render it unfit for consumption. Examples are cocoa beans, coffee beans, field-dried beans, field-dried peas, grains, and nuts. Not included are eggs, milk, meat, poultry, fresh fruits, and vegetables such as onions, parsnips, potatoes, and carrots.

(i) The term tolerance with regional registration means any tolerance which is established for pesticide residues resulting from the use of the pesticide pursuant to a regional registration. Such a tolerance is supported by residue data from specific growing regions for a raw agricultural commodity. Individual tolerances with regional registration are designated in separate subsections in 40 CFR 180.101 through 180.999, as appropriate. Additional residue data which are representative of the proposed use area are required to expand the geographical area of usage of a pesticide on a raw agricultural commodity having an established “tolerance with regional registration.” Persons seeking geographically broader registration of a crop having a “tolerance with regional registration” should contact the appropriate EPA product manager concerning additional residue data required to expand the use area.

(m) The term pesticide chemical residue shall have the meaning specified in FFDCA section 201(q)(2), as amended, except as provided in §180.4.

(a) Pesticide chemicals that cause related pharmacological effects will be regarded, in the absence of evidence to the contrary, as having an additive deleterious action. (For example, many pesticide chemicals within each of the following groups have related pharmacological effects: Chlorinated organic pesticides, arsenic-containing chemicals, metallic dithiocarbamates, cholinesterase-inhibiting pesticides.)

(b) Tolerances established for such related pesticide chemicals may limit the amount of a common component (such as \( \text{As}_2\text{O}_3 \)) that may be present, or may limit the amount of biological activity (such as cholinesterase inhibition) that may be present, or may limit the total amount of related pesticide chemicals (such as chlorinated organic pesticides) that may be present.

(c)(1) Where tolerances for inorganic bromide in or on the same raw agricultural commodity are set in two or more sections in this part (example: §§180.123 and 180.199), the overall quantity of inorganic bromide to be tolerated from use of the same pesticide in different modes of application or from two or more pesticide chemicals for which tolerances are established is the highest of the separate applicable tolerances. For example, where the bromide tolerance on asparagus from methyl bromide commodity fumigation is 100 parts per million (40 CFR 180.123) and on asparagus from methyl bromide soil treatment is 300 parts per million (40 CFR 180.199), the overall inorganic bromide tolerance for asparagus grown on methyl bromide-treated soil and also fumigated with methyl bromide after harvest is 300 parts per million.

(d)(1) Where tolerances are established for both calcium cyanide and hydrogen cyanide on the same raw agricultural commodity, the total amount of such pesticides shall not yield more residue than that permitted by the larger of the two tolerances, calculated as hydrogen cyanide.

2 Where tolerances are established for residues of both \( \text{O},\text{O} \)-diethyl \( \text{S} \)-[2-
(ethylthio)ethyl phosphorodithioate and demeton (a mixture of O,O-diethyl O-(and S-) [2-(ethylthio)ethyl] phosphorothioates) on the same raw agricultural commodity, the total amount of such pesticides shall not yield more residue than that permitted by the larger of the two tolerances, calculated as demeton.

(3) Where tolerances are established for both terpene polychlorinates (chlorinated mixture of camphene, pinene, and related terpenes, containing 65–66 percent chlorine) and toxaphene (chlorinated camphene containing 67–69 percent chlorine) on the same raw agricultural commodities, the total amount of such pesticides shall not yield more residue than that permitted by the larger of the two tolerances, calculated as a chlorinated terpene of molecular weight 396.6 containing 67 percent chlorine.

(4) Where a tolerance is established for more than one pesticide containing arsenic found in, or on a raw agricultural commodity, the total amount of such pesticide shall not exceed the highest established tolerance calculated as As$_2$O$_3$.

(5) Where tolerances are established for more than one member of the class of dithiocarbamates listed in paragraph (e)(3) of this section on the same raw agricultural commodity, the total residue of such pesticides shall not exceed the highest established tolerance established for any one member of the class, calculated as zinc ethylenebisdithiocarbamate.

