings, as related to dietary exposure, are summarized in Table 3. Sulfuryl fluoride is classified as a "not likely" human carcinogen according to the EPA Draft Guidelines for Carcinogen Risk Assessment dated July, 1999; therefore, a cancer assessment is not necessary.

| Table 3. Summary of Dose and Endpoint Selection Relevant for use in Dietary Human Health Risk Assessments for Sulfuryl Fluoride. Kidwell, J. TXR No. 0052208. 10/31/03. Sulfuryl Fluoride - Second Report of the Hazard Identification Assessment Review Committee. | | | |
|---|---|---|--|
| Exposure Scenario | Dose Used in Risk Assessment, UF | Special FQPA SF and Level of Concern for Risk Assessment | Study and Toxicological Effects |
| Acute Dietary | None UF = N/A | Not applicable | No toxicological endpoint attributable to a single exposure was identified in the available toxicology studies on sulfuryl fluoride. |
| Chronic Dietary (All populations) | NOAEL= 8.5 mg/kg/day UF = 3000 Chronic RfD = 0.003 mg/kg/day | FQPA SF = 1X cPAD = chronic RfD FQPA SF = 0.003 mg/kg/day | 90-Day Inhalation - Rabbit LOAEL = 28 mg/kg/day based on vacuolation of white matter in the brain of females. |
| Cancer | Classified as "Not likely to be carcinogenic to humans" | | |

UF = uncertainty factor, FQPA SF = Special FQPA safety factor, NOAEL = no observed adverse effect level, LOAEL = lowest observed adverse effect level, PAD = population adjusted dose (a = acute, c = chronic) RfD = reference dose

Fluoride. HED is basing its fluoride risk assessments on the MCL for fluoride set by the Agency's Office of Water. In regulating fluoride levels in water, the Office of Water has determined that the MCL of 4 ppm provides adequate protection against skeletal fluorosis, which is the primary effect of concern (see Federal Register 50 FR 47142). The MCL was derived from a LOAEL of 20 mg/day and a safety factor of 2.5, giving a reference dose of 8 mg/day. In its assessment of the health effects of fluoride, the National Research Council came to the following conclusion concerning cancer risk posed to humans through exposure to fluoride:

The subcommittee concludes that the available laboratory data are insufficient to demonstrate a carcinogenic effect of fluoride in animals. The subcommittee also concludes that the weight of the evidence from more than 50 epidemiological studies

does not support the hypothesis of an association between fluoride exposure and increased cancer risk in humans. National Research Council, 1993.

The Agency for Toxic Substances and Disease Registry (ATSDR, 2001) and the World Health Organization (2002) have come to similar conclusions. Based on the findings of those bodies, HED believes that a cancer risk assessment for fluoride is not appropriate.

V. Results/Discussion

Dietary exposure and risk estimates associated with the proposed use of sulfuryl fluoride as a fumigant for foods and food processing facilities are presented in Table 4 (sulfuryl fluoride) and Table 5 (fluoride), below. The combined-use risk estimates for all population subgroups are well below HED's level of concern for both sulfuryl fluoride and fluoride.

Table 4. Sulfuryl Fluoride Chronic Dietary Exposure and Risk Estimates for Fumigation of Food and Food Processing Facilities with Sulfuryl Fluoride. The cPAD for sulfuryl fluoride is 0.003 mg/kg/day for all population subgroups.

| Population Subgroup | Food Fumigations | | Space Fumigations | | Food + Space | |
|------------------------|------------------------------|--------|------------------------------|--------|------------------------------|--------|
| | Exposure Estimate, mg/kg/day | % cPAD | Exposure Estimate, mg/kg/day | % cPAD | Exposure Estimate, mg/kg/day | % cPAD |
| U.S. Pop. (total) | 0.000064 | 2 | 0.000018 | 1 | 0.000082 | 3 |
| All infants (< 1 year) | 0.000041 | 1 | 0.000097 | 3 | 0.000138 | 5 |
| Children 1-2 yrs | 0.000189 | 6 | 0.000036 | 1 | 0.000225 | 8 |
| Children 3-5 yrs | 0.000177 | 6 | 0.000036 | 1 | 0.000213 | 7 |
| Children 6-12 yrs | 0.000100 | 3 | 0.000026 | 1 | 0.000126 | 4 |
| Youth 13-19 yrs | 0.000058 | 2 | 0.000017 | 1 | 0.000075 | 3 |
| Adults 20-49 yrs | 0.000047 | 2 | 0.000014 | <1 | 0.000061 | 2 |
| Adults 50+ yrs | 0.000045 | 2 | 0.000011 | <1 | 0.000056 | 2 |
| Females 13-49 yrs | 0.000046 | 2 | 0.000013 | <1 | 0.000059 | 2 |

Table 5. Fluoride Chronic Dietary Exposure and Risk Estimates for Fumigation of Food and Food Processing Facilities with Sulfuryl Fluoride. The RfD for fluoride is 8 mg/day for all population subgroups.

| Population Subgroup | NHANES Estimated Body Weight, kg* | Food Fumigations | | | Space Fumigations | | | Food + Space | |
|------------------------|-----------------------------------|-------------------|--------|-------|-------------------|--------|-------|---------------------------|-------|
| | | Exposure Estimate | | % RfD | Exposure Estimate | | % RfD | Exposure Estimate, mg/day | % RfD |
| | | mg/kg/day | mg/day | | mg/kg/day | mg/day | | | |
| U.S. Pop. (total) | 70 | 0.008701 | 0.6091 | 8 | 0.000820 | 0.0574 | 1 | 0.6665 | 8 |
| All infants (< 1 year) | 7 | 0.010972 | 0.0768 | 1 | 0.000876 | 0.0061 | <1 | 0.0829 | 1 |
| Children 1-2 yrs | 13 | 0.017980 | 0.2337 | 3 | 0.002052 | 0.0267 | <1 | 0.2604 | 3 |
| Children 3-5 yrs | 22 | 0.019274 | 0.4240 | 5 | 0.002009 | 0.0442 | 1 | 0.4682 | 6 |
| Children 6-12 yrs | 40 | 0.012879 | 0.5152 | 6 | 0.001361 | 0.0544 | 1 | 0.5696 | 7 |
| Youth 13-19 yrs | 60 | 0.008014 | 0.4808 | 6 | 0.000795 | 0.0477 | 1 | 0.5285 | 7 |
| Adults 20-49 yrs | 70 | 0.007212 | 0.5048 | 6 | 0.000660 | 0.0462 | 1 | 0.5510 | 7 |
| Adults 50+ yrs | 70 | 0.006670 | 0.4669 | 6 | 0.000516 | 0.0361 | <1 | 0.5030 | 6 |
| Females 13-49 yrs | 61 | 0.006398 | 0.3903 | 5 | 0.000603 | 0.0368 | <1 | 0.4271 | 5 |

* U.S. EPA. 2000. Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health. Office of Science and Technology, Office of Water EPA-822-B-00-004. Washington, DC.

VI. Characterization of Inputs/Outputs

All dietary assessments for both sulfuryl fluoride and fluoride anion presented in this document are based on average residues from trial fumigations and incorporate estimates of percentage of commodity treated. Since the residue values used in the assessment are based on maximum treatment rates and, in the case of sulfuryl fluoride, minimum aeration times, the residue values are expected to result in mid-to-high end estimates of dietary exposure to sulfuryl fluoride and fluoride anion.

VII. Conclusions

Dietary risk estimates associated with the proposed use of sulfuryl fluoride as a fumigant for foods and food processing facilities are well below HED's level of concern. Additional dietary sources of fluoride exposure were previously estimated and will be integrated with the estimates discussed in this assessment in the forthcoming aggregate human health risk assessment for sulfuryl fluoride.

VIII. List of Attachments

1. Sulfuryl Fluoride Food Fumigation Residue Inputs

2. Fluoride Food Fumigation Residue Inputs
3. Sulfuryl Fluoride Space Fumigation Residue Inputs
4. Fluoride Space Fumigation Residue Inputs
5. Sulfuryl Fluoride Food Fumigation Exposure and Risk Estimates
6. Fluoride Food Fumigation Exposure and Risk Estimates
7. Sulfuryl Fluoride Space Fumigation Exposure and Risk Estimates
8. Fluoride Space Fumigation Exposure and Risk Estimates
9. Percent of Processed Foods Treated (e-mail from C. Cook to C. Swartz)

Attachment 1: Sulfuryl Fluoride Food Fumigation Residue Inputs

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for SULFURYL FLUORIDE 1994-98 data
Residue file: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
Runs\Sulfuryl Fluoride\SF Food Fumigation.R98

Analysis Date 01-05-2006 Residue file dated: 01-05-2006/13:17:50/8
Reference dose (RfD) = 0.003 mg/kg bw/day Adjust. #2 used
Comment: RfD is cPAD

| Food Crop EPA Code | Grp | Food Name | Residue (ppm) | Adj. Factors | | Comment |
|-----------------------|-----|---------------------------------|------------------|--------------|-------|------------------|
| | | | | #1 | #2 | |
| 14000030 | 14 | Almond | 0.030000 | 1.000 | 0.200 | |
| 14000031 | 14 | Almond-babyfood | 0.030000 | 1.000 | 0.200 | |
| 11000090 | 11 | Apple, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 11000091 | 11 | Apple, dried-babyfood | 0.037000 | 1.000 | 0.400 | From Figs |
| 12000130 | 12 | Apricot, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 95000240 | O | Banana, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 95000241 | O | Banana, dried-babyfood | 0.037000 | 1.000 | 0.400 | From Figs |
| 15000250 | 15 | Barley, pearled barley | 0.020000 | 1.000 | 0.020 | |
| 15000251 | 15 | Barley, pearled barley-babyfood | 0.020000 | 1.000 | 0.020 | |
| 15000260 | 15 | Barley, flour | 0.020000 | 1.000 | 0.020 | |
| 15000261 | 15 | Barley, flour-babyfood | 0.020000 | 1.000 | 0.020 | |
| 15000270 | 15 | Barley, bran | 0.020000 | 1.000 | 0.020 | |
| 19010290 | 19A | Basil, dried leaves | 0.010000 | 1.000 | 1.000 | |
| 19010291 | 19A | Basil, dried leaves-babyfood | 0.010000 | 1.000 | 1.000 | |
| 06030300 | 6C | Bean, black, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030320 | 6C | Bean, broad, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030340 | 6C | Bean, cowpea, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030350 | 6C | Bean, great northern, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030360 | 6C | Bean, kidney, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030380 | 6C | Bean, lima, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030390 | 6C | Bean, mung, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030400 | 6C | Bean, navy, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030410 | 6C | Bean, pink, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030420 | 6C | Bean, pinto, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 21000450 | M | Beef, meat, dried | 0.005000 | 1.000 | 1.000 | |
| 14000590 | 14 | Brazil nut | 2.400000 | 1.000 | 0.200 | From Pecan |
| 14000680 | 14 | Butternut | 2.400000 | 1.000 | 0.200 | From Pecan |
| 14000810 | 14 | Cashew | 2.400000 | 1.000 | 0.200 | From Pecan |
| 14000920 | 14 | Chestnut | 2.400000 | 1.000 | 0.200 | From Pecan |
| 06030980 | 6C | Chickpea, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030981 | 6C | Chickpea, seed-babyfood | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030990 | 6C | Chickpea, flour | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 19011030 | 19A | Chive | 0.162000 | 1.000 | 1.000 | From Parsley |
| 19021050 | 19B | Cinnamon | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 19021051 | 19B | Cinnamon-babyfood | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 95001090 | O | Cocoa bean, chocolate | 0.117000 | 1.000 | 1.000 | |
| 95001100 | O | Cocoa bean, powder | 0.117000 | 1.000 | 1.000 | |
| 95001110 | O | Coconut, meat | 0.900000 | 1.000 | 1.000 | |
| 95001111 | O | Coconut- meat-babyfood | 0.900000 | 1.000 | 1.000 | |
| 95001120 | O | Coconut, dried | 0.900000 | 1.000 | 1.000 | From Figs |
| 95001130 | O | Coconut, milk | 0.900000 | 1.000 | 1.000 | |
| 95001150 | O | Coffee, roasted bean | 0.011000 | 1.000 | 1.000 | |
| 95001160 | O | Coffee, instant | 0.816000 | 1.000 | 1.000 | |
| 19011180 | 19A | Coriander, leaves | 0.162000 | 1.000 | 1.000 | From Parsley |
| 19011181 | 19A | Coriander, leaves-babyfood | 0.162000 | 1.000 | 1.000 | From Parsley |
| 19021190 | 19B | Coriander, seed | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 19021191 | 19B | Coriander, seed-babyfood | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 15001200 | 15 | Corn, field, flour | 0.020000 | 1.000 | 0.020 | |
| 15001201 | 15 | Corn, field, flour-babyfood | 0.020000 | 1.000 | 0.020 | |
| 15001210 | 15 | Corn, field, meal | 0.020000 | 1.000 | 0.020 | |
| 15001211 | 15 | Corn, field, meal-babyfood | 0.020000 | 1.000 | 0.020 | |
| 15001220 | 15 | Corn, field, bran | 0.020000 | 1.000 | 0.020 | |
| 15001230 | 15 | Corn, field, starch | 0.020000 | 1.000 | 0.020 | |
| 15001231 | 15 | Corn, field, starch-babyfood | 0.020000 | 1.000 | 0.020 | |
| 15001240 | 15 | Corn, field, syrup | 0.020000 | 1.000 | 0.020 | |
| 15001241 | 15 | Corn, field, syrup-babyfood | 0.020000 | 1.000 | 0.020 | |
| 15001260 | 15 | Corn, pop | 0.023000 | 1.000 | 0.020 | |

