

Compliance Policy Guide

Guidance for FDA Staff

CPG Sec. 575.100 Pesticide Chemical Residues in Food – Enforcement Criteria (CPG 7141.01)

DRAFT GUIDANCE

This guidance document is being distributed for comment purposes only.

Comments and suggestions regarding this draft document should be submitted within 60 days of publication in the *Federal Register* of the notice announcing the availability of the draft guidance. Submit comments to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. All comments should be identified with the docket number listed in the notice of availability that publishes in the *Federal Register*.

For questions regarding this draft document, contact the Center for Food Safety and Applied Nutrition (CFSAN), 5100 Paint Branch Parkway, College Park, Maryland 20740, 301-436-2022

**U.S. Department of Health and Human Services
Food and Drug Administration
Center for Food Safety and Applied Nutrition
Center for Veterinary Medicine
Office of Regulatory Affairs**

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This draft guidance, when final, will represent the Food and Drug Administration's (FDA's) current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach, contact the FDA staff responsible for implementing this guidance. If you cannot identify the appropriate FDA staff, call the appropriate telephone number listed on the title page of this guidance.

***I. INTRODUCTION:**

The purpose of this document is to provide guidance for FDA staff regarding FDA's current thinking on its enforcement policy for pesticide chemical residues in food.

FDA's guidance documents, including this Compliance Policy Guide, do not establish legally enforceable responsibilities. Instead, guidance documents describe the agency's current thinking on a topic and should be viewed only as recommendations, unless specific regulatory or statutory requirements are cited. The use of the word *should* in agency guidance documents means that something is suggested or recommended, but not required. Consistent with FDA's good guidance practices (21 CFR 10.115), the "criteria" in this CPG are discretionary factors.

II. BACKGROUND:

The regulation of food containing pesticide chemical residues is governed by sections 201, 402 and 408 of the Federal Food, Drug, and Cosmetic Act (the Act) (21 U.S.C. 321, 342, and 346a). These sections of the Act were amended by the passage of the Food Quality Protection Act of 1996 (FQPA). A summary of the FQPA amendments can be found on the Environmental Protection Agency's (EPA's) website @: <http://www.epa.gov/pesticides/regulating/laws/fqpa/index.htm>.

Section 201(f) of the Act (21 U.S.C. 321(f)) defines "food" to include articles used for food or drink for man or other animals, i.e., human food and animal feed. Section

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201(q)(1) of the Act (21 U.S.C. 321(q)(1)) defines a "pesticide chemical" as "any substance that is a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act [FIFRA], including all active and inert ingredients." Section 201(q)(2) of the Act (21 U.S.C. 321(q)(2)) defines a "pesticide chemical residue" to mean "a residue in or on raw agricultural commodity or processed food of -- (A) a pesticide chemical; or (B) any other added substance that is present on or in the commodity of food primarily as the result of the metabolism or other degradation of a pesticide chemical." Section 201(gg) of the Act (21 U.S.C. 321(gg)) defines "processed food" as "any food other than a raw agricultural commodity that has been subject to processing, such as canning, cooking, freezing, dehydration, or milling."

Pesticide Chemical Residue Tolerances

Under section 408 of the Act (21 U.S.C. 346a), EPA may establish a tolerance or grant an exemption from the requirement of a tolerance for a pesticide chemical residue on a food. These tolerances and exemptions from tolerances generally cover domestic and imported food. A tolerance establishes the maximum amount of a pesticide chemical residue that may be legally present in or on a raw agricultural commodity or a processed food. EPA may establish such tolerances and exemptions from the need for a tolerance if EPA determines such tolerances or exemptions are safe, i.e., if EPA determines there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information. <http://www.gpoaccess.gov/cfr/index.html>.