(6) Where tolerances are established for residues of both S,S,S-tributyl phosphorotrithioate and tributyl phosphorotrithioate in or on the same raw agricultural commodity, the total amount of such pesticides shall not yield more residue than that permitted by the higher of the two tolerances, calculated as S,S,S-tributyl phosphorotrithioate.

(7) Where tolerances are established for residues of O,S-dimethyl phosphoramidithioate, resulting from the use of acephate (O,S-dimethyl acetylphosphoramidothioate) and/or O,S - dimethylphosphoramidothioate on the same agricultural commodity, the total amount of O,S-dimethyl phosphoramidithioate shall not yield more residue than that permitted by the higher of the two tolerances.

(8) Where a tolerance is established for more than one pesticide having the metabolites 1-(3,4-dichlorophenyl)-3-methyleurea (DCPMU) and 3,4-dichlorophenylurea (DCPU) found in or on a raw agricultural commodity, the total amount of such residues shall not exceed the highest established tolerance for a pesticide having these metabolites.

(9) Where a tolerance is established for more than one pesticide having as metabolites compounds containing the benzimidazole moiety found in or on a raw agricultural commodity, the total amount of such residues shall not exceed the highest established tolerance for any of the pesticides having the metabolites.

(10) Where a tolerance is established for triclopyr, chloropyrifos, and chlorpyrifos-methyl having the common metabolite 3,5,6-trichloro-2-pyridinol on the same raw agricultural commodity, the total amount of such residues shall not exceed the highest established tolerance for any of the pesticides having this metabolite.

(11) Where tolerances are established for residues of methomyl, resulting from the use of thiodicarb and/or methomyl on the same raw agricultural commodity, the total amount of methomyl shall not yield more residue than that permitted by the higher of the two tolerances.

(12) Where tolerances are established for residues of methomyl, resulting from the use of thiodicarb and/or methomyl on the same raw agricultural commodity, the total amount of methomyl shall not yield more residue than that permitted by the higher of the two tolerances.

(e) Except as noted in paragraphs (e)(1) and (2) of this section, where residues from two or more chemicals in the same class are present in or on a raw agricultural commodity the tolerance for the total of such residues shall be the same as that for the chemical having the lowest numerical tolerance in this class, unless a higher tolerance level is specifically provided for the combined residues by a regulation in this part.
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(1) Where residues from two or more chemicals in the same class are present in or on a raw agricultural commodity and there are available methods that permit quantitative determination of each residue, the quantity of combined residues that are within the tolerance may be determined as follows:

(i) Determine the quantity of each residue present.

(ii) Divide the quantity of each residue by the tolerance that would apply if it occurred alone, and multiply by 100 to determine the percentage of the permitted amount of residue present.

(iii) Add the percentages so obtained for all residues present.

(iv) The sum of the percentages shall not exceed 100 percent.

(2) Where residues from two or more chemicals in the same class are present in or on a raw agricultural commodity and there are available methods that permit quantitative determinations of one or more, but not all, of the residues, the amounts of such residues as may be determinable shall be deducted from the total amount of residues present and the remainder shall have the same tolerance as that for the chemical having the lowest numerical tolerance in that class. The quantity of combined residues that are within the tolerance may be determined as follows:

(i) Determine the quantity of each determinable residue present.

(ii) Deduct the amounts of such residues from the total amount of residues present and consider the remainder to have the same tolerance as that for the chemical having the lowest numerical tolerance in that class.

(iii) Divide the quantity of each determinable residue by the tolerance that would apply if it occurred alone and the quantity of the remaining residue by the tolerance for the chemical having the lowest numerical tolerance in that class and multiply by 100 to determine the percentage of the permitted amount of residue present.

(iv) Add the percentages so obtained for all residues present.

(v) The sum of the percentages shall not exceed 100 percent.