| | | | | | | |
|----------|-----|---|----------|-------|-------|--------------------|
| 15001270 | 15 | Corn, sweet | 0.023000 | 1.000 | 0.020 | |
| 15001271 | 15 | Corn, sweet-babyfood | 0.023000 | 1.000 | 0.020 | |
| 95001310 | O | Cranberry, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 95001410 | O | Date | | | | |
| | | 130-Uncooked; Dried; Cook Meth N/S | | | | |
| | | 0.037000 | 1.000 | 0.400 | | |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 0.000 | | |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.000 | |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.000 | |
| | | 230-Cooked; Dried; Cook Meth N/S | | | | |
| | | 0.037000 | 1.000 | 0.400 | | |
| 19021430 | 19B | Dill, seed | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 19011440 | 19A | Dillweed | 0.162000 | 1.000 | 1.000 | From Parsley |
| 95001540 | O | Fig, dried | 0.037000 | 1.000 | 0.400 | |
| 14001550 | 14 | Filbert | 2.400000 | 1.000 | 0.200 | From Pecan |
| 01031660 | 1CD | Ginger | 0.002000 | 1.000 | 1.000 | From Garlic Powder |
| 01031661 | 1CD | Ginger-babyfood | 0.002000 | 1.000 | 1.000 | From Garlic Powder |
| 01031670 | 1CD | Ginger, dried | 0.002000 | 1.000 | 1.000 | From Garlic Powder |
| 95001780 | O | Grape, raisin | 0.001000 | 1.000 | 0.400 | |
| 06031820 | 6C | Guar, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06031821 | 6C | Guar, seed-babyfood | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 19011840 | 19A | Herbs, other | 0.162000 | 1.000 | 1.000 | From Parsley |
| 19011841 | 19A | Herbs, other-babyfood | 0.162000 | 1.000 | 1.000 | From Parsley |
| 14001850 | 14 | Hickory nut | 2.400000 | 1.000 | 0.200 | From Pecan |
| 19012020 | 19A | Lemongrass | 0.162000 | 1.000 | 1.000 | From Parsley |
| 06032030 | 6C | Lentil, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 95002120 | O | Lychee, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 14002130 | 14 | Macadamia nut | 2.400000 | 1.000 | 0.200 | From Pecan |
| 95002160 | O | Mango, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 19012200 | 19A | Marjoram | 0.010000 | 1.000 | 1.000 | From Basil |
| 19012201 | 19A | Marjoram-babyfood | 0.010000 | 1.000 | 1.000 | From Basil |
| 27002220 | D | Milk, fat | | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | | |
| | | 120-Uncooked; Frozen; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | | |
| | | 130-Uncooked; Dried; Cook Meth N/S | | | | |
| | | 1.453000 | 1.000 | 1.000 | | |
| | | 150-Uncooked; Cured etc; Cook Meth N/S | | | | |
| | | 0.408000 | 1.000 | 1.000 | | |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | | |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 | |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 | |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 | |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 | |
| | | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 | |
| | | 220-Cooked; Frozen; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | | |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 | |
| | | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 | |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 1.000 | |
| | | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 1.000 | |
| | | 230-Cooked; Dried; Cook Meth N/S | | | | |
| | | 1.453000 | 1.000 | 1.000 | | |
| | | 231-Cooked; Dried; Baked | 1.453000 | 1.000 | 1.000 | |
| | | 232-Cooked; Dried; Boiled | 1.453000 | 1.000 | 1.000 | |
| | | 233-Cooked; Dried; Fried | 1.453000 | 1.000 | 1.000 | |
| | | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | | |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 | |
| | | 250-Cooked; Cured etc; Cook Meth N/S | | | | |
| | | 0.408000 | 1.000 | 1.000 | | |
| | | 253-Cooked; Cured etc; Fried | 0.408000 | 1.000 | 1.000 | |
| | | 255-Cooked; Cured etc; Boiled/baked | 0.408000 | 1.000 | 1.000 | |
| 27012230 | D | Milk, nonfat solids | | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | | |

| | | | | |
|------------|---|----------|-------|-------|
| | | 0.000000 | 1.000 | 1.000 |
| | 120-Uncooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | | | |
| | | 0.408000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 1.000 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |
| | 231-Cooked; Dried; Baked | 0.002000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.002000 | 1.000 | 1.000 |
| | 233-Cooked; Dried; Fried | 0.002000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 245-Cooked; Canned; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 0.408000 | 1.000 | 1.000 |
| | 253-Cooked; Cured etc; Fried | 0.408000 | 1.000 | 1.000 |
| | 255-Cooked; Cured etc; Boiled/baked | | | |
| | | 0.408000 | 1.000 | 1.000 |
| 27012231 D | Milk, nonfat solids-baby food/infant | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| 27022240 D | Milk, water | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 120-Uncooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | | | |
| | | 0.408000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 1.000 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |

| | | | | | |
|--------------|---|----------|-------|-------|------------------|
| | 231-Cooked; Dried; Baked | 0.002000 | 1.000 | 1.000 | |
| | 232-Cooked; Dried; Boiled | 0.002000 | 1.000 | 1.000 | |
| | 233-Cooked; Dried; Fried | 0.002000 | 1.000 | 1.000 | |
| | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | | |
| | | 0.408000 | 1.000 | 1.000 | |
| | 253-Cooked; Cured etc; Fried | 0.408000 | 1.000 | 1.000 | |
| | 255-Cooked; Cured etc; Boiled/baked | | | | |
| | | 0.408000 | 1.000 | 1.000 | |
| 27032251 D | Milk, sugar (lactose)-baby food/inf | | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 130-Uncooked; Dried; Cook Meth N/S | | | | |
| | | 0.002000 | 1.000 | 1.000 | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 212-Cooked; Fresh or N/S; Boiled | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 230-Cooked; Dried; Cook Meth N/S | | | | |
| | | 0.002000 | 1.000 | 1.000 | |
| | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| 15002260 15 | Millet, grain | 0.033000 | 1.000 | 0.020 | From Wheat Grain |
| 15002310 15 | Oat, bran | 0.008000 | 1.000 | 0.020 | |
| 15002320 15 | Oat, flour | 0.008000 | 1.000 | 0.020 | |
| 15002321 15 | Oat, flour-babyfood | 0.008000 | 1.000 | 0.020 | |
| 15002330 15 | Oat, groats/rolled oats | 0.008000 | 1.000 | 0.020 | |
| 15002331 15 | Oat, groats/rolled oats-babyfood | 0.008000 | 1.000 | 0.020 | |
| 95002460 O | Papaya, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 19012490 19A | Parsley, dried leaves | 0.162000 | 1.000 | 1.000 | |
| 19012491 19A | Parsley, dried leaves-babyfood | 0.162000 | 1.000 | 1.000 | |
| 06032560 6C | Pea, dry | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06032561 6C | Pea, dry-babyfood | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 06032580 6C | Pea, pigeon, seed | 0.117000 | 1.000 | 1.000 | From Cocoa Beans |
| 12002610 12 | Peach, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 12002611 12 | Peach, dried-babyfood | 0.037000 | 1.000 | 0.400 | From Figs |
| 95002630 O | Peanut | 0.145000 | 1.000 | 1.000 | |
| 95002640 O | Peanut, butter | 0.145000 | 1.000 | 1.000 | |
| 11002670 11 | Pear, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 14002690 14 | Pecan | 2.400000 | 1.000 | 0.200 | |
| 19022740 19B | Pepper, black and white | 0.015000 | 1.000 | 1.000 | |
| 19022741 19B | Pepper, black and white-babyfood | 0.015000 | 1.000 | 1.000 | |
| 95002780 O | Pine nut | 2.400000 | 1.000 | 1.000 | From Pecan |
| 95002800 O | Pineapple, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 14002820 14 | Pistachio | 2.400000 | 1.000 | 0.200 | From Pecan |
| 95002840 O | Plantain, dried | 0.037000 | 1.000 | 0.400 | From Figs |
| 12002870 12 | Plum, prune, dried | 0.001000 | 1.000 | 0.400 | |
| 12002871 12 | Plum, prune, dried-babyfood | 0.001000 | 1.000 | 0.400 | |
| 25002900 M | Pork, meat | | | | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 | |
| | 212-Cooked; Fresh or N/S; Boiled | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 | |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 220-Cooked; Frozen; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 | |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 230-Cooked; Dried; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | | |
| | | 0.002000 | 1.000 | 1.000 | |

| | | | | |
|------------|---|----------|-------|-------|
| | 251-Cooked; Cured etc; Baked | 0.002000 | 1.000 | 1.000 |
| | 252-Cooked; Cured etc; Boiled | 0.002000 | 1.000 | 1.000 |
| | 253-Cooked; Cured etc; Fried | 0.002000 | 1.000 | 1.000 |
| | 255-Cooked; Cured etc; Boiled/baked | | | |
| | | 0.002000 | 1.000 | 1.000 |
| 25002910 M | Pork, skin | | | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |
| 25002920 M | Pork, meat byproducts | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 120-Uncooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 231-Cooked; Dried; Baked | 0.000000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | 233-Cooked; Dried; Fried | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 0.002000 | 1.000 | 1.000 |
| | 252-Cooked; Cured etc; Boiled | 0.002000 | 1.000 | 1.000 |
| 25002930 M | Pork, fat | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |

| | | | | | | |
|----------|-----|-------------------------------------|----------|-------|-------|------------------|
| | | 251-Cooked; Cured etc; Baked | 0.002000 | 1.000 | 1.000 | |
| | | 252-Cooked; Cured etc; Boiled | 0.002000 | 1.000 | 1.000 | |
| | | 253-Cooked; Cured etc; Fried | 0.002000 | 1.000 | 1.000 | |
| | | 255-Cooked; Cured etc; Boiled/baked | | | | |
| | | | 0.002000 | 1.000 | 1.000 | |
| 15003230 | 15 | Rice, white | 0.021000 | 1.000 | 0.020 | From Rice Grain |
| 15003231 | 15 | Rice, white-babyfood | 0.021000 | 1.000 | 0.020 | From Rice Grain |
| 15003240 | 15 | Rice, brown | 0.021000 | 1.000 | 0.020 | From Rice Grain |
| 15003241 | 15 | Rice, brown-babyfood | 0.021000 | 1.000 | 0.020 | From Rice Grain |
| 15003250 | 15 | Rice, flour | 0.021000 | 1.000 | 0.020 | |
| 15003251 | 15 | Rice, flour-babyfood | 0.021000 | 1.000 | 0.020 | |
| 15003260 | 15 | Rice, bran | 0.021000 | 1.000 | 0.020 | |
| 15003261 | 15 | Rice, bran-babyfood | 0.021000 | 1.000 | 0.020 | |
| 19013340 | 19A | Savory | 0.162000 | 1.000 | 1.000 | From Parsley |
| 15003440 | 15 | Sorghum, grain | 0.023000 | 1.000 | 0.020 | From Corn Grain |
| 19023540 | 19B | Spices, other | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 19023541 | 19B | Spices, other-babyfood | 0.015000 | 1.000 | 1.000 | From Peppercorns |
| 14003910 | 14 | Walnut | 0.600000 | 1.000 | 0.200 | |
| 15004010 | 15 | Wheat, grain | 0.033000 | 1.000 | 0.020 | |
| 15004011 | 15 | Wheat, grain-babyfood | 0.033000 | 1.000 | 0.020 | |
| 15004020 | 15 | Wheat, flour | 0.008000 | 1.000 | 0.020 | |
| 15004021 | 15 | Wheat, flour-babyfood | 0.008000 | 1.000 | 0.020 | |
| 15004030 | 15 | Wheat, germ | 0.020000 | 1.000 | 0.020 | |
| 15004040 | 15 | Wheat, bran | 0.008000 | 1.000 | 0.020 | |
| 15004050 | 15 | Wild rice | 0.021000 | 1.000 | 0.020 | |

Attachment 2: Fluoride Food Fumigation Residue Inputs

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for FLUORIDE 1994-98 data
Residue file: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
Runs\Sulfuryl Fluoride\F Food Fumigation.R98

Analysis Date 01-05-2006 Residue file dated: 01-05-2006/13:19:46/8
Reference dose (RfD) = 0.114 mg/kg bw/day
Adjust. #2 used
Comment: RfD is converted Fluoride MCL and for adult pops only.