Tolerance Reassessment and the "Channels of Trade" Provision

The FQPA requires EPA to reassess all pesticide chemical residue tolerances that were in place as of August 1996 within 10 years of its passage. Under section 408(1)(2) of the Act (21 U.S.C. 346a(1)(2)), when EPA determines that an existing tolerance does not meet the new safety standard, it must act within relatively short timeframes to first cancel some or all of the registered uses of the pesticide chemical and then revoke, suspend or modify the corresponding pesticide chemical residue tolerances. Such action by EPA could result in food bearing residues of lawfully applied pesticide chemicals while the food is still in commerce (i.e., in the "Channels of Trade") at the time of the revocation, suspension or modification of the applicable tolerance.

The "Channels of Trade" provision under section 408(1)(5) of the Act (21 U.S.C. 346a(1)(5)) addresses the situation where food, containing pesticide chemical residues from pesticide chemicals that were lawfully applied or used under FIFRA, is still in commerce after the pesticide chemical tolerance has been revoked, suspended, or modified. Under the Channels of Trade provision, a food bearing such pesticide chemical residues is precluded from being deemed "adulterated" due to its bearing the pesticide chemical residue, if it is shown to the satisfaction of FDA that the residue complies with the former tolerance (or exemption, or food additive regulation) and the residue resulted from the lawful application of the pesticide chemical to the food.

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However, there would be no opportunity to make a showing concerning the pesticide chemical residue if EPA has issued a determination that consumption of the legally treated food during its period of likely availability in commerce will pose an unreasonable dietary risk. Because the subject matter of such showings can vary from one pesticide chemical/food combination to another, FDA has issued guidance on how such showings may be made for various pesticide chemicals in human food that have been the subject of a tolerance, revocation, suspension or modification under the FQPA tolerance reassessment process. (See “Channels of Trade Policy for Commodities With Residues of Pesticide Chemicals, for Which Tolerances Have Been Revoked, Suspended, or Modified by the Environmental Protection Agency Pursuant to Dietary Risk Considerations” at @ <http://www.cfsan.fda.gov/~dms/pesguid2.html>.)

FDA also provides an opportunity to make a showing that a pesticide chemical residue in a food is the result of the lawful application of a pesticide chemical to food for residues of pesticide chemicals that were the subject of time limited tolerances that have expired. Although the Act does not specifically address “expired” tolerances, it has been FDA's experience that EPA considers an “expired” tolerance to be a “revoked” tolerance when applying the provisions of the Act, such as section 408(l)(5), which refers to tolerances that have been revoked, suspended, or modified.

Action Levels

Prior to passage of the FQPA, FDA established action levels based upon EPA recommendations for residues of such cancelled pesticide chemicals that were persistent in the environment and considered to be unavoidable in food and feed. See VI. **FDA ACTION LEVELS FOR UNAVOIDABLE PESTICIDE CHEMICAL RESIDUES IN FOOD** in this CPG for additional information on action levels.

III. POLICY:

FDA enforces tolerances established by EPA for pesticide chemical residues in food, except for meat, poultry, and certain egg products that are regulated by the United States Department of Agriculture. Under section 402(a)(2)(B) of the Act (21 U.S.C. 436a(a)(2)(B)), a food (including human food and animal feed) is deemed to be adulterated if it bears or contains a pesticide chemical residue that is unsafe within the meaning of section 408(a) of the Act. Under section 408(a) (21 U.S.C. 346a(a)), a pesticide chemical residue in or on a food is unsafe if:

1. A pesticide chemical residue is at a level greater than that specified by the tolerance (40 CFR 180 Subpart C - Specific Tolerances); or
2. There is no tolerance for the pesticide chemical residue and no exemption from the requirement of a tolerance exists (40 CFR 180 Subpart D - Exemptions From Tolerances).