(3) The following pesticides are members of the class of dithiocarbamates:

A mixture of 5.2 parts by weight of ammoniates of [ethylenbis (dithiocarbamato)] zinc with 1 part by weight ethylenbis (dithiocarbamic acid) binuclear and trimuclear cyclic anhydrosulfides and disulfides.

2-Chloroallyl diethylthiocarbamate.

Coordination product of zinc ion and maneb containing 20 percent manganese, 2.5 percent zinc, and 77.5 percent ethylenbisdithiocarbamate.

Ferbam.

Maneb.

Manganous dimethylthiocarbamate.

Sodium dimethylthiocarbamate.

Thiram.

Zineb.

Ziram.

(4) The following are members of the class of chlorinated organic pesticides:

Aldrin.

BHC (benzene hexachloride).

1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethanol.

Chlorbenside (p-chlorobenzyl p-chlorophenyl sulfide).

Chlordane.

Chlorobenzilate (ethyl 4,4'-dichlorobenzilate).

p-Chlorophenoxyacetic acid.

p-Chlorophenyl-2,4,5-trichlorophenyl sulfide.

2,4-D (2,4-dichlorophenoxyacetic acid).

DDD (TDE).

DDT.

1,1-Dichloro-2,2-bis(p-ethylphenyl) ethane.

2,6-Dichloro-4-nitroaniline.

2,4-Dichlorophenyl p-nitrophenyl ether.

Dieldrin.

Dodecachlorooctahydro-1,3,4-metheno-2H-cyclobuta(cd)pentalene.

Endosulfan (6,7,8,9,10,10-hexachloro-1,5,5a, 6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide).

Endosulfan sulfate (6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3,3-dioxide).

Heptachlor (1,4,5,6,7,8,8-heptachlor-3a,4,7, 7a-tetrahydro-4,7-methanoindene).

Heptachlor epoxide (1,4,5,6,7,8,8-heptachloro-2,3-epoxy-2,3,3a,4,7,7a-hexahydro-4,7-methanoindene).

Heptachlorophene (2,2'-methylenebis(3,4,6-trichlorophenol) and its monosodium salt.

Isopropyl 4,4'-dichlorobenzilate.

Lindane.

Methoxychlor.

Oxam (p-chlorophenyl p-chlorobenzenesulfonate).

Sesone (sodium 2,4-dichlorophenoxyethyl sulfate, SES).

Sodium 2,4-dichlorophenoxyacetate.

Sodium trichloracetate.

Sulphenone (p-chlorophenyl phenyl sulfone).

Terpene polychlorinates (chlorinated mixture of camphene, pinene, and related terpenes 65-68 percent chlorine).
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2,3,5,6-Tetrachloronitrobenzene.
Tetradifon (2,4,5,6-tetrachlorodiphenyl sulphone).
Toxaphene (chlorinated camphene).
Trichlorobenzoic acid.
Trichlorobenzyl chloride.

(5) The following are members of the class of cholinesterase-inhibiting pesticides:

Acephate (O,S-dimethyl acetylphosphorodithioate) and its cholinesterase-inhibiting metabolite O,3-dimethylphosphorodithioate.
Aldicarb (2-methyl-2-(methylthio)propanaldehyde O-methylcarbamoyloxime) and its cholinesterase-inhibiting metabolites 2-methyl-2-(methylsulfanyl)propionaldehyde O-(methylcarbamoyl)oxide and 2-methyl-2-(methylsulfanyl)propionaldehyde O-(methylcarbamoyloxime).
Dialifor 4-tert-Butyl-2-chlorophenyl methyl methylyphosphorodithioate.