| Food Crop EPA Code | Grp | Food Name | Residue (ppm) | Adj. Factors | | Comment |
|-----------------------|-----|---------------------------------|------------------|--------------|-------|------------------|
| | | | | #1 | #2 | |
| 14000030 | 14 | Almond | 4.700000 | 1.000 | 0.200 | |
| 14000031 | 14 | Almond-babyfood | 4.700000 | 1.000 | 0.200 | |
| 11000090 | 11 | Apple, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 11000091 | 11 | Apple, dried-babyfood | 1.200000 | 1.000 | 0.400 | From Figs |
| 12000130 | 12 | Apricot, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 95000240 | O | Banana, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 95000241 | O | Banana, dried-babyfood | 1.200000 | 1.000 | 0.400 | From Figs |
| 15000250 | 15 | Barley, pearled barley | 6.270000 | 1.000 | 0.020 | |
| 15000251 | 15 | Barley, pearled barley-babyfood | 6.270000 | 1.000 | 0.020 | |
| 15000260 | 15 | Barley, flour | 32.570000 | 1.000 | 0.020 | |
| 15000261 | 15 | Barley, flour-babyfood | 32.570000 | 1.000 | 0.020 | |
| 15000270 | 15 | Barley, bran | 35.950000 | 1.000 | 0.020 | |
| 19010290 | 19A | Basil, dried leaves | 51.180000 | 1.000 | 1.000 | |
| 19010291 | 19A | Basil, dried leaves-babyfood | 51.180000 | 1.000 | 1.000 | |
| 06030300 | 6C | Bean, black, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030320 | 6C | Bean, broad, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030340 | 6C | Bean, cowpea, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030350 | 6C | Bean, great northern, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030360 | 6C | Bean, kidney, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030380 | 6C | Bean, lima, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030390 | 6C | Bean, mung, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030400 | 6C | Bean, navy, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030410 | 6C | Bean, pink, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030420 | 6C | Bean, pinto, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 21000450 | M | Beef, meat, dried | 31.320000 | 1.000 | 1.000 | |
| 14000590 | 14 | Brazil nut | 8.600000 | 1.000 | 0.200 | From Pecan |
| 14000680 | 14 | Butternut | 8.600000 | 1.000 | 0.200 | From Pecan |
| 14000810 | 14 | Cashew | 8.600000 | 1.000 | 0.200 | From Pecan |
| 14000920 | 14 | Chestnut | 8.600000 | 1.000 | 0.200 | From Pecan |
| 06030980 | 6C | Chickpea, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030981 | 6C | Chickpea, seed-babyfood | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06030990 | 6C | Chickpea, flour | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 19011030 | 19A | Chive | 52.200000 | 1.000 | 1.000 | From Parsley |
| 19021050 | 19B | Cinnamon | 5.960000 | 1.000 | 1.000 | From Peppercorns |
| 19021051 | 19B | Cinnamon-babyfood | 5.960000 | 1.000 | 1.000 | From Peppercorns |
| 95001090 | O | Cocoa bean, chocolate | 13.160000 | 1.000 | 1.000 | |
| 95001100 | O | Cocoa bean, powder | 13.160000 | 1.000 | 1.000 | |
| 95001110 | O | Coconut, meat | 35.180000 | 1.000 | 1.000 | |
| 95001111 | O | Coconut- meat-babyfood | 35.180000 | 1.000 | 1.000 | |
| 95001120 | O | Coconut, dried | 35.180000 | 1.000 | 1.000 | From Figs |
| 95001130 | O | Coconut, milk | 35.180000 | 1.000 | 1.000 | |
| 95001150 | O | Coffee, roasted bean | 7.150000 | 1.000 | 1.000 | |
| 95001160 | O | Coffee, instant | 10.790000 | 1.000 | 1.000 | |
| 19011180 | 19A | Coriander, leaves | 52.200000 | 1.000 | 1.000 | From Parsley |
| 19011181 | 19A | Coriander, leaves-babyfood | 52.200000 | 1.000 | 1.000 | From Parsley |
| 19021190 | 19B | Coriander, seed | 5.960000 | 1.000 | 1.000 | From Peppercorns |
| 19021191 | 19B | Coriander, seed-babyfood | 5.960000 | 1.000 | 1.000 | From Peppercorns |
| 15001200 | 15 | Corn, field, flour | 17.100000 | 1.000 | 0.020 | |
| 15001201 | 15 | Corn, field, flour-babyfood | 17.100000 | 1.000 | 0.020 | |
| 15001210 | 15 | Corn, field, meal | 24.000000 | 1.000 | 0.020 | |
| 15001211 | 15 | Corn, field, meal-babyfood | 24.000000 | 1.000 | 0.020 | |
| 15001220 | 15 | Corn, field, bran | 24.000000 | 1.000 | 0.020 | |
| 15001230 | 15 | Corn, field, starch | 17.100000 | 1.000 | 0.020 | |
| 15001231 | 15 | Corn, field, starch-babyfood | 17.100000 | 1.000 | 0.020 | |
| 15001240 | 15 | Corn, field, syrup | 1.200000 | 1.000 | 0.020 | |
| 15001241 | 15 | Corn, field, syrup-babyfood | 1.200000 | 1.000 | 0.020 | |
| 15001260 | 15 | Corn, pop | 4.000000 | 1.000 | 0.020 | |

| | | | | | | |
|----------|-----|---|-----------|-------|-------|--------------------|
| 15001270 | 15 | Corn, sweet | 4.000000 | 1.000 | 0.020 | |
| 15001271 | 15 | Corn, sweet-babyfood | 4.000000 | 1.000 | 0.020 | |
| 95001310 | O | Cranberry, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 95001410 | O | Date | | | | |
| | | 130-Uncooked; Dried; Cook Meth N/S | 1.200000 | 1.000 | 0.400 | |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.000 | |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.000 | |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.000 | |
| | | 230-Cooked; Dried; Cook Meth N/S | 1.200000 | 1.000 | 0.400 | |
| 19021430 | 19B | Dill, seed | 5.960000 | 1.000 | 1.000 | From Peppercorns |
| 19011440 | 19A | Dillweed | 52.200000 | 1.000 | 1.000 | From Parsley |
| 95001540 | O | Fig, dried | 1.200000 | 1.000 | 0.400 | |
| 14001550 | 14 | Filbert | 8.600000 | 1.000 | 0.200 | From Pecan |
| 01031660 | 1CD | Ginger | 15.800000 | 1.000 | 1.000 | From Garlic Powder |
| 01031661 | 1CD | Ginger-babyfood | 15.800000 | 1.000 | 1.000 | From Garlic Powder |
| 01031670 | 1CD | Ginger, dried | 15.800000 | 1.000 | 1.000 | From Garlic Powder |
| 95001780 | O | Grape, raisin | 1.200000 | 1.000 | 0.400 | |
| 06031820 | 6C | Guar, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06031821 | 6C | Guar, seed-babyfood | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 19011840 | 19A | Herbs, other | 52.200000 | 1.000 | 1.000 | From Parsley |
| 19011841 | 19A | Herbs, other-babyfood | 52.200000 | 1.000 | 1.000 | From Parsley |
| 14001850 | 14 | Hickory nut | 8.600000 | 1.000 | 0.200 | From Pecan |
| 19012020 | 19A | Lemongrass | 52.200000 | 1.000 | 1.000 | From Parsley |
| 06032030 | 6C | Lentil, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 95002120 | O | Lychee, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 14002130 | 14 | Macadamia nut | 8.600000 | 1.000 | 0.200 | From Pecan |
| 95002160 | O | Mango, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 19012200 | 19A | Marjoram | 51.180000 | 1.000 | 1.000 | From Basil |
| 19012201 | 19A | Marjoram-babyfood | 51.180000 | 1.000 | 1.000 | From Basil |
| 27002220 | D | Milk, fat | | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 | |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 | |
| | | 130-Uncooked; Dried; Cook Meth N/S | 1.690000 | 1.000 | 1.000 | |
| | | 150-Uncooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 1.000 | |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 | |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 | |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 | |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 | |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 | |
| | | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 | |
| | | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 | |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 | |
| | | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 | |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 1.000 | |
| | | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 1.000 | |
| | | 230-Cooked; Dried; Cook Meth N/S | 1.690000 | 1.000 | 1.000 | |
| | | 231-Cooked; Dried; Baked | 1.690000 | 1.000 | 1.000 | |
| | | 232-Cooked; Dried; Boiled | 1.690000 | 1.000 | 1.000 | |
| | | 233-Cooked; Dried; Fried | 1.690000 | 1.000 | 1.000 | |
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 1.000 | |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 | |
| | | 250-Cooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 1.000 | |
| | | 253-Cooked; Cured etc; Fried | 4.480000 | 1.000 | 1.000 | |
| | | 255-Cooked; Cured etc; Boiled/baked | 4.480000 | 1.000 | 1.000 | |
| 27012230 | D | Milk, nonfat solids | | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | | |

| | | | | |
|------------|---|----------|-------|-------|
| | | 0.000000 | 1.000 | 1.000 |
| | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 1.000 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 1.000 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 1.000 |
| | 231-Cooked; Dried; Baked | 2.360000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 2.360000 | 1.000 | 1.000 |
| | 233-Cooked; Dried; Fried | 2.360000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 245-Cooked; Canned; Boiled/baked | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 1.000 |
| | 253-Cooked; Cured etc; Fried | 4.480000 | 1.000 | 1.000 |
| | 255-Cooked; Cured etc; Boiled/baked | 4.480000 | 1.000 | 1.000 |
| 27012231 D | Milk, nonfat solids-baby food/infant | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| 27022240 D | Milk, water | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 1.000 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 1.000 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 1.000 |

| | | | | | |
|--------------|---|-----------|-------|-------|------------------|
| | 231-Cooked; Dried; Baked | 2.360000 | 1.000 | 1.000 | |
| | 232-Cooked; Dried; Boiled | 2.360000 | 1.000 | 1.000 | |
| | 233-Cooked; Dried; Fried | 2.360000 | 1.000 | 1.000 | |
| | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | | |
| | | 4.480000 | 1.000 | 1.000 | |
| | 253-Cooked; Cured etc; Fried | 4.480000 | 1.000 | 1.000 | |
| | 255-Cooked; Cured etc; Boiled/baked | | | | |
| | | 4.480000 | 1.000 | 1.000 | |
| 27032251 D | Milk, sugar (lactose)-baby food/infa | | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 130-Uncooked; Dried; Cook Meth N/S | | | | |
| | | 2.360000 | 1.000 | 1.000 | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 212-Cooked; Fresh or N/S; Boiled | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 230-Cooked; Dried; Cook Meth N/S | | | | |
| | | 2.360000 | 1.000 | 1.000 | |
| | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| 15002260 15 | Millet, grain | 4.990000 | 1.000 | 0.020 | From Wheat Grain |
| 15002310 15 | Oat, bran | 35.950000 | 1.000 | 0.020 | |
| 15002320 15 | Oat, flour | 32.570000 | 1.000 | 0.020 | |
| 15002321 15 | Oat, flour-babyfood | 32.570000 | 1.000 | 0.020 | |
| 15002330 15 | Oat, groats/rolled oats | 50.000000 | 1.000 | 0.020 | |
| 15002331 15 | Oat, groats/rolled oats-babyfood | 50.000000 | 1.000 | 0.020 | |
| 95002460 O | Papaya, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 19012490 19A | Parsley, dried leaves | 52.200000 | 1.000 | 1.000 | |
| 19012491 19A | Parsley, dried leaves-babyfood | 52.200000 | 1.000 | 1.000 | |
| 06032560 6C | Pea, dry | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06032561 6C | Pea, dry-babyfood | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 06032580 6C | Pea, pigeon, seed | 13.160000 | 1.000 | 1.000 | From Cocoa Beans |
| 12002610 12 | Peach, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 12002611 12 | Peach, dried-babyfood | 1.200000 | 1.000 | 0.400 | From Figs |
| 95002630 O | Peanut | 11.300000 | 1.000 | 1.000 | |
| 95002640 O | Peanut, butter | 11.300000 | 1.000 | 1.000 | |
| 11002670 11 | Pear, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 14002690 14 | Pecan | 8.600000 | 1.000 | 0.200 | |
| 19022740 19B | Pepper, black and white | 5.960000 | 1.000 | 1.000 | |
| 19022741 19B | Pepper, black and white-babyfood | 5.960000 | 1.000 | 1.000 | |
| 95002780 O | Pine nut | 8.600000 | 1.000 | 1.000 | From Pecan |
| 95002800 O | Pineapple, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 14002820 14 | Pistachio | 8.600000 | 1.000 | 0.200 | |
| 95002840 O | Plantain, dried | 1.200000 | 1.000 | 0.400 | From Figs |
| 12002870 12 | Plum, prune, dried | 0.700000 | 1.000 | 0.400 | |
| 12002871 12 | Plum, prune, dried-babyfood | 0.700000 | 1.000 | 0.400 | |
| 25002900 M | Pork, meat | | | | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 | |
| | 212-Cooked; Fresh or N/S; Boiled | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 | |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 220-Cooked; Frozen; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 | |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 230-Cooked; Dried; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 240-Cooked; Canned; Cook Meth N/S | | | | |
| | | 0.000000 | 1.000 | 1.000 | |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 | |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | | |
| | | 18.080000 | 1.000 | 1.000 | |