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IV. REGULATORY ACTION GUIDANCE:

General Guidance

1. Section 201(q)(2) of the Act defines a "pesticide chemical residue" as a residue of a pesticide chemical, its metabolites, and degradates in or on a raw agricultural commodity or processed food. To determine if a pesticide chemical residue exceeds an existing tolerance, compare the level of residue(s), including the analogs and metabolites, in food or feed to the corresponding EPA regulation(s) that establishes the tolerance and parameters of the tolerance (e.g., the specific commodities to which the tolerance applies). (40 CFR part 180)
2. Some pesticide chemical residues are covered under more than one tolerance regulation. For example, triadimefon is covered under 40 CFR 180.410 and one of its breakdown products, triadimenol, is covered under 40 CFR 180.450. In such cases, check all applicable regulations to determine if a tolerance is in effect for the pesticide chemical residue and commodity combination.
3. A tolerance applies to the commodity without regard to the origin of the commodity, unless otherwise stated in the tolerance regulation. The regulation may limit the scope of the application of the tolerance. For example, a regulation that specifies a tolerance for an "imported" commodity applies only to the specific imported commodity stated in the tolerance regulation.
4. Apply the tolerance for a pesticide chemical residue in a raw agricultural commodity to the processed commodity, unless otherwise indicated in the tolerance regulation or 40 CFR 180.1(i)(10), which addresses processed food that requires rehydration or reconstituting prior to consumption. (40 CFR 180.1(e)).
5. For a processed food that consists primarily of one ingredient that requires rehydrating or reconstituting prior to consumption, e.g., fruit juice concentrates, dehydrated vegetables, powdered potatoes, if a separate tolerance for the processed food does not exist, calculate the level of the pesticide chemical residue in the processed food that would be present in the food after rehydrating or reconstituting to its normal moisture content or, prior to the analysis, rehydrate or reconstitute the processed food to its normal moisture content. For example, for apple juice concentrate, calculate the level that would be present in the apple juice after reconstituting to a single strength juice. (40 CFR 180.1(i)(10)).
6. For a commodity group identified in 40 CFR 180.1(a), a tolerance or exemption from a tolerance established for the commodity group applies to each specific commodity in the group. However, a tolerance or exemption from tolerance established for a specific commodity does not apply to the entire group, unless the EPA regulation establishing the applicable tolerance so indicates. For example, a tolerance for

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legume vegetables applies to chick peas, but a tolerance specifically for chick peas does not apply to all other legume vegetables.

7. Determine if there are applicable current or expired tolerances under FIFRA section 18. (<http://cfpub1.epa.gov/oppref/section18/search.cfm>) If there is an expired tolerance for the pesticide/commodity combination, contact the appropriate Center for guidance. For tolerances established under FIFRA section 18 to cover the use of a pesticide in a specific State, region, or foreign country, apply the tolerance without regard to the State, region, or country of origin of the commodity, unless the EPA regulation establishing the applicable tolerance indicates otherwise.
8. Determine if the pesticide chemical residues are subject to the channels of trade provisions. <http://www.cfsan.fda.gov/~lrd/pestadd.html>. Regulatory action may be recommended if the pesticide chemical residue is subject to the "Channels of Trade" provision of the Act (section 408(l)(5)) and there is no showing under such provision to establish that the presence of a pesticide chemical residue in or on the food does not deem the food to be unsafe and thus adulterated under section 402(a)(2)(B) of the Act. (For human food, see "Channels of Trade Policy for Commodities With Residues of Pesticide Chemicals, for Which Tolerances Have Been Revoked, Suspended, or Modified by the Environmental Protection Agency Pursuant to Dietary Risk Considerations" @ <http://www.cfsan.fda.gov/~dms/pesguid2.html>).
9. If there is evidence of abuse of a pesticide or for questions relating to tolerances, contact EPA, and the Center for Food Safety and Applied Nutrition (CFSAN) or the Center for Veterinary Medicine (CVM), as appropriate.

Direct Reference Seizure and Direct Reference Import Detention

The following represent criteria for recommending direct reference seizure of human food or animal feed to ORA, Office of Enforcement, Division of Compliance Management and Operations (HFC-210) or for direct reference recommendation for detention without physical examination (DWPE) of human food or animal feed offered for import, to ORA, Office of Regional Operations, Division of Import Operations and Policy (HFC-170):

The pesticide chemical residue is not subject to the "Channels of Trade" provision of the Act (section 408(l)(5)) and the level of such residue:

1. Exceeds an established tolerance or action level by at least 15%, or
2. Exceeds 0.05 ppm and also exceeds the limit of quantitation by at least 50%, when no tolerance or exemption from tolerance or action level has been established.