S-(tert-Butylthio)methyl O,O-diethylphosphorodithioate and its cholinesterase-inhibiting metabolites.
Carbaryl (1-naphthyl N-methylcarbamate).
Carbofuran (2,3-dihydro-2,2-dimethyl-7-benzofuranyl-N-methylcarbamate).
Carbofuran metabolite (2,3-dihydro-2,2-dimethyl-7-hydroxy-7-benzofuranyl-N-methylcarbamate).
Carbofenol (S-((p-chlorophenyl)thio)methyl O-diethylphosphorodithioate) and its cholinesterase-inhibiting metabolites.
Chlorpyrifos (O,O-diethyl O-(3,5,6-trichloro-2-pyridyl)phosphorothioate).
Chlorpyrifos-methyl (O,O-dimethyl O-(3,5,6-trichloro-2-pyridyl)phosphorothioate).
2-Chloro-1-(2,4,5-trichlorophenyl)vinyl dimethylphosphate.
2-Chloro-1-(2,4-dichlorophenyl) vinyl diethylphosphate.

Coumaphos (O,O-diethyl O-3-chloro-4-methyl-2-oxo-2H-1-benzoypyran-7-yl-phosphate).
Coumaphos oxygen analog (O,O-diethyl O-3-chloro-4-methyl-2-oxo-2H-1-benzoypyrophosphate).
Dialifor (S-2-chloro-1-phenylmidoethyl) O,O-diethylphosphorodithioate.
Dialifor oxygen analog (S-2-chloro-1-phenylmidoethyl) O,O-diethylphosphorothioate.

Demeton (a mixture of O,O-diethyl O-(and S-(2-ethylthio)ethyl)phosphorothioate).
Ethioate (S-ethyl diethylthiocarbamate).
2,2-Dichlorovinyl dimethyl phosphate.

O,O-Diethyl O-2-diethylamino-6-methyl-4-pyrimidinyl phosphorothioate and its oxygen analog diethyl 2-diethylamino-6-methyl-4-pyrimidinyl phosphate.

O,O-Diethyl O-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate.
Diethyl 2-pyrazinyl phosphate.
O,O-Diethyl O-2-pyrazinyl phosphorothioate.

S-(O,O-Diisopropyl phosphorodithioate) of N-(2-mercaptocetyl) benzene sulfonamide.
S-(O,O-Diisopropyl phosphorodithioate) of N-(2-mercaptocetyl) benzene sulfonamide.
2-(Dimethylamino)-5,6-dimethyl-4-pyrimidinyl dimethylcarbamate and its metabolites 5,6-dimethyl-2-(formylmethylamino)-4-pyrimidinyl dimethylcarbamate and 5,6-dimethyl-2-(methylamino)-4-pyrimidinyl dimethylcarbamate (both calculated as parent).

Dimethoate (O,O-dimethyl S-(N-methylcarbamoylmethyl)phosphorodithioate).
Dimethoate oxygen analog (O,O-dimethyl S-(N-methylcarbamoylmethyl)phosphorothioate).

O,O-Dimethyl O-p-(dimethylsulfonioyl)phenylphosphorothioate.

O,O-Dimethyl O-p-(dimethylsulfonyl)phenylphosphorothioate.

O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3-(4H)-ylmethyl)phosphorodithioate.

Dimethyphosphate of 3-hydroxy-N,N-diethyl-cis-crotonamide.

Dimethyphosphate of 3-hydroxy-N,N-diethyl-cis-crotonamide.

Dimethyphosphate of N-methylbenzyl 3-hydroxy-cis-crotonate.

Dimethylphosphate of O-methylbenzyl 3-hydroxy-cis-crotonate.

O,O-Dimethyl S-(2,2,2-trichloro-1-hydroxyethyl)phosphonate.
O,O-Dimethyl phosphorodithioate, S-ester with 4-(mercaptocetyl)-2-methoxy-2,3,4-thiadiazolin-5-one.

Dioxathion (2,3-p-dioxanediiodo-S,S-bis(O,O-diethylphosphorodithioate)) containing approximately 70 percent cis and trans isomers and approximately 30 percent related compounds.

EPN.

Etephen ((2- chloroethyl) phosphonic acid).

Ethion.

Ethion oxygen analog (S-[diethoxyphosphinofluorothioyl]thio) methyl O,O-diethylphosphorothioate).


Ethyl S,3-dipropylphosphorodithioate.