| | | | | |
|------------|---|-----------|-------|-------|
| | 251-Cooked; Cured etc; Baked | 18.080000 | 1.000 | 1.000 |
| | 252-Cooked; Cured etc; Boiled | 18.080000 | 1.000 | 1.000 |
| | 253-Cooked; Cured etc; Fried | 18.080000 | 1.000 | 1.000 |
| | 255-Cooked; Cured etc; Boiled/baked | | | |
| | | 18.080000 | 1.000 | 1.000 |
| 25002910 M | Pork, skin | | | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 18.080000 | 1.000 | 1.000 |
| 25002920 M | Pork, meat byproducts | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 120-Uncooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 231-Cooked; Dried; Baked | 0.000000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | 233-Cooked; Dried; Fried | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 18.080000 | 1.000 | 1.000 |
| | 252-Cooked; Cured etc; Boiled | 18.080000 | 1.000 | 1.000 |
| 25002930 M | Pork, fat | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 18.080000 | 1.000 | 1.000 |
| | 251-Cooked; Cured etc; Baked | 18.080000 | 1.000 | 1.000 |

| | | | | | |
|----------|-------------------------------------|-----------|-------|-------|-----------------|
| | 252-Cooked; Cured etc; Boiled | 18.080000 | 1.000 | 1.000 | |
| | 253-Cooked; Cured etc; Fried | 18.080000 | 1.000 | 1.000 | |
| | 255-Cooked; Cured etc; Boiled/baked | | | | |
| | | 18.080000 | 1.000 | 1.000 | |
| 15003230 | 15 Rice, white | 5.300000 | 1.000 | 0.020 | From Rice Grain |
| 15003231 | 15 Rice, white-babyfood | 5.300000 | 1.000 | 0.020 | From Rice Grain |
| 15003240 | 15 Rice, brown | 5.300000 | 1.000 | 0.020 | From Rice Grain |
| 15003241 | 15 Rice, brown-babyfood | 5.300000 | 1.000 | 0.020 | From Rice Grain |
| 15003250 | 15 Rice, flour | 32.570000 | 1.000 | 0.020 | |
| 15003251 | 15 Rice, flour-babyfood | 32.570000 | 1.000 | 0.020 | |
| 15003260 | 15 Rice, bran | 25.900000 | 1.000 | 0.020 | |
| 15003261 | 15 Rice, bran-babyfood | 25.900000 | 1.000 | 0.020 | |
| 19013340 | 19A Savory | 52.200000 | 1.000 | 1.000 | From Parsley |
| 15003440 | 15 Sorghum, grain | 4.000000 | 1.000 | 0.020 | From Corn Grain |
| 19023540 | 19B Spices, other | 51.180000 | 1.000 | 1.000 | From Basil |
| 19023541 | 19B Spices, other-babyfood | 51.180000 | 1.000 | 1.000 | From Basil |
| 15003810 | 15 Triticale, flour | 32.570000 | 1.000 | 0.020 | |
| 15003811 | 15 Triticale, flour-babyfood | 32.570000 | 1.000 | 0.020 | |
| 14003910 | 14 Walnut | 5.600000 | 1.000 | 0.200 | |
| 15004010 | 15 Wheat, grain | 4.990000 | 1.000 | 0.020 | |
| 15004011 | 15 Wheat, grain-babyfood | 4.990000 | 1.000 | 0.020 | |
| 15004020 | 15 Wheat, flour | 32.570000 | 1.000 | 0.020 | |
| 15004021 | 15 Wheat, flour-babyfood | 32.570000 | 1.000 | 0.020 | |
| 15004030 | 15 Wheat, germ | 58.000000 | 1.000 | 0.020 | |
| 15004040 | 15 Wheat, bran | 35.950000 | 1.000 | 0.020 | |
| 15004050 | 15 Wild rice | 5.300000 | 1.000 | 0.020 | |

Attachment 3: Sulfuryl Fluoride Space Fumigation Residue Inputs

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for SULFURYL FLUORIDE 1994-98 data
Residue file: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
Runs\Sulfuryl Fluoride\SF Space Fumigation.R98

Analysis Date 01-05-2006 Residue file dated: 01-05-2006/13:16:35/8
Reference dose (RfD) = 0.003 mg/kg bw/day Adjust. #2 used

| Food Crop EPA Code | Grp | Food Name | Residue (ppm) | Adj.Factors | | Comment |
|-----------------------|-----|---------------------------------|------------------|-------------|-------|---------|
| | | | | #1 | #2 | |
| 18000020 | 18 | Alfalfa, seed | 0.090000 | 1.000 | 0.004 | |
| 14000030 | 14 | Almond | 0.030000 | 1.000 | 0.004 | |
| 14000031 | 14 | Almond-babyfood | 0.030000 | 1.000 | 0.004 | |
| 14000040 | 14 | Almond, oil | 6.800000 | 1.000 | 0.004 | |
| 14000041 | 14 | Almond, oil-babyfood | 6.800000 | 1.000 | 0.004 | |
| 95000060 | O | Amaranth, grain | 0.090000 | 1.000 | 0.004 | |
| 11000090 | 11 | Apple, dried | 0.037000 | 1.000 | 0.004 | |
| 11000091 | 11 | Apple, dried-babyfood | 0.037000 | 1.000 | 0.004 | |
| 12000130 | 12 | Apricot, dried | 0.037000 | 1.000 | 0.004 | |
| 01030150 | 1CD | Arrowroot, flour | 0.008000 | 1.000 | 0.004 | |
| 01030151 | 1CD | Arrowroot, flour-babyfood | 0.008000 | 1.000 | 0.004 | |
| 95000240 | O | Banana, dried | 0.037000 | 1.000 | 0.004 | |
| 95000241 | O | Banana, dried-babyfood | 0.037000 | 1.000 | 0.004 | |
| 15000250 | 15 | Barley, pearled barley | 0.020000 | 1.000 | 0.011 | |
| 15000251 | 15 | Barley, pearled barley-babyfood | 0.020000 | 1.000 | 0.011 | |
| 15000260 | 15 | Barley, flour | 0.020000 | 1.000 | 0.011 | |
| 15000261 | 15 | Barley, flour-babyfood | 0.020000 | 1.000 | 0.011 | |
| 15000270 | 15 | Barley, bran | 0.020000 | 1.000 | 0.011 | |
| 19010280 | 19A | Basil, fresh leaves | 0.016200 | 1.000 | 0.004 | |
| 19010281 | 19A | Basil, fresh leaves-babyfood | 0.016200 | 1.000 | 0.004 | |
| 19010290 | 19A | Basil, dried leaves | 0.010000 | 1.000 | 0.004 | |
| 19010291 | 19A | Basil, dried leaves-babyfood | 0.010000 | 1.000 | 0.004 | |
| 06030300 | 6C | Bean, black, seed | 0.117000 | 1.000 | 0.004 | |
| 06030320 | 6C | Bean, broad, seed | 0.117000 | 1.000 | 0.004 | |
| 06030340 | 6C | Bean, cowpea, seed | 0.117000 | 1.000 | 0.004 | |
| 06030350 | 6C | Bean, great northern, seed | 0.117000 | 1.000 | 0.004 | |
| 06030360 | 6C | Bean, kidney, seed | 0.117000 | 1.000 | 0.004 | |
| 06030380 | 6C | Bean, lima, seed | 0.117000 | 1.000 | 0.004 | |
| 06030390 | 6C | Bean, mung, seed | 0.117000 | 1.000 | 0.004 | |
| 06030400 | 6C | Bean, navy, seed | 0.117000 | 1.000 | 0.004 | |
| 06030410 | 6C | Bean, pink, seed | 0.117000 | 1.000 | 0.004 | |
| 06030420 | 6C | Bean, pinto, seed | 0.117000 | 1.000 | 0.004 | |
| 21000450 | M | Beef, meat, dried | 0.005000 | 1.000 | 0.004 | |
| 01010530 | 1A | Beet, sugar, molasses | 0.002000 | 1.000 | 0.004 | |
| 01010531 | 1A | Beet, sugar, molasses-babyfood | 0.002000 | 1.000 | 0.004 | |
| 14000590 | 14 | Brazil nut | 2.400000 | 1.000 | 0.004 | |
| 15000660 | 15 | Buckwheat, flour | 0.008000 | 1.000 | 0.011 | |
| 14000680 | 14 | Butternut | 2.400000 | 1.000 | 0.004 | |
| 14000810 | 14 | Cashew | 2.400000 | 1.000 | 0.004 | |
| 14000920 | 14 | Chestnut | 2.400000 | 1.000 | 0.004 | |
| 06030980 | 6C | Chickpea, seed | 0.117000 | 1.000 | 0.004 | |
| 06030981 | 6C | Chickpea, seed-babyfood | 0.117000 | 1.000 | 0.004 | |
| 06030990 | 6C | Chickpea, flour | 0.117000 | 1.000 | 0.004 | |
| 01011000 | 1AB | Chicory, roots | 0.816000 | 1.000 | 0.004 | |
| 19011030 | 19A | Chive | 0.162000 | 1.000 | 0.004 | |
| 04011040 | 4A | Chrysanthemum, garland | 0.162000 | 1.000 | 0.004 | |
| 19021050 | 19B | Cinnamon | 0.015000 | 1.000 | 0.004 | |
| 19021051 | 19B | Cinnamon-babyfood | 0.015000 | 1.000 | 0.004 | |
| 95001090 | O | Cocoa bean, chocolate | 0.117000 | 1.000 | 0.004 | |
| 95001100 | O | Cocoa bean, powder | 0.117000 | 1.000 | 0.004 | |
| 95001110 | O | Coconut, meat | 0.900000 | 1.000 | 0.004 | |
| 95001111 | O | Coconut- meat-babyfood | 0.900000 | 1.000 | 0.004 | |
| 95001120 | O | Coconut, dried | 0.900000 | 1.000 | 0.004 | |
| 95001130 | O | Coconut, milk | 0.900000 | 1.000 | 0.004 | |
| 95001140 | O | Coconut, oil | 6.800000 | 1.000 | 0.004 | |
| 95001141 | O | Coconut, oil-babyfood | 6.800000 | 1.000 | 0.004 | |
| 95001150 | O | Coffee, roasted bean | 0.011000 | 1.000 | 0.004 | |

| | | | | | |
|----------|-----|---|----------|-------|-------|
| 95001160 | O | Coffee, instant | 0.816000 | 1.000 | 0.004 |
| 19011180 | 19A | Coriander, leaves | 0.162000 | 1.000 | 0.004 |
| 19011181 | 19A | Coriander, leaves-babyfood | 0.162000 | 1.000 | 0.004 |
| 19021190 | 19B | Coriander, seed | 0.015000 | 1.000 | 0.004 |
| 19021191 | 19B | Coriander, seed-babyfood | 0.015000 | 1.000 | 0.004 |
| 15001200 | 15 | Corn, field, flour | 0.020000 | 1.000 | 0.011 |
| 15001201 | 15 | Corn, field, flour-babyfood | 0.020000 | 1.000 | 0.011 |
| 15001210 | 15 | Corn, field, meal | 0.020000 | 1.000 | 0.011 |
| 15001211 | 15 | Corn, field, meal-babyfood | 0.020000 | 1.000 | 0.011 |
| 15001220 | 15 | Corn, field, bran | 0.020000 | 1.000 | 0.011 |
| 15001230 | 15 | Corn, field, starch | 0.020000 | 1.000 | 0.011 |
| 15001231 | 15 | Corn, field, starch-babyfood | 0.020000 | 1.000 | 0.011 |
| 15001240 | 15 | Corn, field, syrup | 0.020000 | 1.000 | 0.011 |
| 15001241 | 15 | Corn, field, syrup-babyfood | 0.020000 | 1.000 | 0.011 |
| 15001250 | 15 | Corn, field, oil | 6.800000 | 1.000 | 0.011 |
| 15001251 | 15 | Corn, field, oil-babyfood | 6.800000 | 1.000 | 0.011 |
| 15001260 | 15 | Corn, pop | 0.023000 | 1.000 | 0.011 |
| 95001280 | O | Cottonseed, oil | 6.800000 | 1.000 | 0.004 |
| 95001281 | O | Cottonseed, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 95001310 | O | Cranberry, dried | 0.037000 | 1.000 | 0.004 |
| 13021370 | 13B | Currant, dried | 0.037000 | 1.000 | 0.004 |
| 95001410 | O | Date | 0.037000 | 1.000 | 0.004 |
| 19021430 | 19B | Dill, seed | 0.015000 | 1.000 | 0.004 |
| 19011440 | 19A | Dillweed | 0.162000 | 1.000 | 0.004 |
| 70001450 | P | Egg, whole | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 230-Cooked; Dried; Cook Meth N/S | 0.444000 | 1.000 | 0.004 |
| | | 232-Cooked; Dried; Boiled | 0.444000 | 1.000 | 0.004 |
| | | 233-Cooked; Dried; Fried | 0.444000 | 1.000 | 0.004 |
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 252-Cooked; Cured etc; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 253-Cooked; Cured etc; Fried | 0.000000 | 1.000 | 0.004 |
| 70001460 | P | Egg, white | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.444000 | 1.000 | 0.004 |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 130-Uncooked; Dried; Cook Meth N/S | 0.444000 | 1.000 | 0.004 |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | | 230-Cooked; Dried; Cook Meth N/S | 0.444000 | 1.000 | 0.004 |
| | | 232-Cooked; Dried; Boiled | 0.444000 | 1.000 | 0.004 |
| | | 233-Cooked; Dried; Fried | 0.444000 | 1.000 | 0.004 |

| | | | | | |
|----------|-----|---|----------|-------|-------|
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | | 0.000000 | 1.000 | 0.004 |
| 70001461 | P | Egg, white (solids)-babyfood | 0.444000 | 1.000 | 0.004 |
| 95001540 | O | Fig, dried | 0.037000 | 1.000 | 0.004 |
| 14001550 | 14 | Filbert | 2.400000 | 1.000 | 0.004 |
| 14001560 | 14 | Filbert, oil | 6.800000 | 1.000 | 0.004 |
| 20001630 | 20 | Flaxseed, oil | 6.800000 | 1.000 | 0.004 |
| 03001650 | 3 | Garlic, dried | 0.002000 | 1.000 | 0.004 |
| 03001651 | 3 | Garlic, dried-babyfood | 0.002000 | 1.000 | 0.004 |
| 01031670 | 1CD | Ginger, dried | 0.002000 | 1.000 | 0.004 |
| 01011680 | 1AB | Ginseng, dried | 0.002000 | 1.000 | 0.004 |
| 95001780 | O | Grape, raisin | 0.001000 | 1.000 | 0.004 |
| 06031820 | 6C | Guar, seed | 0.117000 | 1.000 | 0.004 |
| 06031821 | 6C | Guar, seed-babyfood | 0.117000 | 1.000 | 0.004 |
| 19011840 | 19A | Herbs, other | 0.162000 | 1.000 | 0.004 |
| 19011841 | 19A | Herbs, other-babyfood | 0.162000 | 1.000 | 0.004 |
| 14001850 | 14 | Hickory nut | 2.400000 | 1.000 | 0.004 |
| 19012020 | 19A | Lemongrass | 0.162000 | 1.000 | 0.004 |
| 06032030 | 6C | Lentil, seed | 0.117000 | 1.000 | 0.004 |
| 95002120 | O | Lychee, dried | 0.037000 | 1.000 | 0.004 |
| 14002130 | 14 | Macadamia nut | 2.400000 | 1.000 | 0.004 |
| 95002160 | O | Mango, dried | 0.037000 | 1.000 | 0.004 |
| 95002180 | O | Maple, sugar | 0.002000 | 1.000 | 0.004 |
| 95002190 | O | Maple syrup | 0.002000 | 1.000 | 0.004 |
| 19012200 | 19A | Marjoram | 0.010000 | 1.000 | 0.004 |
| 19012201 | 19A | Marjoram-babyfood | 0.010000 | 1.000 | 0.004 |
| 27002220 | D | Milk, fat | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 130-Uncooked; Dried; Cook Meth N/S | 1.453000 | 1.000 | 0.004 |
| | | 150-Uncooked; Cured etc; Cook Meth N/S | 0.408000 | 1.000 | 0.004 |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 230-Cooked; Dried; Cook Meth N/S | 1.453000 | 1.000 | 0.004 |
| | | 231-Cooked; Dried; Baked | 1.453000 | 1.000 | 0.004 |
| | | 232-Cooked; Dried; Boiled | 1.453000 | 1.000 | 0.004 |
| | | 233-Cooked; Dried; Fried | 1.453000 | 1.000 | 0.004 |
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 250-Cooked; Cured etc; Cook Meth N/S | 0.408000 | 1.000 | 0.004 |
| | | 253-Cooked; Cured etc; Fried | 0.408000 | 1.000 | 0.004 |
| | | 255-Cooked; Cured etc; Boiled/baked | 0.408000 | 1.000 | 0.004 |
| 27012230 | D | Milk, nonfat solids | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |

| | | | | |
|------------|---|----------|-------|-------|
| | 130-Uncooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | 0.408000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 0.004 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 231-Cooked; Dried; Baked | 0.002000 | 1.000 | 0.004 |
| | 232-Cooked; Dried; Boiled | 0.002000 | 1.000 | 0.004 |
| | 233-Cooked; Dried; Fried | 0.002000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | 245-Cooked; Canned; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | 250-Cooked; Cured etc; Cook Meth N/S | 0.408000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 0.408000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | 0.408000 | 1.000 | 0.004 |
| 27012231 D | Milk, nonfat solids-baby food/infant | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| 27022240 D | Milk, water | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | 0.408000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 0.004 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 231-Cooked; Dried; Baked | 0.002000 | 1.000 | 0.004 |
| | 232-Cooked; Dried; Boiled | 0.002000 | 1.000 | 0.004 |

| | | | | |
|--------------|---|----------|-------|-------|
| | 233-Cooked; Dried; Fried | 0.002000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | 250-Cooked; Cured etc; Cook Meth N/S | 0.408000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 0.408000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | 0.408000 | 1.000 | 0.004 |
| 27032251 D | Milk, sugar (lactose)-baby food/infant | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| 15002260 15 | Millet, grain | 0.033000 | 1.000 | 0.011 |
| 15002310 15 | Oat, bran | 0.008000 | 1.000 | 0.011 |
| 15002320 15 | Oat, flour | 0.008000 | 1.000 | 0.011 |
| 15002321 15 | Oat, flour-babyfood | 0.008000 | 1.000 | 0.011 |
| 15002330 15 | Oat, groats/rolled oats | 0.008000 | 1.000 | 0.011 |
| 15002331 15 | Oat, groats/rolled oats-babyfood | 0.008000 | 1.000 | 0.011 |
| 95002360 0 | Olive, oil | 6.800000 | 1.000 | 0.004 |
| 03002380 3 | Onion, dry bulb, dried | 0.002000 | 1.000 | 0.004 |
| 03002381 3 | Onion, dry bulb, dried-babyfood | 0.002000 | 1.000 | 0.004 |
| 95002440 0 | Palm, oil | 6.800000 | 1.000 | 0.004 |
| 95002441 0 | Palm, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 95002460 0 | Papaya, dried | 0.037000 | 1.000 | 0.004 |
| 19012490 19A | Parsley, dried leaves | 0.162000 | 1.000 | 0.004 |
| 19012491 19A | Parsley, dried leaves-babyfood | 0.162000 | 1.000 | 0.004 |
| 06032560 6C | Pea, dry | 0.117000 | 1.000 | 0.004 |
| 06032561 6C | Pea, dry-babyfood | 0.117000 | 1.000 | 0.004 |
| 06032580 6C | Pea, pigeon, seed | 0.117000 | 1.000 | 0.004 |
| 12002610 12 | Peach, dried | 0.037000 | 1.000 | 0.004 |
| 12002611 12 | Peach, dried-babyfood | 0.037000 | 1.000 | 0.004 |
| 95002630 0 | Peanut | 0.145000 | 1.000 | 0.004 |
| 95002640 0 | Peanut, butter | 0.145000 | 1.000 | 0.004 |
| 95002650 0 | Peanut, oil | 6.800000 | 1.000 | 0.004 |
| 11002670 11 | Pear, dried | 0.037000 | 1.000 | 0.004 |
| 14002690 14 | Pecan | 2.400000 | 1.000 | 0.004 |
| 08002710 8 | Pepper, bell, dried | 0.247000 | 1.000 | 0.004 |
| 08002711 8 | Pepper, bell, dried-babyfood | 0.247000 | 1.000 | 0.004 |
| 08002730 8 | Pepper, nonbell, dried | 0.247000 | 1.000 | 0.004 |
| 19022740 19B | Pepper, black and white | 0.015000 | 1.000 | 0.004 |
| 19022741 19B | Pepper, black and white-babyfood | 0.015000 | 1.000 | 0.004 |
| 95002760 0 | Peppermint, oil | 6.800000 | 1.000 | 0.004 |
| 95002780 0 | Pine nut | 2.400000 | 1.000 | 0.004 |
| 95002800 0 | Pineapple, dried | 0.037000 | 1.000 | 0.004 |
| 14002820 14 | Pistachio | 2.400000 | 1.000 | 0.004 |
| 95002840 0 | Plantain, dried | 0.037000 | 1.000 | 0.004 |
| 12002870 12 | Plum, prune, dried | 0.001000 | 1.000 | 0.004 |
| 12002871 12 | Plum, prune, dried-babyfood | 0.001000 | 1.000 | 0.004 |
| 25002900 M | Pork, meat | | | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |

| | | | | | |
|----------|-----|---|----------|-------|-------|
| | | 230-Cooked; Dried; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | | 250-Cooked; Cured etc; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | | 251-Cooked; Cured etc; Baked | 0.002000 | 1.000 | 0.004 |
| | | 252-Cooked; Cured etc; Boiled | 0.002000 | 1.000 | 0.004 |
| | | 253-Cooked; Cured etc; Fried | 0.002000 | 1.000 | 0.004 |
| | | 255-Cooked; Cured etc; Boiled/baked | 0.002000 | 1.000 | 0.004 |
| 25002901 | M | Pork, meat-babyfood | 0.002000 | 1.000 | 0.004 |
| 25002930 | M | Pork, fat | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 |
| | | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | | 230-Cooked; Dried; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | | 250-Cooked; Cured etc; Cook Meth N/S | 0.002000 | 1.000 | 0.004 |
| | | 251-Cooked; Cured etc; Baked | 0.002000 | 1.000 | 0.004 |
| | | 252-Cooked; Cured etc; Boiled | 0.002000 | 1.000 | 0.004 |
| | | 253-Cooked; Cured etc; Fried | 0.002000 | 1.000 | 0.004 |
| | | 255-Cooked; Cured etc; Boiled/baked | 0.002000 | 1.000 | 0.004 |
| 01032960 | 1C | Potato, chips | 0.138000 | 1.000 | 0.004 |
| 01032970 | 1C | Potato, dry (granules/ flakes) | 0.002000 | 1.000 | 0.004 |
| 01032971 | 1C | Potato, dry (granules/ flakes)-b | 0.002000 | 1.000 | 0.004 |
| 01032980 | 1C | Potato, flour | 0.008000 | 1.000 | 0.004 |
| 01032981 | 1C | Potato, flour-babyfood | 0.008000 | 1.000 | 0.004 |
| 95003060 | O | Psyllium, seed | 0.247000 | 1.000 | 0.004 |
| 09023090 | 9B | Pumpkin, seed | 0.030000 | 1.000 | 0.004 |
| 95003110 | O | Quinoa, grain | 0.090000 | 1.000 | 0.004 |
| 20003190 | 20 | Rapeseed, oil | 6.800000 | 1.000 | 0.004 |
| 20003191 | 20 | Rapeseed, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 15003230 | 15 | Rice, white | 0.021000 | 1.000 | 0.011 |
| 15003231 | 15 | Rice, white-babyfood | 0.021000 | 1.000 | 0.011 |
| 15003240 | 15 | Rice, brown | 0.021000 | 1.000 | 0.011 |
| 15003241 | 15 | Rice, brown-babyfood | 0.021000 | 1.000 | 0.011 |
| 15003250 | 15 | Rice, flour | 0.021000 | 1.000 | 0.011 |
| 15003251 | 15 | Rice, flour-babyfood | 0.021000 | 1.000 | 0.011 |
| 15003260 | 15 | Rice, bran | 0.021000 | 1.000 | 0.011 |
| 15003261 | 15 | Rice, bran-babyfood | 0.021000 | 1.000 | 0.011 |
| 15003290 | 15 | Rye, flour | 0.008000 | 1.000 | 0.011 |
| 20003300 | 20 | Safflower, oil | 6.800000 | 1.000 | 0.004 |
| 20003301 | 20 | Safflower, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 19013340 | 19A | Savory | 0.162000 | 1.000 | 0.004 |
| 95003360 | O | Sesame, seed | 0.247000 | 1.000 | 0.004 |
| 95003361 | O | Sesame, seed-babyfood | 0.247000 | 1.000 | 0.004 |
| 95003370 | O | Sesame, oil | 6.800000 | 1.000 | 0.004 |
| 95003371 | O | Sesame, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 15003440 | 15 | Sorghum, grain | 0.023000 | 1.000 | 0.011 |
| 15003450 | 15 | Sorghum, syrup | 0.020000 | 1.000 | 0.011 |
| 06003480 | 6 | Soybean, flour | 0.020000 | 1.000 | 0.004 |

| | | | | | |
|----------|-----|----------------------------------|----------|-------|-------|
| 06003481 | 6 | Soybean, flour-babyfood | 0.020000 | 1.000 | 0.004 |
| 06003490 | 6 | Soybean, soy milk | 1.453000 | 1.000 | 0.004 |
| 06003491 | 6 | Soybean, soy milk-babyfood or in | 1.453000 | 1.000 | 0.004 |
| 06003500 | 6 | Soybean, oil | 6.800000 | 1.000 | 0.004 |
| 06003501 | 6 | Soybean, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 95003530 | 0 | Spearmint, oil | 6.800000 | 1.000 | 0.004 |
| 19023540 | 19B | Spices, other | 0.015000 | 1.000 | 0.004 |
| 19023541 | 19B | Spices, other-babyfood | 0.015000 | 1.000 | 0.004 |
| 95003620 | 0 | Sugarcane, sugar | 0.002000 | 1.000 | 0.004 |
| 95003621 | 0 | Sugarcane, sugar-babyfood | 0.002000 | 1.000 | 0.004 |
| 95003630 | 0 | Sugarcane, molasses | 0.002000 | 1.000 | 0.004 |
| 95003631 | 0 | Sugarcane, molasses-babyfood | 0.002000 | 1.000 | 0.004 |
| 20003640 | 20 | Sunflower, seed | 0.247000 | 1.000 | 0.004 |
| 20003650 | 20 | Sunflower, oil | 6.800000 | 1.000 | 0.004 |
| 20003651 | 20 | Sunflower, oil-babyfood | 6.800000 | 1.000 | 0.004 |
| 95003720 | 0 | Tea, dried | 0.010000 | 1.000 | 0.004 |
| 95003730 | 0 | Tea, instant | 0.010000 | 1.000 | 0.004 |
| 08003780 | 8 | Tomato, dried | 0.037000 | 1.000 | 0.004 |
| 08003781 | 8 | Tomato, dried-babyfood | 0.037000 | 1.000 | 0.004 |
| 15003810 | 15 | Triticale, flour | 0.008000 | 1.000 | 0.011 |
| 15003811 | 15 | Triticale, flour-babyfood | 0.008000 | 1.000 | 0.011 |
| 01033870 | 1CD | Turmeric | 0.247000 | 1.000 | 0.004 |
| 14003910 | 14 | Walnut | 0.600000 | 1.000 | 0.004 |
| 15004010 | 15 | Wheat, grain | 0.033000 | 1.000 | 0.011 |
| 15004011 | 15 | Wheat, grain-babyfood | 0.033000 | 1.000 | 0.011 |
| 15004020 | 15 | Wheat, flour | 0.008000 | 1.000 | 0.011 |
| 15004021 | 15 | Wheat, flour-babyfood | 0.008000 | 1.000 | 0.011 |
| 15004030 | 15 | Wheat, germ | 0.020000 | 1.000 | 0.011 |
| 15004040 | 15 | Wheat, bran | 0.008000 | 1.000 | 0.011 |
| 15004050 | 15 | Wild rice | 0.021000 | 1.000 | 0.011 |

Attachment 4: Fluoride Space Fumigation Residue Inputs

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for FLUORIDE 1994-98 data
Residue file: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
Runs\Sulfuryl Fluoride\F Space Fumigation.R98

Analysis Date 01-05-2006 Residue file dated: 01-05-2006/13:18:31/8
Reference dose (RfD) = 0.114 mg/kg bw/day
Adjust. #2 used
Comment: RfD is converted Fluoride MCL and is valid for adult pops. only

| Food Crop EPA Code | Grp | Food Name | Residue (ppm) | Adj. Factors | | Comment |
|-----------------------|-----|---------------------------------|------------------|--------------|-------|---------|
| | | | | #1 | #2 | |
| 18000020 | 18 | Alfalfa, seed | 4.000000 | 1.000 | 0.004 | |
| 14000030 | 14 | Almond | 4.700000 | 1.000 | 0.004 | |
| 14000031 | 14 | Almond-babyfood | 4.700000 | 1.000 | 0.004 | |
| 14000040 | 14 | Almond, oil | 1.200000 | 1.000 | 0.004 | |
| 14000041 | 14 | Almond, oil-babyfood | 1.200000 | 1.000 | 0.004 | |
| 95000060 | O | Amaranth, grain | 4.000000 | 1.000 | 0.004 | |
| 11000090 | 11 | Apple, dried | 1.200000 | 1.000 | 0.004 | |
| 11000091 | 11 | Apple, dried-babyfood | 1.200000 | 1.000 | 0.004 | |
| 12000130 | 12 | Apricot, dried | 1.200000 | 1.000 | 0.004 | |
| 01030150 | 1CD | Arrowroot, flour | 4.990000 | 1.000 | 0.004 | |
| 01030151 | 1CD | Arrowroot, flour-babyfood | 4.990000 | 1.000 | 0.004 | |
| 95000240 | O | Banana, dried | 1.200000 | 1.000 | 0.004 | |
| 95000241 | O | Banana, dried-babyfood | 1.200000 | 1.000 | 0.004 | |
| 15000250 | 15 | Barley, pearled barley | 50.000000 | 1.000 | 0.011 | |
| 15000251 | 15 | Barley, pearled barley-babyfood | 50.000000 | 1.000 | 0.011 | |
| 15000260 | 15 | Barley, flour | 32.570000 | 1.000 | 0.011 | |
| 15000261 | 15 | Barley, flour-babyfood | 32.570000 | 1.000 | 0.011 | |
| 15000270 | 15 | Barley, bran | 50.000000 | 1.000 | 0.011 | |
| 19010280 | 19A | Basil, fresh leaves | 51.180000 | 1.000 | 0.004 | |
| 19010281 | 19A | Basil, fresh leaves-babyfood | 51.180000 | 1.000 | 0.004 | |
| 19010290 | 19A | Basil, dried leaves | 51.180000 | 1.000 | 0.004 | |
| 19010291 | 19A | Basil, dried leaves-babyfood | 51.180000 | 1.000 | 0.004 | |
| 06030300 | 6C | Bean, black, seed | 13.160000 | 1.000 | 0.004 | |
| 06030320 | 6C | Bean, broad, seed | 13.160000 | 1.000 | 0.004 | |
| 06030340 | 6C | Bean, cowpea, seed | 13.160000 | 1.000 | 0.004 | |
| 06030350 | 6C | Bean, great northern, seed | 13.160000 | 1.000 | 0.004 | |
| 06030360 | 6C | Bean, kidney, seed | 13.160000 | 1.000 | 0.004 | |
| 06030380 | 6C | Bean, lima, seed | 13.160000 | 1.000 | 0.004 | |
| 06030390 | 6C | Bean, mung, seed | 13.160000 | 1.000 | 0.004 | |
| 06030400 | 6C | Bean, navy, seed | 13.160000 | 1.000 | 0.004 | |
| 06030410 | 6C | Bean, pink, seed | 13.160000 | 1.000 | 0.004 | |
| 06030420 | 6C | Bean, pinto, seed | 13.160000 | 1.000 | 0.004 | |
| 21000450 | M | Beef, meat, dried | 31.320000 | 1.000 | 0.004 | |
| 01010530 | 1A | Beet, sugar, molasses | 0.770000 | 1.000 | 0.004 | |
| 01010531 | 1A | Beet, sugar, molasses-babyfood | 0.770000 | 1.000 | 0.004 | |
| 14000590 | 14 | Brazil nut | 8.600000 | 1.000 | 0.004 | |
| 15000660 | 15 | Buckwheat, flour | 32.570000 | 1.000 | 0.011 | |
| 14000680 | 14 | Butternut | 8.600000 | 1.000 | 0.004 | |
| 14000810 | 14 | Cashew | 8.600000 | 1.000 | 0.004 | |
| 14000920 | 14 | Chestnut | 8.600000 | 1.000 | 0.004 | |
| 06030980 | 6C | Chickpea, seed | 13.160000 | 1.000 | 0.004 | |
| 06030981 | 6C | Chickpea, seed-babyfood | 13.160000 | 1.000 | 0.004 | |
| 06030990 | 6C | Chickpea, flour | 13.160000 | 1.000 | 0.004 | |
| 01011000 | 1AB | Chicory, roots | 10.790000 | 1.000 | 0.004 | |
| 19011030 | 19A | Chive | 52.200000 | 1.000 | 0.004 | |
| 04011040 | 4A | Chrysanthemum, garland | 52.200000 | 1.000 | 0.004 | |
| 19021050 | 19B | Cinnamon | 5.960000 | 1.000 | 0.004 | |
| 19021051 | 19B | Cinnamon-babyfood | 5.960000 | 1.000 | 0.004 | |
| 95001090 | O | Cocoa bean, chocolate | 13.160000 | 1.000 | 0.004 | |
| 95001100 | O | Cocoa bean, powder | 13.160000 | 1.000 | 0.004 | |
| 95001110 | O | Coconut, meat | 35.180000 | 1.000 | 0.004 | |
| 95001111 | O | Coconut- meat-babyfood | 35.180000 | 1.000 | 0.004 | |
| 95001120 | O | Coconut, dried | 35.180000 | 1.000 | 0.004 | |
| 95001130 | O | Coconut, milk | 35.180000 | 1.000 | 0.004 | |
| 95001140 | O | Coconut, oil | 1.200000 | 1.000 | 0.004 | |
| 95001141 | O | Coconut, oil-babyfood | 1.200000 | 1.000 | 0.004 | |

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|----------|-----|---|------------|-------|-------|
| 95001150 | O | Coffee, roasted bean | 7.150000 | 1.000 | 0.004 |
| 95001160 | O | Coffee, instant | 10.790000 | 1.000 | 0.004 |
| 19011180 | 19A | Coriander, leaves | 52.200000 | 1.000 | 0.004 |
| 19011181 | 19A | Coriander, leaves-babyfood | 52.200000 | 1.000 | 0.004 |
| 19021190 | 19B | Coriander, seed | 5.960000 | 1.000 | 0.004 |
| 19021191 | 19B | Coriander, seed-babyfood | 5.960000 | 1.000 | 0.004 |
| 15001200 | 15 | Corn, field, flour | 17.100000 | 1.000 | 0.011 |
| 15001201 | 15 | Corn, field, flour-babyfood | 17.100000 | 1.000 | 0.011 |
| 15001210 | 15 | Corn, field, meal | 24.000000 | 1.000 | 0.011 |
| 15001211 | 15 | Corn, field, meal-babyfood | 24.000000 | 1.000 | 0.011 |
| 15001220 | 15 | Corn, field, bran | 24.000000 | 1.000 | 0.011 |
| 15001230 | 15 | Corn, field, starch | 17.100000 | 1.000 | 0.011 |
| 15001231 | 15 | Corn, field, starch-babyfood | 17.100000 | 1.000 | 0.011 |
| 15001240 | 15 | Corn, field, syrup | 1.200000 | 1.000 | 0.011 |
| 15001241 | 15 | Corn, field, syrup-babyfood | 1.200000 | 1.000 | 0.011 |
| 15001250 | 15 | Corn, field, oil | 1.200000 | 1.000 | 0.011 |
| 15001251 | 15 | Corn, field, oil-babyfood | 1.200000 | 1.000 | 0.011 |
| 15001260 | 15 | Corn, pop | 4.000000 | 1.000 | 0.011 |
| 95001280 | O | Cottonseed, oil | 1.200000 | 1.000 | 0.004 |
| 95001281 | O | Cottonseed, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 95001310 | O | Cranberry, dried | 1.200000 | 1.000 | 0.004 |
| 13021370 | 13B | Currant, dried | 1.200000 | 1.000 | 0.004 |
| 95001410 | O | Date | 1.200000 | 1.000 | 0.004 |
| 19021430 | 19B | Dill, seed | 26.350000 | 1.000 | 0.004 |
| 19011440 | 19A | Dillweed | 52.200000 | 1.000 | 0.004 |
| 70001450 | P | Egg, whole | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 230-Cooked; Dried; Cook Meth N/S | 755.340000 | 1.000 | 0.004 |
| | | 232-Cooked; Dried; Boiled | 755.340000 | 1.000 | 0.004 |
| | | 233-Cooked; Dried; Fried | 755.340000 | 1.000 | 0.004 |
| | | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 252-Cooked; Cured etc; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 253-Cooked; Cured etc; Fried | 0.000000 | 1.000 | 0.004 |
| 70001460 | P | Egg, white | | | |
| | | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 130-Uncooked; Dried; Cook Meth N/S | 755.340000 | 1.000 | 0.004 |
| | | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | | 230-Cooked; Dried; Cook Meth N/S | 755.340000 | 1.000 | 0.004 |
| | | 232-Cooked; Dried; Boiled | 755.340000 | 1.000 | 0.004 |
| | | 233-Cooked; Dried; Fried | 755.340000 | 1.000 | 0.004 |

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|--------------|---|------------|-------|-------|
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | 250-Cooked; Cured etc; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| 70001461 P | Egg, white (solids)-babyfood | 755.340000 | 1.000 | 0.004 |
| 95001540 O | Fig, dried | 1.200000 | 1.000 | 0.004 |
| 14001550 14 | Filbert | 8.600000 | 1.000 | 0.004 |
| 14001560 14 | Filbert, oil | 1.200000 | 1.000 | 0.004 |
| 20001630 20 | Flaxseed, oil | 1.200000 | 1.000 | 0.004 |
| 03001650 3 | Garlic, dried | 15.800000 | 1.000 | 0.004 |
| 03001651 3 | Garlic, dried-babyfood | 15.800000 | 1.000 | 0.004 |
| 01031670 1CD | Ginger, dried | 15.800000 | 1.000 | 0.004 |
| 01011680 1AB | Ginseng, dried | 15.800000 | 1.000 | 0.004 |
| 95001780 O | Grape, raisin | 1.200000 | 1.000 | 0.004 |
| 06031820 6C | Guar, seed | 13.160000 | 1.000 | 0.004 |
| 06031821 6C | Guar, seed-babyfood | 13.160000 | 1.000 | 0.004 |
| 19011840 19A | Herbs, other | 52.200000 | 1.000 | 0.004 |
| 19011841 19A | Herbs, other-babyfood | 52.200000 | 1.000 | 0.004 |
| 14001850 14 | Hickory nut | 8.600000 | 1.000 | 0.004 |
| 19012020 19A | Lemongrass | 52.200000 | 1.000 | 0.004 |
| 06032030 6C | Lentil, seed | 13.160000 | 1.000 | 0.004 |
| 95002120 O | Lychee, dried | 1.200000 | 1.000 | 0.004 |
| 14002130 14 | Macadamia nut | 8.600000 | 1.000 | 0.004 |
| 95002160 O | Mango, dried | 1.200000 | 1.000 | 0.004 |
| 95002180 O | Maple, sugar | 0.770000 | 1.000 | 0.004 |
| 95002190 O | Maple syrup | 0.770000 | 1.000 | 0.004 |
| 19012200 19A | Marjoram | 51.180000 | 1.000 | 0.004 |
| 19012201 19A | Marjoram-babyfood | 51.180000 | 1.000 | 0.004 |
| 27002220 D | Milk, fat | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | 1.690000 | 1.000 | 0.004 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 0.004 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 0.004 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | 1.690000 | 1.000 | 0.004 |
| | 231-Cooked; Dried; Baked | 1.690000 | 1.000 | 0.004 |
| | 232-Cooked; Dried; Boiled | 1.690000 | 1.000 | 0.004 |
| | 233-Cooked; Dried; Fried | 1.690000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | 250-Cooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 4.480000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | 4.480000 | 1.000 | 0.004 |
| 27012230 D | Milk, nonfat solids | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 120-Uncooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |

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|------------|---|----------|-------|-------|
| | | 2.360000 | 1.000 | 0.004 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | | | |
| | | 4.480000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 0.004 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 2.360000 | 1.000 | 0.004 |
| | 231-Cooked; Dried; Baked | 2.360000 | 1.000 | 0.004 |
| | 232-Cooked; Dried; Boiled | 2.360000 | 1.000 | 0.004 |
| | 233-Cooked; Dried; Fried | 2.360000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | 245-Cooked; Canned; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 4.480000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 4.480000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | | | |
| | | 4.480000 | 1.000 | 0.004 |
| 27012231 D | Milk, nonfat solids-baby food/infant | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 2.360000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| 27022240 D | Milk, water | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 120-Uncooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | | | |
| | | 2.360000 | 1.000 | 0.004 |
| | 150-Uncooked; Cured etc; Cook Meth N/S | | | |
| | | 4.480000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 0.004 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 0.004 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 0.004 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 0.004 |
| | 223-Cooked; Frozen; Fried | 0.000000 | 1.000 | 0.004 |
| | 224-Cooked; Frozen; Fried/baked | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 2.360000 | 1.000 | 0.004 |
| | 231-Cooked; Dried; Baked | 2.360000 | 1.000 | 0.004 |
| | 232-Cooked; Dried; Boiled | 2.360000 | 1.000 | 0.004 |
| | 233-Cooked; Dried; Fried | 2.360000 | 1.000 | 0.004 |

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| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 0.004 |
| | 250-Cooked; Cured etc; Cook Meth N/S | 4.480000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 4.480000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | 4.480000 | 1.000 | 0.004 |
| 27032251 D | Milk, sugar (lactose)-baby food/infa | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 130-Uncooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 0.004 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 0.004 |
| | 230-Cooked; Dried; Cook Meth N/S | 2.360000 | 1.000 | 0.004 |
| | 240-Cooked; Canned; Cook Meth N/S | 0.000000 | 1.000 | 0.004 |
| 15002260 15 | Millet, grain | 4.990000 | 1.000 | 1.000 |
| 15002310 15 | Oat, bran | 35.950000 | 1.000 | 0.011 |
| 15002320 15 | Oat, flour | 32.570000 | 1.000 | 0.011 |
| 15002321 15 | Oat, flour-babyfood | 32.570000 | 1.000 | 0.011 |
| 15002330 15 | Oat, groats/rolled oats | 50.000000 | 1.000 | 0.011 |
| 15002331 15 | Oat, groats/rolled oats-babyfood | 50.000000 | 1.000 | 0.011 |
| 95002360 O | Olive, oil | 1.200000 | 1.000 | 0.004 |
| 03002380 3 | Onion, dry bulb, dried | 1.170000 | 1.000 | 0.004 |
| 03002381 3 | Onion, dry bulb, dried-babyfood | 1.170000 | 1.000 | 0.004 |
| 95002440 O | Palm, oil | 1.200000 | 1.000 | 0.004 |
| 95002441 O | Palm, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 95002460 O | Papaya, dried | 1.200000 | 1.000 | 0.004 |
| 19012490 19A | Parsley, dried leaves | 52.200000 | 1.000 | 0.004 |
| 19012491 19A | Parsley, dried leaves-babyfood | 52.200000 | 1.000 | 0.004 |
| 06032560 6C | Pea, dry | 13.160000 | 1.000 | 0.004 |
| 06032561 6C | Pea, dry-babyfood | 13.160000 | 1.000 | 0.004 |
| 06032580 6C | Pea, pigeon, seed | 13.160000 | 1.000 | 0.004 |
| 12002610 12 | Peach, dried | 1.200000 | 1.000 | 0.004 |
| 12002611 12 | Peach, dried-babyfood | 1.200000 | 1.000 | 0.004 |
| 95002630 O | Peanut | 11.300000 | 1.000 | 0.004 |
| 95002640 O | Peanut, butter | 11.300000 | 1.000 | 0.004 |
| 95002650 O | Peanut, oil | 1.200000 | 1.000 | 0.004 |
| 11002670 11 | Pear, dried | 1.200000 | 1.000 | 0.004 |
| 14002690 14 | Pecan | 8.600000 | 1.000 | 0.004 |
| 08002710 8 | Pepper, bell, dried | 26.350000 | 1.000 | 0.004 |
| 08002711 8 | Pepper, bell, dried-babyfood | 26.350000 | 1.000 | 0.004 |
| 08002730 8 | Pepper, nonbell, dried | 26.350000 | 1.000 | 0.004 |
| 19022740 19B | Pepper, black and white | 5.960000 | 1.000 | 0.004 |
| 19022741 19B | Pepper, black and white-babyfood | 5.960000 | 1.000 | 0.004 |
| 95002760 O | Peppermint, oil | 1.200000 | 1.000 | 0.004 |
| 95002780 O | Pine nut | 8.600000 | 1.000 | 0.004 |
| 95002800 O | Pineapple, dried | 1.200000 | 1.000 | 0.004 |
| 14002820 14 | Pistachio | 8.600000 | 1.000 | 0.004 |
| 95002840 O | Plantain, dried | 1.200000 | 1.000 | 0.004 |
| 12002870 12 | Plum, prune, dried | 0.700000 | 1.000 | 0.004 |
| 12002871 12 | Plum, prune, dried-babyfood | 0.700000 | 1.000 | 0.004 |
| 25002900 M | Pork, meat | | | |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |

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|--------------|---|-----------|-------|-------|
| | | 0.000000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 18.080000 | 1.000 | 0.004 |
| | 251-Cooked; Cured etc; Baked | 18.080000 | 1.000 | 0.004 |
| | 252-Cooked; Cured etc; Boiled | 18.080000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 18.080000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | | | |
| | | 18.080000 | 1.000 | 0.004 |
| 25002901 M | Pork, meat-babyfood | 18.080000 | 1.000 | 0.004 |
| 25002930 M | Pork, fat | | | |
| | 110-Uncooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 210-Cooked; Fresh or N/S; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 211-Cooked; Fresh or N/S; Baked | 0.000000 | 1.000 | 1.000 |
| | 212-Cooked; Fresh or N/S; Boiled | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 213-Cooked; Fresh or N/S; Fried | 0.000000 | 1.000 | 1.000 |
| | 214-Cooked; Fresh or N/S; Fried/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 215-Cooked; Fresh or N/S; Boiled/baked | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 220-Cooked; Frozen; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 221-Cooked; Frozen; Baked | 0.000000 | 1.000 | 1.000 |
| | 222-Cooked; Frozen; Boiled | 0.000000 | 1.000 | 1.000 |
| | 230-Cooked; Dried; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 232-Cooked; Dried; Boiled | 0.000000 | 1.000 | 1.000 |
| | 240-Cooked; Canned; Cook Meth N/S | | | |
| | | 0.000000 | 1.000 | 1.000 |
| | 242-Cooked; Canned; Boiled | 0.000000 | 1.000 | 1.000 |
| | 250-Cooked; Cured etc; Cook Meth N/S | | | |
| | | 18.080000 | 1.000 | 0.004 |
| | 251-Cooked; Cured etc; Baked | 18.080000 | 1.000 | 0.004 |
| | 252-Cooked; Cured etc; Boiled | 18.080000 | 1.000 | 0.004 |
| | 253-Cooked; Cured etc; Fried | 18.080000 | 1.000 | 0.004 |
| | 255-Cooked; Cured etc; Boiled/baked | | | |
| | | 18.080000 | 1.000 | 0.004 |
| 01032960 1C | Potato, chips | 5.950000 | 1.000 | 0.004 |
| 01032970 1C | Potato, dry (granules/ flakes) | 17.650000 | 1.000 | 0.004 |
| 01032971 1C | Potato, dry (granules/ flakes)-b | 17.650000 | 1.000 | 0.004 |
| 01032980 1C | Potato, flour | 4.990000 | 1.000 | 0.004 |
| 01032981 1C | Potato, flour-babyfood | 4.990000 | 1.000 | 0.004 |
| 95003060 O | Psyllium, seed | 26.350000 | 1.000 | 0.004 |
| 09023090 9B | Pumpkin, seed | 4.700000 | 1.000 | 0.004 |
| 95003110 O | Quinoa, grain | 4.000000 | 1.000 | 0.004 |
| 20003190 20 | Rapeseed, oil | 1.200000 | 1.000 | 0.004 |
| 20003191 20 | Rapeseed, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 15003230 15 | Rice, white | 5.300000 | 1.000 | 0.011 |
| 15003231 15 | Rice, white-babyfood | 5.300000 | 1.000 | 0.011 |
| 15003240 15 | Rice, brown | 5.300000 | 1.000 | 0.011 |
| 15003241 15 | Rice, brown-babyfood | 5.300000 | 1.000 | 0.011 |
| 15003250 15 | Rice, flour | 32.570000 | 1.000 | 0.011 |
| 15003251 15 | Rice, flour-babyfood | 32.570000 | 1.000 | 0.011 |
| 15003260 15 | Rice, bran | 25.900000 | 1.000 | 0.011 |
| 15003261 15 | Rice, bran-babyfood | 25.900000 | 1.000 | 0.011 |
| 15003290 15 | Rye, flour | 32.570000 | 1.000 | 0.011 |
| 20003300 20 | Safflower, oil | 1.200000 | 1.000 | 0.004 |
| 20003301 20 | Safflower, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 19013340 19A | Savory | 52.200000 | 1.000 | 0.004 |
| 95003360 O | Sesame, seed | 26.350000 | 1.000 | 0.004 |
| 95003361 O | Sesame, seed-babyfood | 26.350000 | 1.000 | 0.004 |
| 95003370 O | Sesame, oil | 1.200000 | 1.000 | 0.004 |
| 95003371 O | Sesame, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 15003440 15 | Sorghum, grain | 4.000000 | 1.000 | 0.011 |
| 15003450 15 | Sorghum, syrup | 1.200000 | 1.000 | 0.011 |
| 06003480 6 | Soybean, flour | 4.110000 | 1.000 | 0.004 |
| 06003481 6 | Soybean, flour-babyfood | 4.110000 | 1.000 | 0.004 |

| | | | | | |
|----------|-----|----------------------------------|-----------|-------|-------|
| 06003490 | 6 | Soybean, soy milk | 1.690000 | 1.000 | 0.004 |
| 06003491 | 6 | Soybean, soy milk-babyfood or in | 1.690000 | 1.000 | 0.004 |
| 06003500 | 6 | Soybean, oil | 1.200000 | 1.000 | 0.004 |
| 06003501 | 6 | Soybean, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 95003530 | 0 | Spearmint, oil | 1.200000 | 1.000 | 0.004 |
| 19023540 | 19B | Spices, other | 51.180000 | 1.000 | 0.004 |
| 19023541 | 19B | Spices, other-babyfood | 51.180000 | 1.000 | 0.004 |
| 95003620 | 0 | Sugarcane, sugar | 0.770000 | 1.000 | 0.004 |
| 95003621 | 0 | Sugarcane, sugar-babyfood | 0.770000 | 1.000 | 0.004 |
| 95003630 | 0 | Sugarcane, molasses | 0.770000 | 1.000 | 0.004 |
| 95003631 | 0 | Sugarcane, molasses-babyfood | 0.770000 | 1.000 | 0.004 |
| 20003640 | 20 | Sunflower, seed | 13.160000 | 1.000 | 0.004 |
| 20003650 | 20 | Sunflower, oil | 1.200000 | 1.000 | 0.004 |
| 20003651 | 20 | Sunflower, oil-babyfood | 1.200000 | 1.000 | 0.004 |
| 95003720 | 0 | Tea, dried | 51.180000 | 1.000 | 0.004 |
| 95003730 | 0 | Tea, instant | 51.180000 | 1.000 | 0.004 |
| 08003780 | 8 | Tomato, dried | 1.200000 | 1.000 | 0.004 |
| 08003781 | 8 | Tomato, dried-babyfood | 1.200000 | 1.000 | 0.004 |
| 15003810 | 15 | Triticale, flour | 32.570000 | 1.000 | 0.011 |
| 15003811 | 15 | Triticale, flour-babyfood | 32.570000 | 1.000 | 0.011 |
| 01033870 | 1CD | Turmeric | 26.350000 | 1.000 | 0.004 |
| 14003910 | 14 | Walnut | 5.600000 | 1.000 | 0.004 |
| 15004010 | 15 | Wheat, grain | 4.990000 | 1.000 | 0.011 |
| 15004011 | 15 | Wheat, grain-babyfood | 4.990000 | 1.000 | 0.011 |
| 15004020 | 15 | Wheat, flour | 32.570000 | 1.000 | 0.011 |
| 15004021 | 15 | Wheat, flour-babyfood | 32.570000 | 1.000 | 0.011 |
| 15004030 | 15 | Wheat, germ | 58.000000 | 1.000 | 0.011 |
| 15004040 | 15 | Wheat, bran | 35.950000 | 1.000 | 0.011 |
| 15004050 | 15 | Wild rice | 5.300000 | 1.000 | 0.011 |

Attachment 5: Sulfuryl Fluoride Food Fumigation Exposure and Risk Estimates

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for SULFURYL FLUORIDE (1994-98 data)
Residue file name: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
Runs\Sulfuryl Fluoride\SF Food Fumigation.R98

Adjustment factor #2 used.
Analysis Date 01-05-2006/13:21:25 Residue file dated: 01-05-2006/13:17:50/8
Reference dose (RfD, Chronic) = .003 mg/kg bw/day
COMMENT 1: RfD is cPAD

Total exposure by population subgroup

| Population Subgroup | Total Exposure | |
|-------------------------------------|-------------------|----------------|
| | mg/kg body wt/day | Percent of Rfd |
| U.S. Population (total) | 0.000064 | 2.1% |
| U.S. Population (spring season) | 0.000061 | 2.0% |
| U.S. Population (summer season) | 0.000066 | 2.2% |
| U.S. Population (autumn season) | 0.000061 | 2.0% |
| U.S. Population (winter season) | 0.000068 | 2.3% |
| Northeast region | 0.000074 | 2.5% |
| Midwest region | 0.000061 | 2.0% |
| Southern region | 0.000058 | 1.9% |
| Western region | 0.000066 | 2.2% |
| Hispanics | 0.000087 | 2.9% |
| Non-hispanic whites | 0.000060 | 2.0% |
| Non-hispanic blacks | 0.000068 | 2.3% |
| Non-hisp/non-white/non-black | 0.000059 | 2.0% |
| All infants (< 1 year) | 0.000041 | 1.4% |
| Nursing infants | 0.000016 | 0.5% |
| Non-nursing infants | 0.000051 | 1.7% |
| Children 1-6 yrs | 0.000177 | 5.9% |
| Children 7-12 yrs | 0.000091 | 3.0% |
| Females 13-19 (not preg or nursing) | 0.000053 | 1.8% |
| Females 20+ (not preg or nursing) | 0.000043 | 1.4% |
| Females 13-50 yrs | 0.000051 | 1.7% |
| Females 13+ (preg/not nursing) | 0.000058 | 1.9% |
| Females 13+ (nursing) | 0.000070 | 2.3% |
| Males 13-19 yrs | 0.000062 | 2.1% |
| Males 20+ yrs | 0.000050 | 1.7% |
| Seniors 55+ | 0.000045 | 1.5% |
| Children 1-2 yrs | 0.000189 | 6.3% |
| Children 3-5 yrs | 0.000177 | 5.9% |
| Children 6-12 yrs | 0.000100 | 3.3% |
| Youth 13-19 yrs | 0.000058 | 1.9% |
| Adults 20-49 yrs | 0.000047 | 1.6% |
| Adults 50+ yrs | 0.000045 | 1.5% |
| Females 13-49 yrs | 0.000046 | 1.5% |

Attachment 6: Fluoride Food Fumigation Exposure and Risk Estimates

U.S. Environmental Protection Agency
 DEEM-FCID Chronic analysis for FLUORIDE
 Residue file name: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
 Runs\Sulfuryl Fluoride\F Food Fumigation.R98

Ver. 2.00
 (1994-98 data)

Analysis Date 01-05-2006/13:20:32 Residue file dated: 01-05-2006/13:19:46/8
 Reference dose (RfD, Chronic) = .114 mg/kg bw/day

Adjustment factor #2 used.

COMMENT 1: RfD is converted Fluoride MCL and for adult pops only.

 Total exposure by population subgroup

| Population Subgroup | Total Exposure | |
|-------------------------------------|-------------------|----------------|
| | mg/kg body wt/day | Percent of Rfd |
| U.S. Population (total) | 0.008701 | 7.6% |
| U.S. Population (spring season) | 0.008769 | 7.7% |
| U.S. Population (summer season) | 0.008445 | 7.4% |
| U.S. Population (autumn season) | 0.008685 | 7.6% |
| U.S. Population (winter season) | 0.008923 | 7.8% |
| Northeast region | 0.008469 | 7.4% |
| Midwest region | 0.009009 | 7.9% |
| Southern region | 0.008685 | 7.6% |
| Western region | 0.008603 | 7.5% |
| Hispanics | 0.010609 | 9.3% |
| Non-hispanic whites | 0.008472 | 7.4% |
| Non-hispanic blacks | 0.008703 | 7.6% |
| Non-hisp/non-white/non-black | 0.007875 | 6.9% |
| All infants (< 1 year) | 0.010972 | 9.6% |
| Nursing infants | 0.004778 | 4.2% |
| Non-nursing infants | 0.013323 | 11.7% |
| Children 1-6 yrs | 0.018456 | 16.2% |
| Children 7-12 yrs | 0.012149 | 10.7% |
| Females 13-19 (not preg or nursing) | 0.007135 | 6.3% |
| Females 20+ (not preg or nursing) | 0.006114 | 5.4% |
| Females 13-50 yrs | 0.007123 | 6.2% |
| Females 13+ (preg/not nursing) | 0.007071 | 6.2% |
| Females 13+ (nursing) | 0.008478 | 7.4% |
| Males 13-19 yrs | 0.008855 | 7.8% |
| Males 20+ yrs | 0.007950 | 7.0% |
| Seniors 55+ | 0.006556 | 5.8% |
| Children 1-2 yrs | 0.017980 | 15.8% |
| Children 3-5 yrs | 0.019274 | 16.9% |
| Children 6-12 yrs | 0.012879 | 11.3% |
| Youth 13-19 yrs | 0.008014 | 7.0% |
| Adults 20-49 yrs | 0.007212 | 6.3% |
| Adults 50+ yrs | 0.006670 | 5.9% |
| Females 13-49 yrs | 0.006398 | 5.6% |

Attachment 7: Sulfuryl Fluoride Space Fumigation Exposure and Risk Estimates

U.S. Environmental Protection Agency
 DEEM-FCID Chronic analysis for SULFURYL FLUORIDE
 Residue file name: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
 Runs\Sulfuryl Fluoride\SF Space Fumigation.R98

Ver. 2.00
 (1994-98 data)

Analysis Date 01-05-2006/13:21:54 Adjustment factor #2 used.
 Residue file dated: 01-05-2006/13:16:35/8
 Reference dose (RfD, Chronic) = .003 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) | 0.000018 | 0.6% |
| U.S. Population (spring season) | 0.000018 | 0.6% |
| U.S. Population (summer season) | 0.000017 | 0.6% |
| U.S. Population (autumn season) | 0.000017 | 0.6% |
| U.S. Population (winter season) | 0.000018 | 0.6% |
| Northeast region | 0.000017 | 0.6% |
| Midwest region | 0.000018 | 0.6% |
| Southern region | 0.000017 | 0.6% |
| Western region | 0.000018 | 0.6% |
| Hispanics | 0.000020 | 0.7% |
| Non-hispanic whites | 0.000017 | 0.6% |
| Non-hispanic blacks | 0.000019 | 0.6% |
| Non-hisp/non-white/non-black | 0.000019 | 0.6% |
| All infants (< 1 year) | 0.000097 | 3.2% |
| Nursing infants | 0.000030 | 1.0% |
| Non-nursing infants | 0.000123 | 4.1% |
| Children 1-6 yrs | 0.000035 | 1.2% |
| Children 7-12 yrs | 0.000025 | 0.8% |
| Females 13-19 (not preg or nursing) | 0.000015 | 0.5% |
| Females 20+ (not preg or nursing) | 0.000012 | 0.4% |
| Females 13-50 yrs | 0.000014 | 0.5% |
| Females 13+ (preg/not nursing) | 0.000015 | 0.5% |
| Females 13+ (nursing) | 0.000016 | 0.5% |
| Males 13-19 yrs | 0.000019 | 0.6% |
| Males 20+ yrs | 0.000014 | 0.5% |
| Seniors 55+ | 0.000011 | 0.4% |
| Children 1-2 yrs | 0.000036 | 1.2% |
| Children 3-5 yrs | 0.000036 | 1.2% |
| Children 6-12 yrs | 0.000026 | 0.9% |
| Youth 13-19 yrs | 0.000017 | 0.6% |
| Adults 20-49 yrs | 0.000014 | 0.5% |
| Adults 50+ yrs | 0.000011 | 0.4% |
| Females 13-49 yrs | 0.000013 | 0.4% |

Attachment 8: Fluoride Space Fumigation Exposure and Risk Estimates

U.S. Environmental Protection Agency Ver. 2.00
 DEEM-FCID Chronic analysis for FLUORIDE (1994-98 data)
 Residue file name: C:\Documents and Settings\MDOHERTY\My Documents\Chemistry Reviews\DEEM
 Runs\Sulfuryl Fluoride\F Space Fumigation.R98

Analysis Date 01-05-2006/13:21:00 Residue file dated: 01-05-2006/13:18:31/8
 Reference dose (RfD, Chronic) = .114 mg/kg bw/day
 COMMENT 1: RfD is converted Fluoride MCL and is valid for adult pops. only

=====
 Total exposure by population subgroup
 =====

| Population Subgroup | Total Exposure | |
|-------------------------------------|-------------------|----------------|
| | mg/kg body wt/day | Percent of Rfd |
| U.S. Population (total) | 0.000820 | 0.7% |
| U.S. Population (spring season) | 0.000835 | 0.7% |
| U.S. Population (summer season) | 0.000800 | 0.7% |
| U.S. Population (autumn season) | 0.000817 | 0.7% |
| U.S. Population (winter season) | 0.000828 | 0.7% |
| Northeast region | 0.000862 | 0.8% |
| Midwest region | 0.000853 | 0.7% |
| Southern region | 0.000769 | 0.7% |
| Western region | 0.000827 | 0.7% |
| Hispanics | 0.000820 | 0.7% |
| Non-hispanic whites | 0.000823 | 0.7% |
| Non-hispanic blacks | 0.000790 | 0.7% |
| Non-hisp/non-white/non-black | 0.000847 | 0.7% |
| All infants (< 1 year) | 0.000876 | 0.8% |
| Nursing infants | 0.000489 | 0.4% |
| Non-nursing infants | 0.001023 | 0.9% |
| Children 1-6 yrs | 0.001981 | 1.7% |
| Children 7-12 yrs | 0.001291 | 1.1% |
| Females 13-19 (not preg or nursing) | 0.000700 | 0.6% |
| Females 20+ (not preg or nursing) | 0.000541 | 0.5% |
| Females 13-50 yrs | 0.000642 | 0.6% |
| Females 13+ (preg/not nursing) | 0.000606 | 0.5% |
| Females 13+ (nursing) | 0.000739 | 0.6% |
| Males 13-19 yrs | 0.000885 | 0.8% |
| Males 20+ yrs | 0.000677 | 0.6% |
| Seniors 55+ | 0.000509 | 0.4% |
| Children 1-2 yrs | 0.002052 | 1.8% |
| Children 3-5 yrs | 0.002009 | 1.8% |
| Children 6-12 yrs | 0.001361 | 1.2% |
| Youth 13-19 yrs | 0.000795 | 0.7% |
| Adults 20-49 yrs | 0.000660 | 0.6% |
| Adults 50+ yrs | 0.000516 | 0.5% |
| Females 13-49 yrs | 0.000603 | 0.5% |

Attachment 9. Percent of Facilities/Throughput Treated

Colwell Cook/DC/USEPA/US

05/05/2005 03:32 PM

To

Christina Swartz/DC/USEPA/US@EPA

cc

Jonathan Becker/DC/USEPA/US@EPA, Michael Doherty/DC/USEPA/US@EPA, Richard Loranger/DC/USEPA/US@EPA, Bill Chism/DC/USEPA/US@EPA

Subject

Re: sulfuryl fluoride Update on % Processed Food Treated

Greetings,

I have some information relating to processed foods and storage time in warehouses. This information is from a University Professor and a couple of food industry folks.

Product is not likely to get retreated in the warehouse. Most of the millers (rice & flour) mill "to order" (i.e. they have an order that they are going to go ahead and ship out. They prefer not to have much stored in their warehouses. Several of their customers have set the maximum to 3 days from milling grain to receiving product, so very little time in storage at the mill.

The baked goods would not be fumigated with the structural fumigant. If a product of value has pest "issues" it will be sent to a trailer for fumigation with Al phosphide (product of choice). But again, these products are not stored for long at the processing plant, probably no more than 2-3 days.

So pet food is the only commodity stored for any length of time at a processing facility/warehouse.

It was estimated that less than 5% of the 1% Treated would likely get a second fumigation.

Let me know if this is not sufficient.

Colwell Cook