Recommendation to Center for Seizure and Import Detention

The following represent criteria for recommending seizure or import detention of human food to CFSAN, Office of Compliance, Division of Enforcement (HFS-607) and for

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recommending seizure or import detention of animal feed to CVM, Division of Compliance (HFV-230):

The pesticide chemical residue is not subject to the "Channels of Trade" provision of the Act (section 408(l)(5)) and the level of such residue is greater than an established tolerance or greater than or equal to an action level, but does not meet the criteria for direct reference.

V. SPECIMEN CHARGES:

Domestic Human Food or Animal Feed for Which There is No Tolerance and No Exemption from the Requirement for a Tolerance

The article of food was adulterated when introduced into and while in interstate commerce and is adulterated while held for sale after shipment in interstate commerce, within the meaning of the Act, 21 U.S.C. 342(a)(2)(B), in that it bears and contains a pesticide chemical residue, namely _____, that is unsafe within the meaning of 21 U.S.C. 346a because no tolerance or exemption from the requirement of a tolerance is in effect for such pesticide chemical residue in or on the article.

Domestic Human Food or Animal Feed for Which the Tolerance is Exceeded

The article of food was adulterated when introduced into and while in interstate commerce and is adulterated while held for sale after shipment in interstate commerce, within the meaning of the Act, 21 U.S.C. 342(a)(2)(B), in that it bears and contains a pesticide chemical residue, namely _____, that is unsafe within the meaning of 21 U.S.C. 346a because the quantity of such pesticide chemical residue exceeds the limits of the tolerance in effect for such pesticide chemical residue in or on the article pursuant to 40 CFR 180.____.

Human Food or Animal Feed in Import Status for Which There is No Tolerance and No Exemption from the Requirement for a Tolerance

The article of food is subject to refusal of admission pursuant to 801(a)(3) of the FD&C Act in that it appears to be adulterated within the meaning of section 402(a)(2)(B) of the FD&C Act in that it bears and contains a pesticide chemical residue, namely _____, that is unsafe within the meaning of section 408 of the FD&C Act because no tolerance or exemption from the requirement of a tolerance is in effect for such pesticide chemical residue in or on the article.

Human Food or Animal Feed in Import Status for Which the Tolerance is Exceeded

The article of food is subject to refusal of admission pursuant to 801(a)(3) of the FD&C Act in that it appears to be adulterated within the meaning of section 402(a)(2)(B) of the FD&C Act in that it bears and contains a pesticide chemical residue, namely _____

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_____, that is unsafe within the meaning of section 408 of the FD&C Act because the quantity of such pesticide chemical residue exceeds the limits of the tolerance in effect for such pesticide chemical residue in or on the article pursuant to 40 CFR 180.____.*

VI. FDA ACTION LEVELS FOR UNAVOIDABLE PESTICIDE CHEMICAL RESIDUES IN FOOD

*The action levels listed in this CPG predate the FQPA and have been retained from the previous version of this CPG. These action levels were set by FDA in consultation with EPA for residues of cancelled pesticide chemicals that persist in the environment and that were considered to be unavoidable in food and feed. FDA, in consultation with EPA, may at a future date determine on a case-by-case basis that it is appropriate to withdraw an action level because EPA has elected to issue a tolerance for residues of the pesticide chemical in food, under section 408(l)(4) of the Act (21 U.S.C. 346a(l)(4)), or because EPA has determined that the residues of the pesticide chemical are no longer expected to be unavoidably present in food. In the absence of a tolerance, food that bears or contains an unavoidable pesticide chemical residue is adulterated under section 402(a)(2)(B) of the Act (21 U.S.C. 342(a)(2)(B)).

The action levels listed in this CPG do not represent permissible levels of contamination and are not binding on FDA or the public. FDA would consider, case-by-case, whether to exercise its enforcement discretion and not take action to remove food from the marketplace that bears or contains an unavoidable pesticide chemical residue for which there is no tolerance. Thus, FDA may consider enforcement action when the level of a pesticide chemical residue in the food is below, equal to, or exceeds an action level. The District should contact the appropriate Center for questions regarding applicability of an action level.

Unless otherwise specified, an action level listed for:

1. A raw agricultural commodity may also apply to the corresponding processed food intended for human consumption or the corresponding processed feed intended for animal consumption;
2. Fish may also apply to shellfish; and
3. Processed animal feed may include a feed ingredient or a combination of feed ingredients (e.g., complete feed, supplement, concentrate, etc.).

Table 1. provides a comparison of commodity groupings listed in this CPG and crop groups established in 40 CFR 180.41. When FDA established action levels, based on EPA's recommendations, FDA specified several commodity groupings, which each included two or more commodities. At the time the action levels were established, the names of the commodity groupings, and the commodities listed within a commodity grouping, were identical to the commodity groupings, and commodities within, identified in EPA regulations. Subsequently, EPA organized commodities according to "crop groups," which may not include all of the commodities that were in the original

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commodity groupings or may include additional commodities that were not in the original commodity groupings. Contact the appropriate Center for questions relating to applicability of an action level to a specific commodity in a commodity grouping listed in this CPG.

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Table 1. – CPG Commodity Groupings Compared to EPA Crop Groups

CPG Commodity Groupings	EPA Crop Groups 40 CFR 180.41	
Root and tuber vegetables	Crop Group 1	Root and Tuber Vegetables Group
Root vegetables	Crop Group 1	Root and Tuber Vegetables Group
Animal feed, processed (may include, but is not necessarily limited to, the following crop groups)	Crop Group 1	Root and Tuber Vegetables Group
	Crop Group 2	Leaves of Root and Tuber Vegetables (Human Food or Animal Feed) Group
	Crop Group 6	Legume Vegetables (Succulent or Dried) Group
	Crop Group 7	Foliage of Legume Vegetables Group
	Crop Group 11	Pome Fruits Group
	Crop Group 14	Tree Nuts Group
	Crop Group 15	Cereal Grains Group
	Crop Group 16	Forage, Fodder and Straw of Cereal Grains Group
	Crop Group 17	Grass Forage, Fodder, and Hay Group
	Crop Group 18	Nongrass Animal Feeds (Forage, Fodder, Straw, and Hay) Group
Bulb vegetables	Crop Group 3	Bulb Vegetables (<i>Allium</i> spp.) Group
Leafy vegetables	Crop Group 4	Leafy Vegetables (Except <i>Brassica</i> Vegetables) Group
Brassica (cole) leafy vegetables	Crop Group 5	<i>Brassica</i> (Cole) Leafy Vegetables Group
Legume vegetables	Crop Group 6	Legume Vegetables (Succulent or Dried) Group
Beans	Crop Group 6	Legume Vegetables (Succulent or Dried) Group
Cucurbit vegetables	Crop Group 9	Cucurbit Vegetables Group
Citrus fruits	Crop Group 10	Citrus Fruits (<i>Citrus</i> spp., <i>Fortunella</i> spp.) Group
Pome fruits	Crop Group 11	Pome Fruits Group
Stone fruits	Crop Group 12	Stone Fruits Group
Small fruits and berries	Crop Group 13	Berries Group
Small fruits	NONE	
Cereal grains	Crop Group 15	Cereal Grains Group
Forage, fodder, and straw of cereal grain	Crop Group 16	Forage, Fodder and Straw of Cereal Grains Group
Hay	Crop Group 16	Forage, Fodder and Straw of Cereal Grains Group
	Crop Group 17	Grass Forage, Fodder, and Hay Group
	Crop Group 18	Nongrass Animal Feeds (Forage, Fodder, Straw, and Hay) Group

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Aldrin & Dieldrin

The following action levels are for residues of the above pesticides individually or in combination. In adding amounts of aldrin and dieldrin do not count aldrin or dieldrin found at a level below 0.01 ppm for nonfatty foods, 0.1 ppm for fish and 0.1 (fat basis) for milk.

<u>Commodity **</u>	<u>Action Level (ppm)</u>
Alfalfa	0.03
Animal feed, processed	0.03
Artichokes	0.05
Asparagus	0.03
Bananas	0.02
Beets (garden and sugar)	0.1
Beet tops (garden and sugar)	0.05
Broccoli	0.03
Brussels sprouts	0.03
Bulb vegetables	0.1
Cabbage	0.03
Carrots	0.1
Cauliflower	0.03
Cereal grains (except buckwheat, millet, teosinte and wild rice)	0.02
Celery	0.03
Clover	0.03
Collards	0.05
Cowpea hay	0.03
Cucumbers	0.1
Eggplant	0.05
Eggs	0.03
Endive (escarole)	0.05
Fats and oils (animal feed)	0.3
Figs	0.05
Fish (edible portion)	0.3
Forage, fodder and straw of cereal grains (except those of buckwheat, millet, teosinte and wild rice)	0.3
Grapefruit	0.02
Hay	0.03
Horseradish	0.1
Kale	0.05
Kohlrabi	0.05
Legume vegetables (except guar, jackbeans, lablab beans and lentils)	0.05

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Aldrin & Dieldrin - continued

<u>Commodity</u>	<u>Action Level (ppm)</u>
Lemons	0.02
Lespedeza	0.03
Lettuce	0.03
Limes	0.02
Mangoes	0.03
Melons	0.1
Milk (fat basis)	0.3
Mustard green	0.05
Oranges	0.02
Parsnips	0.1
Pea	0.03
Peaches	0.02
Peanuts	0.05
Peanut hay	0.03
Peppers	0.05
Pimentos	0.05
Pineapple	0.03
Pome Fruits (except crabapples and loquats)	0.03
Potatoes	0.1
Radishes	0.1
Radish tops	0.03
Rutabagas	0.1
Salsify roots	0.1
Salsify tops	0.05
Small fruits and berries	0.05
Soybean hay	0.03
Spinach	0.05
Squash	0.1
Stone fruits (except Chickasaw, Damson and Japanese plums, and peaches)	0.3
Sugarbeet pulp (animal feed)	0.1
Sweet potatoes	0.1
Swiss chard	0.05
Tangerines	0.02
Tomatoes	0.05
Turnips	0.1
Turnip tops	0.05

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Benzene Hexachloride (BHC)

The following action levels are for residues of total BHC. However, in adding amounts of individual isomers do not count alpha, gamma, or delta BHC at a level below 0.02 ppm in milk and rabbits, and 0.01 ppm for all other commodities listed. Do not count beta BHC at a level below 0.05 ppm for milk and rabbits, and 0.02 ppm for all other commodities listed.

For rabbits that contain insufficient fat to conduct an analysis on a fat basis, analyze the rabbits on a whole product basis (edible portion) and use 0.1 ppm, the limit of determination, as the action level.

<u>Commodity</u>	<u>Action Level (ppm)</u>
Animal feed, processed	0.05
Apples	0.05
Asparagus	0.05
Avocados	0.05
Beans	0.05
Brassica (cole) leafy vegetables (except broccoli raab and rape greens)	0.05
Celery	0.05
Carrots	0.3
Cereal grains (except buckwheat, millet, popcorn, teosinte and wild rice)	0.05
Citrus fruits	0.05
Cocoa beans	0.5
Cucurbit vegetables (except Balsam pears, Chinese waxgourds, gherkins and gourds)	0.05
Eggplant	0.05
Eggs	0.05
Endive	0.05
Figs	0.05
Frog legs (edible portion)	0.3
Guavas	0.05
Hay	0.05
Lettuce	0.05
Mangoes	0.05
Milk (fat basis)	0.3
Okra	0.05
Onions	0.05
Paprika	1.0
Pears	0.05
Peas	0.05

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Benzene Hexachloride (BHC) – continued

<u>Commodity</u>	<u>Action Level (ppm)</u>
Pecans	0.05
Peppers	0.05
Pineapples	0.05
Quinces	0.05
Rabbits (fat basis)**	0.3
Root and tuber vegetables (except carrots)	0.05
Small fruits and berries	0.05
Spinach	0.05
Swiss chard	0.05
Stone fruits (except Chickasaw, Damson and Japanese plums)	0.05
Tomatoes	0.05
Turnip greens	0.05

**

Chlordane

The following action levels are for residues of chlordane, including *cis* and *trans* chlordane, *cis* and *trans* nonachlor, oxychlordane, alpha, beta, and gamma chlordane and chlordane. Levels of individual components must be quantitated at 0.02 ppm or above and confirmed in order to be added into the “chlordane” total value. *

The gas liquid chromatography (GLC) pattern of the residue determines which reference standard(s) will be used for quantitation. If the residue pattern matches that of technical chlordane, quantitate against a technical chlordane reference standard. If the residue consists of identifiable individual components, (i.e., *cis* and *trans* chlordane, *cis* and *trans* nonachlor, oxychlordane, alpha, beta, and gamma chlordane and chlordane), quantitate individual components against their respective standards. Sum individual values to obtain the total “chlordane” level. Do not include levels of heptachlor epoxide in the summation.*

<u>Commodity **</u>	<u>Action Level (ppm)</u>
Animal fat, rendered	0.3
Animal feed, processed	0.1
Asparagus	0.1
Bananas	0.1
Beans	0.1
Beets (with or without tops)	0.1
Beets greens	0.1

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Chlordane - continued

<u>Commodity</u>	<u>Action Level (ppm)</u>
Brassica (cole) leafy vegetables (except broccoli raab, Chinese mustard cabbage and rape greens)	0.1
Carrots	0.1
Celery	0.1
Citrus fruits	0.1
Corn	0.1
Cucumbers	0.1
Eggplant	0.1
Fish (edible portion)	0.3
Lettuce	0.1
Melons	0.1
Okra	0.1
Onions	0.1
Papayas	0.1
Parsnips	0.1
Peanuts	0.1
Peas	0.1
Peppers	0.1
Pineapple	0.1
Pome fruits (except crabapples and loquats)	0.1
Potatoes	0.1
Radishes	0.1
Radish tops	0.1
Rutabagas (with or without tops)	0.1
Rutabaga tops	0.1
Small fruits and berries (except cranberries, currants, elderberries, gooseberries and olallie berries)	0.1
Spinach	0.1
Squash	0.1
Stone fruits (except Chickasaw, Damson and Japanese plums)	0.1
Sweet potatoes	0.1
Swiss chard	0.1
Tomatoes	0.1
Turnips (with or without tops)	0.1
Turnip greens	0.1

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Chlordecone *(The trade name for chlordecone is Kepone.)*

<u>Commodity</u>	<u>Action Level (ppm)</u>
Crabmeat	0.4
Fish	0.3

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DDT, DDE, & TDE

The following action levels are for residues of the above pesticides individually or in combination. However, in adding amounts of DDT, DDE & TDE do not count any of the three found below 0.02 ppm for non-fatty food and 0.2 ppm for fish, eggs, and grains.

<u>Commodity</u>	<u>Action Level (ppm)</u>
Animal feed, processed	0.5
Artichokes	0.5
Asparagus	0.5
Avocados	0.2
Beets (roots and tops)	0.2
Brassica (cole) leafy vegetables (except broccoli raab, Chinese mustard cabbage and rape greens)	0.5
Carrots	3.0
Cereal grains (except buckwheat, fresh sweetcorn, millet, popcorn, teosinte and wild rice)	0.5
Celery	0.5
Citrus fruits	0.1
Cocoa beans	1.0
Corn, fresh sweet	0.1
Cottonseed	0.1
Cucumbers	0.1
Eggplant	0.1
Eggs	0.5
Endive (escarole)	0.5
Fish (edible portion)	5.0
Grapes	0.05
Guavas	0.2
Hay	0.5
Hops	0.1
Legume vegetables (except guar, jackbeans, lablab beans and lentils)	0.2
Lettuce	0.5

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DDT, DDE, & TDE - continued

<u>Commodity</u>	<u>Action Level (ppm)</u>
Mangoes	0.2
Melons	0.1
Milk (fat basis)	1.25
Mushrooms	0.5
Okra	0.2
Onions (dry bulb)	0.2
Papayas	0.2
Parsnips (roots and tops)	0.2
Peanuts	0.2
Peppermint hay	0.5
Peppermint oil	1.0
Peppers	0.1
Pineapples	0.2
Pome fruits (except crabapples and loquats)	0.1
Potatoes	1.0
Radishes (roots and tops)	0.2
Rutabagas (roots and tops)	0.2
Small fruits and berries (except elderberries, grapes and olallie berries)	0.1
Soybean oil (crude)	1.0
Spearmint hay	0.5
Spearmint oil	1.0
Spinach	0.5
Squash	0.1
Stone fruits (except Chickasaw, Damson and Japanese plums)	0.2
Sweet potatoes	1.0
Swiss chard	0.5
Tomatoes	0.05
Tomato pomace	0.5
Turnips (roots and tops)	0.2

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Dicofol *(The trade name for dicofol is Kelthane.)*

<u>Commodity</u>	<u>Action Level (ppm)</u>
Animal feed, processed	0.5

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Ethylene Dibromide (EDB)

<u>Commodity</u>	<u>Action Level (ppb)</u>
Grain products	
Intermediate (milled) (must be cooked prior to consumption) Examples: flour, cake mix, pancake mix, corn meal, grits, quick grits, oatmeal, instant oatmeal, hominy, brown and serve rolls, frozen bread dough	150
Ready-to-eat (cooked) (require no cooking prior to consumption) Examples: bread, cakes, pancakes, corn bread, hushpuppies, cooked grits, cooked oatmeal, cooked hominy, crispy rice cereal, wheat flakes cereal, puffed oats, corn oil	30
Honey, ready-to-eat (will not undergo further processing prior to consumption)	30

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Heptachlor & Heptachlor Epoxide

The figures below are for residues of the above pesticide and its metabolite individually or in combination. However, do not count heptachlor or heptachlor epoxide found at a level below 0.1 ppm for fish, 0.05 ppm (fat basis) for milk, and 0.01 ppm for nonfatty foods.

<u>Commodity **</u>	<u>Action Levels (ppm)</u>
Animal feed, processed	0.03
Artichokes	0.05
Asparagus	0.05
Beans, except snap beans	0.05
Citrus fruits	0.05
Cucumbers	0.05
Eggs	0.05
Eggplant	0.03
Figs	0.05
Fish (edible portion)	0.3
Hay	0.03
Leafy vegetables	0.05
Melons	0.05
Okra	0.05
Pears	0.05
Pimentos	0.05
Pumpkins	0.05
Quinces	0.05
Rice	0.03
Small fruits **	0.05
Stone fruits **	0.05
Squash	0.05

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Lindane

Note: Lindane has tolerances in certain commodities. See 40 CFR 180.133.

<u>Commodity</u>	<u>Action Level (ppm)</u>
Animal feed, processed	0.1
Artichokes	0.5
Barley	0.1
Beans	0.5
Citrus fruits **	0.5
Cocoa beans, whole raw bean	0.5
Corn, fresh sweet	0.5
Corn	0.1
Eggs	0.5
Endive	0.5
Figs	0.5
Hay	0.1
Milk (fat basis)	0.3
Oats	0.1
Peas	0.5
Rice	0.1
Root vegetables **	0.5
Rye	0.1
Small fruits **	0.5
Sorghum (milo)	0.1
Turnip greens	0.5
Wheat	0.1

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Mirex

<u>Commodity</u>	<u>Action Level (ppm)</u>
Fish (edible portion)	0.1

Material between asterisks is new or revised.

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