Ethyl 3-methyl-4-(methylthio)phenyl (1-methylethyl) phosphoromidate and its cholinesterase-inhibiting metabolites.

Ethyl S-phenyl ethylphosphonothioate.

Ethyl S-phenyl ethylphosphonothioate.
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Fenthion (O,O-diethyl O-[3-methyl-4-(methylthio)phenyl]phosphorothioate and its cholinesterase-inhibiting metabolites.

Malathion.

N-Mercaptoethylphthalimide S-(O,O-diethyl phosphorodithioate).

N-(Mercaptoethyl)phthalimide S-(O,O-diethyl phosphorothioate).

Phosalone (S-(ethylthio)methylphenyl methylcarbamate).

Phorate (O,O-diethyl S-(ethylthio)methylphosphorothioate).

Parathion.

Naled.

Methomyl (O,O-diethyl O-[3-methyl-4-(methylthio)phenyl]phosphorothioate and its cholinesterase-inhibiting metabolites.

Methyl parathion.

Pyridaphos (2,3,5-trimethylphenyl methylcarbamate).

Pirimiphos-methyl O-[2-(diethylamino-6-methylpyrimidinyl) O,O-diethyl phosphorothioate.

Ronnel.

Schradan (octamethylpyrophosphoramide).

Tetraethyl pyrophosphate.

O,O,O,O'-Tetramethyl O,O'-sulfonyldi-p-phenylene phosphorothioate.

O,O,O,O'-Tetramethyl O,O'-thiodi-p-phenylene phosphorothioate.

Tributyl phosphorotrilitioate.

S,S,S'-Tributyl phosphorothriothioate.

3,4,5'-Trimethylphenyl methylcarbamate and its isomer 2,3,5'-trimethylphenyl methylcarbamate.

(6) The following pesticides are members of the class of dinitrophenols:

2,4-Dinitro-6-octylphenyl crotonate and 2,6-dinitro-4-octylphenyl crotonate, mixture of.

4,6-Dinitro-o-cresol and its sodium salt.

Dinoseb (2-sec-butyl-4,6-dinitrophenol) and its alkanolamine, ammonium, and sodium salts.

[41 FR 8096, Mar. 2, 1976]

EDITORIAL NOTE: For Federal Register citations affecting §180.3, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.fdsys.gov.

40 CFR Ch. 1 (7–1–14 Edition)

Effective date note: At 79 FR 27501, May 14, 2014, §180.3 was amended by revising paragraph (d)(5), effective Nov. 14, 2014. For the convenience of the user, the revised text is set forth as follows:

§ 180.3 Tolerances for related pesticide chemicals.

* * * * *

(d) * * *

(5) Where tolerances are established for more than one member of the class of dithiocarbamates listed in paragraph (e)(3) of this section on the same raw agricultural commodity, the total residue of such pesticides shall not exceed that permitted by the highest tolerance established for any one member of the class, calculated both as zinc ethylenebisdithiocarbamate and carbon disulfide. The tolerance based on zinc ethylenebisdithiocarbamate shall first be multiplied by 0.8 to convert it to the equivalent carbon disulfide tolerance, and then the carbon disulfide tolerance levels will be compared to determine the highest tolerance level per raw agricultural commodity.

* * * * *

§ 180.4 Exceptions.

The substances listed in this section are excepted from the definitions of "pesticide chemical" and "pesticide chemical residue" under FFDCA section 201(q)(3) and are therefore exempt from regulation under FFDCA section 402(a)(2)(B) and 408. These substances are subject to regulation by the Food and Drug Administration as food additives under FFDCA section 408.

(a) Inert ingredients in food packaging treated with a pesticide, when such inert ingredients are the components of the food packaging material (e.g., paper and paperboard, coatings, adhesives, and polymers).

(b) [Reserved]


§ 180.5 Zero tolerances.

A zero tolerance means that no amount of the pesticide chemical may remain on the raw agricultural commodity when it is offered for shipment. A zero tolerance for a pesticide chemical in or on a raw agricultural commodity may be established because, among other reasons: