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Existing Crop Groups and ASTA Spice List Tolerances

Below is a non-exclusive list of current pesticide residue tolerances listed in 40CFR as of February 16, 2021. This list is limited to individual spices as included on the ASTA spice list and the crop groups in which they are listed and does not include any other tolerances applicable to any food.

This list is complete to the best of ASTA's knowledge; however, the U.S. Environmental Protection Agency (EPA) retains the ability to alter tolerances at any time—therefore, it is the user's responsibility to verify any tolerances rather than relying solely on the language contained within this document. Users may refer to the electronic Code of Federal Regulations (eCFR), updated daily, to verify pesticide residue tolerances of interest.¹

Additional considerations related to the use of this document are listed below.

Updated Crop Groups:

EPA has amended the herbs and spices crop groups previously published as Crop Group 19: Herbs and Spices, effective January 5, 2021.² These commodities are now separated into two new crop groups, "Crop Group 25: Herb Group" (**Appendix 4**) and "Crop Group 26: Spice Group" (**Appendix 5**). EPA added additional commodities to both crop groups.

EPA notes that the goal of this revision is to enhance the agency's ability to conduct food safety evaluations for tolerance-setting purposes and to further increase the benefit of the crop grouping system for those involved in commercial agriculture and trade.

In accordance with 40 CFR 180.40(j), Crop Group 19 will remain in the CFR until all relevant tolerances associated with Crop Group 19 and its subgroups have been updated to comply with the newly established Crop Groups 25 and 26. All new tolerances will be established on Crop Group 25 or 26. No tolerances have been established or updated that pertain to the new Crop Groups as of February 12, 2021. As such, Crop Group 19 tolerances are included in this document.

Important Tolerance Considerations

The established tolerances cited in this document refer to the total maximum residue limits allowable on spice and herb commodities. Under section 408(a) (21 U.S.C. 346a(a)), a pesticide chemical in or on food is considered adulterated if:

1. A pesticide chemical residue exceeds the specified tolerance (40 CFR 180 Subpart C – Specific Tolerances); or
2. No tolerance for the pesticide chemical residue has been established and no exemption from the requirement of a tolerance exists (40 CFR 180 Subpart D – Exemption From Tolerances)



Therefore, when a tolerance is not established on this list for a commodity, the default tolerance in the United States is zero. Any spice or herb imported that contains a pesticide with no established residue will be considered adulterated. If a crop is considered adulterated, it may be seized by the U.S. Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), or a state enforcement agency.³

Processed Commodities:

Generally, pesticide tolerances are established on raw agricultural commodities, but in some cases, there may be a separate tolerance established for processed commodities. EPA regulations state that if a processed commodity is derived from an agricultural commodity for which there is an established tolerance, the process commodity is not adulterated – however, the residue on the processed commodity may not exceed the tolerance on the agricultural commodity. Therefore, if the process concentrates that residue and there is not a separate established residue, the resulting product would be out of compliance.

The established guidelines surrounding dehydration factors are as follows:

- If there is NOT an MRL for a specific pesticide for a processed food in its concentrated or dehydrated form, AND
- The processed food consists primarily of one ingredient, AND
- The product is sold in a form requiring further preparation prior to consumption (e.g., fruit juice, concentrates, dehydrated vegetables, and powdered potatoes)

If all of these factors are met, then the tolerance should be evaluated on the basis of the commodity “as consumed” basis. The product should then be examined for residues after reconstituting to the commodity's normal moisture content.

A tolerance may either be established on a single commodity – such as black pepper, or it is also possible for tolerances to be established on a group of commodities.

FDA is responsible for enforcing residues on foods, which typically occurs at import. Further, the FDA publishes an annual monitoring report,⁴ which demonstrates that the testing of spices is low.

Disclaimer:

The information provided in this document does not, and is not intended to, constitute legal advice. Please consult your own legal counsel with any questions or concerns on the applicability of this resource in your company's respective projects and processes.

¹ Electronic Code of Federal Regulations. Part 180 – Tolerances and Exemptions for Pesticide Chemical Residues in Food.

https://www.ecfr.gov/cgi-bin/text-idx?SID=652f6661f1c740545053c400dfe56616&node=pt40.24.180&rgn=div5#se40.26.180_11011

² EPA. 2020. Tolerance Crop Grouping Program V. EPA-HQ-OPP-2006-0766.

<https://www.federalregister.gov/documents/2020/11/06/2020-23874/tolerance-crop-grouping-program-v>



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³ EPA. Pesticide Registration Manual: Chapter 11 – Tolerance Petitions. <https://www.epa.gov/pesticide-registration/pesticide-registration-manual-chapter-11-tolerance-petitions>

⁴ Recent annual reports and data can be found: <https://www.fda.gov/food/pesticides/pesticide-residue-monitoring-program-reports-and-data>



Crop Group 19: Herbs and spices (See Appendix 1)

- §180.124 Methyl bromide, Section 18 emergency exemptions, 35 ppm (Expires 12/31/2020)
- §180.145 Fluorine compounds, postharvest, 70ppm
- §180.151(1) Ethylene oxide, dried except basil, 7ppm
- §180.151(2) Ethylene chlorohydrin/2-chloroethanol, dried except basil, 940ppm
- §180.293 Endothall, indirect or inadvertent residues, 5.0ppm
- §180.491(1) Propylene oxide, dried, 300ppm
- §180.491(2) Propylene chlorohydrin, dried except basil, 1500ppm
- §180.515 Carfentrazone-ethyl, 2.0ppm
- §180.575 Sulfuryl fluoride, postharvest, 0.5ppm

- §180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, in or on egg, dried and herb, processed and spice, 400ppm

Crop Group 19a: Herbs (See Appendix 2)

- §180.364 Glyphosate 0.2ppm
- §180.442 Bifenthrin 0.05ppm
- §180.449 Avermectin B1 and its delta-8,9-isomer, except chive, 0.030ppm
- §180.458 Clethodim 12.0ppm
- §180.472(1) Imidacloprid, dried herbs 48ppm
- §180.472(2) Imidacloprid, fresh herbs 8.0 ppm
- §180.495(1) Spinosad dried 22ppm
- §180.495(2) Spinosad, fresh 3.0 ppm
- §180.505 Emamectin 0.4ppm
- §180.507(1) Azoxystrobin, dried leaves, 260ppm
- §180.507(2) Azoxystrobin, fresh leaves, 50 ppm
- §180.510 Pyriproxyfen 100ppm
- §180.515 Carfentrazone-ethyl, 2.0 ppm
- §180.516(1) Fludioxonil, dried leaves 65ppm
- §180.516(2) Fludioxonil, fresh leaves 10 ppm
- §180.532(1) Cyprodinil, dried, except parsley 15.0ppm
- §180.532(2) Cyprodinil, fresh, except parsley 3.0ppm
- §180.544 Methoxyfenozide, except chive, fresh leaves, 400ppm
- §180.555 Trifloxystrobin, 200ppm
- §180.572 Bifenazate, except chervil and chive, 300ppm
- §180.582 Pyraclostrobin, 40ppm
- §180.589 Boscalid, 150ppm
- §180.601 Cyazofamid, 90ppm
- §180.628(1) Chlorantraniliprole, dried leaves 90ppm
- §180.628(2) Chlorantraniliprole, fresh leaves, 25 ppm
- §180.635(1) Spinetoram, dried 22ppm



§180.635(2) Spinetoram, fresh, 3.0ppm

§180.661 Fluopyram, 40ppm

Crop Group 19b: Spices (See Appendix 3)

§180.364 Glyphosate 7.0ppm

§180.495 Spinosad, except black pepper, 1.7ppm

§180.507 Azoxystrobin, except black pepper, 38ppm

§180.516 Fludioxonil 0.02ppm

§180.544 Methoxyfenozide (indirect or inadvertent residue), 4.5ppm

§180.628 Chlorantraniliprole 90ppm

§180.635 Spinetoram, except black pepper, 1.7ppm

Other Crop Groups

Non-exclusive list of current pesticide tolerances for other crop groups that contain spices listed on the ASTA Spice List.

Crop Group 1: Root and Tuber Vegetables (Includes horseradish, ginger, and turmeric)

§180.103 Captan, 0.05 ppm

§180.124 Methyl bromide, Section 18 emergency exemptions, 3.0 ppm

§180.142 2,4-D, except potato, 0.1 ppm

§180.169 Carbaryl, except sugar beet and sweet potato, 2.0 ppm

§180.207 Trifluralin, except carrot, 0.05 ppm

§180.226 Diquat, 0.02 ppm

§180.253 Methomyl, 0.2 ppm

§180.293 Endothall, indirect or inadvertent residues, 1.0 ppm

§180.408 Metalaxyl, 0.5 ppm

§180.412 Sethoxydim, 4.0 ppm

§180.418(1) Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, zeta-cypermethrin, except sugar beet, 0.1 ppm

§180.418(2) Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, alpha-cypermethrin, except sugar beet, 0.10 ppm

§180.420 Fluridone, indirect or inadvertent residues, 0.1 ppm

§180.443 Myclobutanil, indirect or inadvertent residues, 0.03 ppm

§180.472 Imidacloprid, except sugar beet, 0.40 ppm

§180.495 Spinosad, 0.10 ppm

§180.510 Pyriproxyfen, 0.15 ppm

§180.515 Carfentrazone-ethyl, 0.10 ppm

§180.628 Chlorantraniliprole, 0.30 ppm



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§180.635 Spinetoram, 0.10 ppm

§180.668 Sulfoxaflor, 0.05 ppm

Crop Group 1A: Root Vegetables Subgroup (Includes horseradish)

§180.475 Difenoconazole, except ginseng, 0.6 ppm

§180.565 Thiamethoxam, 0.05 ppm

§180.627 Fluopicolide, 0.15 ppm

§180.669 Picoxystrobin, 0.50 ppm

§180.699 Pydiflumetofen, 0.5 ppm

§180.702 Bixafen, 0.30 ppm

Crop Group 1B: Root Vegetables (Except Sugar Beet) Subgroup (Includes horseradish)

§180.242 Thiabendazole, 0.02 ppm

§180.368 Metolachlor, S-metolachlor, except carrot, 0.30 ppm

§180.434 Propiconazole, 0.3 ppm

§180.442 Bifenthrin, except garden beet, 0.10 ppm

§180.458 Clethodim, 1.0 ppm

§180.507 Azoxystrobin, 1.0 ppm

§180.516 Fludioxonil, 0.75 ppm

§180.532 Cyprodinil, 0.75 ppm

§180.544 Methoxyfenozide, 0.90 ppm

§180.555 Trifloxystrobin, 0.1 ppm

§180.579 Fenamidone, except radish, 0.15 ppm

§180.582 Pyraclostrobin, 0.4 ppm

§180.586 Clothianidin, 0.8 ppm

§180.589 Boscalid, 2.0 ppm

§180.613 Flonicamid, 0.60 ppm

§180.658 Penthiopyrad, 3.0 ppm

§180.661 Fluopyram, 0.30 ppm

§180.666 Fluxapyroxad, 0.90 ppm

§180.672 Cyantraniliprole, 0.40 ppm

§180.679 Flupyradifurone, 0.90 ppm

§180.680 Fluensulfone, 4 ppm

Crop Group 1C: Tuberos and Corm Vegetables Subgroup (Includes ginger and turmeric)

§180.205 Paraquat, 0.50 ppm

§180.303 Oxamyl, 0.1 ppm

§180.350 Nitrapyrin, 0.6 ppm

§180.368 Metolachlor, S-metolachlor, 0.20 ppm

§180.378 Permethrin, 0.05 ppm



§180.414	Cyromazine, 0.8 ppm
§180.433	Fomesafen, 0.025 ppm
§180.436(1)	Cyfluthrin and the isomer beta-cyfluthrin, 0.01 ppm
§180.436(2)	Cyfluthrin and the isomer beta-cyfluthrin, beta-cyfluthrin, 0.01 ppm
§180.438	Lambda-cyhalothrin and an isomer gamma-cyhalothrin, 0.02 ppm
§180.442	Bifenthrin, 0.05 ppm
§180.458	Clethodim, 1.0 ppm
§180.464	Dimethenamid, 0.01 ppm
§180.475	Difenoconazole, 4.0 ppm
§180.478	Rimsulfuron, 0.10 ppm
§180.479	Halosulfuron-methyl, 0.05 ppm
§180.498	Sulfentrazone, combined residues of the free and conjugated forms, 0.15 ppm
§180.499	Propamocarb, 0.3 ppm
§180.507	Azoxystrobin, 8.0 ppm
§180.516	Fludioxonil, 6.0 ppm
§180.518	Pyrimethanil, 0.05 ppm
§180.532	Cyprodinil, 0.01 ppm
§180.555	Trifloxystrobin, 0.04 ppm
§180.556	Pymetrozin, 0.02 ppm
§180.566	Fenpyroximate, 0.10 ppm
§180.567	Zoxamide, 0.06 ppm
§180.568	Flumioxazin, 0.02 ppm
§180.572	Bifenazate, 0.10 ppm
§180.574	Fluazinam, 0.02 ppm
§180.579	Fenamidone, 0.02 ppm
§180.582	Pyraclostrobin, 0.04 ppm
§180.585	Pyraflufen-ethyl, 0.02 ppm
§180.586	Clothianidin, 0.3 ppm
§180.589	Boscalid, 0.05 ppm
§180.598	Novaluron, 0.05 ppm
§180.601	Cyazofamid, 0.02 ppm
§180.603	Dinotefuran, 0.05 ppm
§180.607	Spiromesifen, 0.02 ppm
§180.609	Fluoxastrobin, 0.010 ppm
§180.613	Fonicamid, 0.20 ppm
§180.617	Metconazole, 0.04 ppm
§180.622	Ethaboxam, 0.01 ppm
§180.627	Fluopicolide, 0.09 ppm
§180.637	Mandipropamid, 0.09 ppm
§180.641	Spirotetramat, 0.60 ppm



§180.651	Imazosulfuron, 0.02 ppm
§180.658	Penthiopyrad, 0.06 ppm
§180.659	Pyroxasulfone, 0.08 ppm
§180.661	Fluopyram, 0.10 ppm
§180.663	Ametoctradin, 0.05 ppm
§180.664	Penflufen, 0.01 ppm
§180.666	Fluxapyroxad, 0.02 ppm
§180.669	Picoxystrobin, 0.03 ppm
§180.672	Cyantraniliprole, 0.15 ppm
§180.675	Tolfenpyrad, 0.01 ppm
§180.679	Flupyradifurone, 0.05 ppm
§180.680	Fluensulfone, 0.8 ppm
§180.685	Oxathiapiprolin, 0.04 ppm
§180.686	Benzovindiflupyr, 0.02 ppm
§180.694	Cyclaniliprole, 0.01 ppm
§180.699	Pydiflumetofen, 0.015 ppm
§180.700	Afidopyropen, 0.01 ppm
§180.701	Pyrifluquinazon, 0.02 ppm
§180.702	Bixafen, 0.01 ppm
§180.705	Mefentrifluconazole, 0.04 ppm

Crop Group 1D: Tuberous and Corm Vegetables (Except Potato) Subgroup (Includes ginger and turmeric)

§180.411	Fluazifop-P-butyl, 1.5 ppm
§180.425	Clomazone, 0.05 ppm
§180.482	Tebufenozide, 0.015 ppm
§180.544	Methoxyfenozide, 0.02 ppm
§180.565	Thiamethoxam, 0.02 ppm

Crop Group 3: Bulb Vegetables (Includes garlic and onion bulbs, chive)

§180.103	Captan, 0.05 ppm
§180.124	Methyl bromide, Section 18 emergency exemptions, 2.0 ppm
§180.142	2,4-D, indirect or inadvertent residues, 0.05 ppm
§180.207	Trifluralin, 0.05 ppm
§180.293	Endothall, indirect or inadvertent residues, 0.5 ppm
§180.350	Nitrapyrin, 0.3 ppm
§180.364	Glyphosate, 0.20 ppm
§180.412	Sethoxydim, 1.0 ppm
§180.510	Pyriproxyfen, 0.70 ppm
§180.515	Carfentrazone-ethyl, 0.10 ppm



§180.582	Pyraclostrobin, 0.9 ppm
§180.586	Clothianidin, 0.45 ppm
§180.589	Boscalid, 5.0 ppm
§180.607	Spiromesifen, indirect or inadvertent residues, 0.09 ppm
§180.627	Fluopicolide, 7.0 ppm
§180.641	Spirotetramat, 0.80 ppm
§180.658	Penthiopyrad, 3.0 ppm
§180.659	Pyroxasulfone, 0.15 ppm
§180.664	Penflufen, 0.01 ppm
§180.666	Fluxapyroxad, 1.5 ppm
§180.706	Valifenalate, 0.6 ppm

Crop Group 4: Leafy Vegetables (Except *Brassica* Vegetables) (Includes chervil, cilantro, dillweed, fennel, parsley)

§180.103	Captan, 0.05 ppm
§180.111	Malathion, 8 ppm
§180.142	2,4-D, indirect or inadvertent residues, 0.4 ppm
§180.220	Atrazine, indirect or inadvertent residues, 0.25 ppm
§180.226	Diquat, 0.05 ppm
§180.241	Bensulide, 0.15 ppm
§180.293	Endothall, indirect or inadvertent residues, 2.0 ppm
§180.364	Glyphosate, 0.2 ppm
§180.407	Thiodicarb, 35 ppm
§180.408	Metalaxyl, except spinach, 5.0 ppm
§180.412	Sethoxydim, 4.0 ppm
§180.415	Aluminum tris (<i>O</i> -ethylphosphonate), 100 ppm
§180.418(1)	Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, zeta-cypermethrin, 10.00 ppm
§180.418(2)	Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, alpha-cypermethrin, 10 ppm
§180.420	Fluridone, indirect or inadvertent residues, 0.1 ppm
§180.436(1)	Cyfluthrin and the isomer beta-cyfluthrin, 6.0 ppm
§180.436(2)	Cyfluthrin and the isomer beta-cyfluthrin, beta-cyfluthrin, 6.0 ppm
§180.443	Myclobutanil, indirect or inadvertent residues, 0.03 ppm
§180.493	Dimethomorph, 30.0 ppm
§180.495	Spinosad, 8.0 ppm
§180.510	Pyriproxyfen, 3.0 ppm
§180.515	Carfentrazone-ethyl, 0.10 ppm
§180.556	Pymetrozine, 0.6 ppm
§180.561	Acibenzolar- <i>S</i> -methyl, 0.25 ppm



§180.564	Indoxacarb, 14 ppm
§180.565	Thiamethoxam, 4.0 ppm
§180.586	Clothianidin, 3.0 ppm
§180.587	Famoxadone, except spinach, 25 ppm
§180.589	Boscalid, indirect or inadvertent residues, except celery, lettuce and spinach, 1.0 ppm
§180.603	Dinotefuran, 5.0 ppm
§180.627	Fluopicolide, 25 ppm
§180.628	Chlorantraniliprole, 13 ppm
§180.629	Flutriafol, except head lettuce and radicchio, 10 ppm
§180.635	Spinetoram, 8.0 ppm
§180.639	Flubendiamide, 11 ppm
§180.640	Pyridalyl, 20 ppm
§180.641	Spirotetramat, 9.0 ppm
§180.663	Ametoctradin, except spinach, 40.0 ppm
§180.666	Fluxapyroxad, 30 ppm
§180.680	Fluensulfone, 4 ppm

Crop Group 4A: Leafy Greens (Includes chervil, cilantro, dillweed, parsley)

§180.378	Permethrin, 20 ppm
§180.443	Myclobutanil, except spinach, 9.0 ppm
§180.472	Imidacloprid, 3.5 ppm
§180.476	Triflumizole, except spinach, 35 ppm
§180.482	Tebufenozide, 10.0 ppm
§180.503	Cymoxanil, 19 ppm
§180.516	Fludioxonil, 30 ppm
§180.532	Cyprodinil, 50 ppm
§180.544	Methoxyfenozide, 30 ppm
§180.555	Trifloxystrobin, 30 ppm
§180.607	Spiromesifen, 12 ppm
§180.661	Fluopyram, 40 ppm

Crop Group 4B: Leaf Petioles (Includes fennel)

§180.169	Carbaryl, 3.0 ppm
§180.442	Bifenthrin, 3.0 ppm
§180.472	Imidacloprid, 6.0 ppm
§180.482	Tebufenozide, 2.0 ppm
§180.503	Cymoxanil, 6.0 ppm
§180.516	Fludioxonil, 15 ppm
§180.523	Metaldehyde, 0.50 ppm
§180.532	Cyprodinil, 30 ppm



- §180.544 Methoxyfenozide, 25 ppm
- §180.555 Trifloxystrobin, 9.0 ppm
- §180.568 Flumioxazin, 0.02 ppm
- §180.607 Spiromesifen, 6.0 ppm
- §180.609 Fluoxastrobin, 4.0 ppm
- §180.661 Fluopyram, 20 ppm

Crop Group 4-16: Leafy Vegetables (Includes Chervil, Cilantro, Dillweed, Parsley)

- §180.124 Methyl bromide, Section 18 emergency exemptions, 0.50 ppm
- §180.350 Nitrapyrin, 0.4 ppm
- §180.579 Fenamidone, 60 ppm
- §180.637 Mandipropamid, 25 ppm
- §180.669 Picoxystrobin, except lettuce, head, 30 ppm
- §180.694 Cyclaniliprole, 15 ppm
- §180.701 Pyrifluquinazon, 5.0 ppm

Crop Group 4-16A: Leafy Greens (Includes Chervil, Cilantro, Dillweed, Parsley)

- §180.414 Cyromazine, 10 ppm
- §180.449 Avermectin B1 and its delta-8,9-isomer, 0.1 ppm
- §180.458 Clethodim, 2.0 ppm
- §180.499 Propamocarb, 150 ppm
- §180.505 Emamectin, 1 ppm
- §180.511 Buprofezin, 35 ppm
- §180.553 Fenhexamid, except spinach, 30 ppm
- §180.578 Acetamiprid, 3 ppm
- §180.582 Pyraclostrobin, 40 ppm
- §180.589 Boscalid, 70 ppm
- §180.601 Cyazofamid, 10 ppm
- §180.613 Flonicamid, except spinach, 8 ppm
- §180.658 Penthiopyrad, 30 ppm
- §180.668 Sulfoxaflo, 6 ppm
- §180.672 Cyantraniliprole, 20 ppm
- §180.675 Tolfenpyrad, 30 ppm
- §180.679 Flupyradifurone, 30 ppm
- §180.685 Oxathiapiprolin, 15 ppm
- §180.699 Pydiflumetofen, 40 ppm
- §180.700 Afidopyropen, 2.0 ppm



Crop Group 8 and 8-10: Fruiting Vegetables (Contains Pepper/Capsicums)

- §180.103 Captan, 0.05 ppm
- §180.124 Methyl bromide, Section 18 emergency exemptions, 7.0 ppm
- §180.142 2,4-D, indirect or inadvertent residues, 0.05 ppm
- §180.169 Carbaryl, 5.0 ppm
- §180.205 Paraquat, 0.05 ppm
- §180.207 Trifluralin, 0.05 ppm
- §180.226 Diquat, 0.05 ppm
- §180.241 Bensulide, 0.10 ppm
- §180.253 Methomyl, 0.2 ppm
- §180.275 Chlorothalonil, except tomato, 6.0 ppm
- §180.291 Pentachloronitrobenzene, 0.1 ppm
- §180.293 Endothall, indirect or inadvertent residues, 0.05 ppm
- §180.328 Napropamide, 0.1 ppm
- §180.361 Pendimethalin, 0.1 ppm
- §180.364 Glyphosate, except okra, 0.10 ppm
- §180.368 Metolachlor, S-Metolachlor, except tabasco pepper, 0.10 ppm
- §180.408 Metalaxyl, 1.0 ppm
- §180.412 Sethoxydim, 4.0 ppm
- §180.418(1) Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, zeta-cypermethrin, 0.2 ppm
- §180.418(2) Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, alpha-cypermethrin, 0.20 ppm
- §180.420 Fluridone, indirect or inadvertent residues, 0.1 ppm
- §180.435 Deltamethrin, 0.3 ppm
- §180.436(1) Cyfluthrin and the isomer beta-cyfluthrin, 0.5 ppm
- §180.463(2) Cyfluthrin and the isomer beta-cyfluthrin, beta-cyfluthrin, 0.5 ppm
- §180.438(1) Lambda-cyhalothrin and an isomer gamma-cyhalothrin, 0.20 ppm
- §180.438(2) Lambda-cyhalothrin and an isomer gamma-cyhalothrin, pyrethroid, 0.20 ppm
- §180.443(1) Myclobutanil, except tomato, 4.0 ppm
- §180.443(2) Myclobutanil, indirect or inadvertent residues, 0.03 ppm
- §180.449 Avermectin B1 and its delta-8,9-isomer, 0.07 ppm
- §180.458 Clethodim, except okra, 1.0 ppm
- §180.466 Fenpropathrin, 1.0 ppm
- §180.472 Imidacloprid, 1.0 ppm
- §180.474 Tebuconazole, 1.3 ppm
- §180.475 Difenoconazole, 0.60 ppm
- §180.479 Halosulfuron-methyl, 0.05 ppm
- §180.482 Tebufenozide, 1.0 ppm



§180.493	Dimethomorph, 1.5 ppm
§180.495	Spinosad, 0.40 ppm
§180.498	Sulfentrazone, free and conjugated forms of sulfentrazone, 0.15 ppm
§180.499	Propamocarb, 4 ppm
§180.503	Cymoxanil, 0.2 ppm
§180.505	Emamectin, 0.02 ppm
§180.510	Pyriproxyfen, 0.80 ppm
§180.511	Buprofezin, 2.0 ppm
§180.513	Chlorfenapyr, 2 ppm
§180.515	Carfentrazone-ethyl, 0.10 ppm
§180.516	Fludioxonil, except tomato, 0.50 ppm
§180.532	Cyprodinil, 1.5 ppm
§180.544	Methoxyfenozide, 2.0 ppm
§180.553	Fenhexamid, except nonbell pepper, 2 ppm
§180.556	Pymetrozine, 0.2 ppm
§180.557	Tetraconazole, 0.30 ppm
§180.561	Acibenzolar-S-methyl, 1.0 ppm
§180.564	Indoxacarb, 0.5 ppm
§180.565	Thiamethoxam, 0.25 ppm
§180.566	Fenpyroximate, 0.20 ppm
§180.568	Flumioxazin, 0.02 ppm
§180.572	Bifenazate, 4.0 ppm
§180.578	Acetamiprid, 0.20 ppm
§180.579	Fenamidon, except nonbell pepper, 1.0 ppm
§180.582	Pyraclostrobin, 1.4 ppm
§180.586	Clothianidin, except pepper, 0.20 ppm
§180.587	Famoxadone, except tomato, 4.0 ppm
§180.588	Quinoxifen, 1.7 ppm
§180.589	Boscalid, 3.0 ppm
§180.598	Novaluron, 2 ppm
§180.599	Acequinocyl, 0.70 ppm
§180.601	Cyazofamid, 0.9 ppm
§180.602	Spiroxamine, No U.S. registration as of December 1, 2010, 1.2 ppm
§180.603	Dinotefuran, 0.7 ppm
§180.607	Spiromesifen, 0.45 ppm
§180.609	Fluoxastrobin, 1.0 ppm
§180.614	Kasugamycin, no U.S. registration as of September 1, 2004, 0.04 ppm
§180.624	Metrafenone, 0.90 ppm
§180.627	Fluopicolide, 1.6 ppm
§180.628	Chlorantraniliprole, 1.4 ppm



§180.629	Flutriafol, 1.0 ppm
§180.632	Fenazaquin, 0.3 ppm
§180.635	Spinetoram, 0.40 ppm
§180.637	Mandipropamid, 1.0 ppm
§180.639	Flubendiamide, 0.60 ppm
§180.640	Pyridalyl, 1.0 ppm
§180.641	Spirotetramat, 2.5 ppm
§180.643	Uniconazole, 0.01 ppm
§180.658	Penthiopyrad, 3.0 ppm
§180.660	Pyriofenone, 0.3 ppm
§180.663	Ametoctradin, 1.5 ppm
§180.666	Fluxapyroxad, 0.7 ppm
§180.667	Cyflufenamid, 0.20 ppm
§180.668	Sulfoxaflor, 0.70 ppm
§180.669	Picoxystrobin, 0.70 ppm
§180.672	Cyantraniliprole, 2.0 ppm
§180.675	Tolfenpyrad, 1.5 ppm
§180.679	Flupyradifurone, 1.5 ppm
§180.680	Fluensulfone, 0.7 ppm
§180.685	Oxathiapiprolin, 0.50 ppm
§180.686	Benzovindiflupyr, 1.5 ppm
§180.694	Cyclaniliprole, 0.20 ppm
§180.699	Pydiflumetofen, 0.60 ppm
§180.700	Afidopyropen, 0.2 ppm
§180.701	Pyrifluquinazon, 0.30 ppm
§180.706	Valifenalate, 1 ppm

Crop Group 8-10B: Pepper/Eggplant (Contains Capsicums)

§180.377	Diflubenzuron, 1.0 ppm
§180.414	Cyromazine, 3 ppm
§180.415	Aluminum tris (<i>O</i> -ethylphosphonate), 0.01 ppm
§180.448	Hexythiazox, 1.5 ppm
§180.507	Azoxystrobin, 3.0 ppm
§180.567	Zoxamide, 1.0 ppm
§180.574	Fluazinam, 0.09 ppm
§180.593	Etoxazole, 0.20 ppm
§180.603	Fonicamid, 3.0 ppm
§180.622	Ethaboxam, 0.90 ppm
§180.661	Fluopyram, 4.0 ppm
§180.677	Cyflumetofen, 2 ppm



Crop Group 20: Oilseed (Contains poppy seed and sesame seed)

§180.124	Methyl bromide, Section 18 emergency exemptions, 150 ppm
§180.207	Trifluralin, 0.05 ppm
§180.364	Glyphosate, except canola, 40 ppm
§180.582	Pyraclostrobin, 0.45 ppm
§180.589	Boscalid, 3.5 ppm
§180.658	Penthiopyrad, 1.5 ppm
§180.664	Penflufen, 0.01 ppm
§180.666	Fluxapyroxad, except cottonseed, 0.9 ppm
§180.672	Cyantraniliprole, 1.5 ppm

Crop Group 20A: Rapeseed (Contains poppy seed, sesame seed, and mustard seed)

§180.412	Sethoxydim, 35 ppm
§180.416	Ethalfuralin, 0.05 ppm
§180.425	Clomazone, 0.05 ppm
§180.431	Clopyralid, except gold of pleasure, 3.0 ppm
§180.434	Propiconazole, 0.30 ppm
§180.441	Quizalofop ethyl, except flax seed, 1.5 ppm
§180.458	Clethodim, except flax seed, 0.50 ppm
§180.463	Quinclorac, no U.S. Registrations, 1.5 ppm
§180.475	Difenoconazole, 0.10 ppm
§180.500	Imazapyr, no U.S. Registrations, 0.05 ppm
§180.507	Azoxystrobin, 1.0 ppm
§180.515	Carfentrazone-ethyl, 0.10 ppm
§180.516	Fludioxonil, except flax seed, 0.01 ppm
§180.544	Methoxyfenozide, 1.0 ppm
§180.546	Mefenoxam, 0.05 ppm
§180.557	Tetraconazole, 0.90 ppm
§180.568	Flumioxazin, 0.40 ppm
§180.578	Acetamiprid, 0.01 ppm
§180.609	Fluoxastrobin, 0.70 ppm
§180.613	Fonicamid, 1.5 ppm
§180.617	Metconazole, 0.08 ppm
§180.626	Prothioconazole, 0.15 ppm
§180.628	Chlorantraniliprole, 2.0 ppm
§180.649	Saflufenacil, 0.45 ppm
§180.661	Fluopyram, 5.0 ppm
§180.665	Sedaxane, 0.01 ppm



§180.668	Sulfoxaflor, 0.40 ppm
§180.669	Picoxystrobin, 0.08 ppm
§180.679	Flupyradifurone, 0.03 ppm
§180.681	Isofetamid, 0.015 ppm
§180.686	Benzovindiflupyr, 0.15 ppm
§180.699	Pydiflumetofen, 0.90 ppm
§180.705	Mefentrifluconazole, 1 ppm

Spices

Non-exclusive list of pesticide tolerances that are specific to commodities as listed on the ASTA Spice List.

Basil Leaves (Sweet)

- § 180.185(1) Dimethyl tetrachloroterephthalate (DCPA) (indirect or direct residue), dried leaves, 20.0 ppm
- § 180.185(2) Dimethyl tetrachloroterephthalate (DCPA) (indirect or direct residue), fresh leaves, 5.0 ppm
- § 180.328 Napropamide, 0.1 ppm
- § 180.491 Propylene oxide, residues for reaction product propylene chlorohydrin, dried leaves, 6000 ppm
- § 180.513 Chlorfenapyr, fresh leaves, 80 ppm
- § 180.579(1) Fenamidone, dried leaves, 200 ppm
- § 180.579(2) Fenamidone, fresh leaves, 300 ppm
- § 180.627(1) Fluopicolide, dried leaves, 200 ppm
- § 180.627(2) Fluopicolide, fresh leaves, 40 ppm
- § 180.637(1) Mandipropamid, dried leaves, 200 ppm
- § 180.637(2) Mandipropamid, fresh leaves, 30 ppm
- § 180.685(1) Oxathiapiprolin, dried leaves, 80 ppm
- § 180.685(2) Oxathiapiprolin, fresh leaves, 10 ppm

- § 180.950 Tolerance exemptions for minimal risk active and inert ingredients. Unless specifically excluded, residues resulting from the use of the substances listed in **Appendix 6** as either inert or an active ingredient in a pesticide chemical formulation, including antimicrobial pesticide chemicals, are exempted from the requirement of a tolerance under FFDC section 408, in such use is in accordance with good agricultural or manufacturing practices. Applicable on commonly consumed food commodities, including herbs such as basil, anise, or fenugreek and spices such as cinnamon, cloves, and red pepper.



Capsicums (Pepper)

- §180.108(1) Acephate, 4.0 ppm
- §180.108(2) Residues of methamidophos, *O,S*-dimethyl phosphoramidothioate, including its metabolites and degradates, in or on the commodities as the result of the application of acephate, 1 ppm
- §180.111 Malathion, 8 ppm
- §180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, postharvest, 30 ppm
- §180.129 *o*-Phenylphenol and its sodium salts, bell, 10 ppm
- §180.145 Fluorine compounds, 7 ppm
- §180.153 Diazinon, tolerances with regional registration, 0.5 ppm
- §180.176 Mancozeb, 12 ppm
- §180.185 DCPA, indirect or inadvertent residues, 2.0 ppm
- §180.204 Dimethoate, 2.0 ppm
- §180.225 Phosphine, 0.01 ppm
- §180.245 Streptomycin, 0.25 ppm
- §180.253 Methomyl, bell, 2 ppm
- §180.300 Ethephon, 30.0 ppm
- §180.303(1) Oxamyl, bell, 2.0 ppm
- §180.303(2) Oxamyl, nonbell, 5.0 ppm
- §180.330 *S*-(2-(Ethylsulfinyl)ethyl) *O,O*-dimethyl phosphorothioate, 0.75 ppm
- §180.342 Chlorpyrifos, 1.0 ppm
- §180.355 Bentazon, nonbell, 0.05 ppm
- §180.368 Metolachlor, tolerance with region registrations established for the combined residues (free and bound) of the herbicide metolachlor and its metabolites, determined as the derivatives, 2-[2-ethyl-6-methylphenyl)amino]-1-propanol and 4-(2-ethyl-6-methylphenyl)z-2-hydroxy-5-methyl-3-morpholinone, each expressed as the parent compound, in or on the following raw agricultural commodities, nonbell, 0.50 ppm
- §180.378 Permethrin, bell, 0.5 ppm
- §180.380 Vinclozolin, revoked tolerances subject to the channel of trade provisions, bell, 3.0 ppm
- §180.411 Fluazifop-P-butyl, tolerances with regional registrations, tabasco, 1.0 ppm
- §180.425 Clomazone, 0.05 ppm
- §180.433(1) Fomesafen, bell, 0.025 ppm
- §180.433(2) Fomesafen, non-bell, 0.025 ppm
- §180.436 Cyfluthrin and the isomer beta-cyfluthrin, 0.50 ppm
- §180.442(1) Bifenthrin, bell, 0.5 ppm
- §180.443(2) Bifenthrin, nonbell, 0.5 ppm
- §180.480 Fenbuconazole, 1.0
- §180.533 Esfenvalerate, 0.5 ppm



- §180.553 Fenhexamid, nonbell, 0.02 ppm
§180.579 Fenamidone, nonbell, 3.5 ppm
§180.586 Clothianidin, 0.80 ppm
§180.651(1) Imazosulfuron, bell, 0.02 ppm
§180.651(2) Imazosulfuron, non-bell, 0.02 ppm
§180.654 Isopyrazam, bell, 0.50 ppm
§180.657 Metaflumizone, no U.S. registrations as of April 19, 2021, 1.5 ppm
§180.703 6-Benzyladenine; 0.01 ppm
- §180.950 Tolerance exemptions for minimal risk active and inert ingredients. Unless specifically excluded, residues resulting from the use of the substances listed in **Appendix 6** as either inert or an active ingredient in a pesticide chemical formulation, including antimicrobial pesticide chemicals, are exempted from the requirement of a tolerance under FFDC section 408, in such use is in accordance with good agricultural or manufacturing practices. Applicable on commonly consumed food commodities, including herbs such as basil, anise, or fenugreek and spices such as cinnamon, cloves, and red pepper.
- §180.1016 Ethylene; exemption from the requirement of a tolerance, pepper (**Appendix 7**)
§180.1020 Sodium chlorate; exemption from the requirement of a tolerance, nonbell (**Appendix 7**)
§180.1087 Sesame stalks; exemption from the requirement of a tolerance for residues of the biorational nematicide sesame stalk in or on pepper, bell (**Appendix 7**)
§180.1127 Biochemical pesticide plant floral volatile attractant compounds: cinnamaldehyde, cinnamyl alcohol, 4-methoxy cinnamaldehyde, 3-phenyl propanol, 4-methoxy phenethyl alcohol, indole, and 1,2,4-trimethoxybenzene; exemptions from the requirement of a tolerance (**Appendix 7**)
§180.1261 *Xanthomonas campestris* pv. *vesicatoria* and *Pseudomonas syringae* pv. tomato specific Bacteriophages, exemption from the requirement of a tolerance (**Appendix 7**)

Chives

- §180.185 Dimethyl tetrachloroterephthalate (DCPA), indirect or inadvertent residues, 5.0 ppm
§180.449(1) Avermectin B1 and its delta-8,9-isomer, dried leaves, 0.02 ppm
§180.449(2) Avermectin B1 and its delta-8,9-isomer, fresh leaves, 0.01 ppm
§180.513 Chlorfenapyr, fresh leaves, 20 ppm
§180.544 Methoxyfenozide, 30 ppm

Cilantro

- §180.184(1) Linuron, dried leaves, 10 ppm
§180.184(2) Linuron, fresh leaves, 3.0 ppm
§180.222 Prometryn, leaves, 3.5 ppm
§180.368 S-Metolachlor and its metabolites and degradates, leaves, 8.0 ppm
§180.418 Zeta-cypermethrin, leaves, 10 ppm



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- §180.425(1) Clomazone, dried leaves, 0.30 ppm
- §180.425(2) Clomazone, fresh leaves, 0.05 ppm
- §180.434 Propiconazole, leaves, 13 ppm
- §180.443 Myclobutanil, leaves, 9.0 ppm
- §180.476 Triflumizole, leaves, 35 ppm
- §180.503 Cymoxanil, leaves, 19 ppm
- §180.507 Azoxystrobin, leaves, 30.0 ppm
- §180.579 Fenamidone, fresh leaves, 60 ppm
- §180.587 Famoxadone, leaves, 25 ppm

Coriander Leaf

- §180.185 Dimethyl tetrachloroterephthalate (DCPA), indirect or inadvertent residues, leaves, 5.0 ppm
- §180.222 Prometryn, dried leaves, 9.0 ppm
- §180.412 Sethoxydim, leaves, 4.0 ppm
- §180.442(1) Bifenthrin, dried leaves, 25 ppm
- §180.442(2) Bifenthrin, leaves, 6.0 ppm

Coriander Seed

- §180.184 Linuron, 0.01 ppm
- §180.368 S-metolachlor including its metabolites and degradates, 0.13 ppm
- §180.425 Clomazone, 0.05 ppm
- §180.442 Bifenthrin, 5.0 ppm

Cumin Seed (Cummin)

- §180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, postharvest, 100.0 ppm

Dill Seed

- §180.103 Captan, 0.05 ppm
- §180.142 2,4-D, indirect or inadvertent residues, 0.05 ppm
- §180.184 Linuron, 0.5 ppm
- §180.225 Phosphine, 0.01 ppm
- §180.368 Metolachlor, S-metolachlor and its metabolites and degradates, 15 ppm
- §180.425 Clomazone, 0.05 ppm
- §180.434 Propiconazole, 15 ppm



- §180.555 Trifloxystrobin, 30 ppm
- §180.582 Pyraclostrobin, 40 ppm
- §180.589 Boscalid, 100 ppm
- §180.661 Fluopyram, 70 ppm

Dill Weed

- §180.169 Carbaryl, tolerances with region registrations, fresh leaves, 0.2 ppm
- §180.184(1) Linuron, dried leaves, 5.0 ppm
- §180.184(2) Linuron, fresh leaves, 1.5 ppm
- §180.222(1) Prometryn, dried leaves, 1.1 ppm
- §180.222(2) Prometryn, fresh leaves, 0.30 ppm
- §180.368(1) Metolachlor, 0.50 ppm
- §180.368(2) S-metolachlor, including its metabolites and degradates, 5 ppm
- §180.368(3) S-metolachlor, including its metabolites and degradates, dried leaves, 9 ppm
- §180.412 Sethoxydim, fresh leaves, 10 ppm
- §180.434(1) Propiconazole, dried leaves, 80 ppm
- §180.434(2) Propiconazole, fresh leaves, 30 ppm

Fennel

- §180.176 Mancozeb, 2.5 ppm

Galangal

- §180.364 Glyphosate, roots, 0.2 ppm

Ginger

- §180.123(1) Inorganic bromide residues resulting from fumigation with methyl bromide, postharvest, 100.0 ppm
- §180.123(2) Inorganic bromide residues resulting from fumigation with methyl bromide, tolerances with regional registrations, postharvest, 100 ppm
- §180.145 Fluorine compounds from postharvest fumigation with sulfur dioxide, 70 ppm
- §180.575 Sulfur dioxide, postharvest, 0.5

Horseradish

- §180.111 Malathion, 8 ppm
- §180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, postharvest, 30.0 ppm
- §180.184 Linuron, 0.05 ppm
- §180.185 Dimethyl tetrachloroterephthalate (DPCA), 2.0 ppm
- §180.275 Chlorothalonil, 4.0 ppm



- §180.378 Permethrin, 0.50 ppm
- §180.381 Oxyfluorfen, 0.05 ppm
- §180.464 Dimethenamid, 0.01 ppm
- §180.498 Free and conjugated forms of Sulfentrazone, 0.20 ppm
- §180.515 Carfentrazone-ethyl, 0.10 ppm

- §180.1127 Biochemical pesticide plant floral volatile attractant compounds: cinnamaldehyde, cinnamyl alcohol, 4-methoxy cinnamaldehyde, 3-phenyl propanol, 4-methoxy phenethyl alcohol, indole, and 1,2,4-trimethoxybenzene; exemptions from the requirement of a tolerance.

Marjoram

- §180.185 Dimethyl tetrachloroterephthalate (DCPA), indirect or inadvertent residues, 5.0 ppm
- §180.328 Napropamide, 0.1 ppm

Mustard Seed

- §180.418 Zeta-cypermethrin, 0.2 ppm
- §180.472 Imidacloprid, 0.05 ppm
- §180.565 Thiamethoxam, 0.02 ppm
- §180.586 Clothianidin, 0.01 ppm

Oregano Leaves

- §180.364 Glyphosate, Mexican oregano, 2.0 ppm

Parsley

- §180.153 Diazinon, tolerances with regional registrations, leaves, 0.75 ppm
- §180.169 Carbaryl, leaves, 22 ppm
- §180.184(1) Linuron, dried leaves, 9.0 ppm
- §180.184(2) Linuron, leaves, 4.0 ppm
- §180.185(1) Dimethyl tetrachloroterephthalate (DCPA), indirect or inadvertent residues, dried leaves, 20.0 ppm
- §180.185(2) Dimethyl tetrachloroterephthalate (DCPA), indirect or inadvertent residues, leaves, 5.0 ppm
- §180.222(1) Prometryn, dried leaves, 1.5 ppm
- §180.222(2) Prometryn, leaves, 0.60 ppm
- §180.253 Methomyl, leaves, 6 ppm
- §180.434(1) Propiconazole, fresh leaves, 13 ppm
- §180.434(2) Propiconazole, dried leaves, 35 ppm
- §180.532(1) Cyprodinil, dried leaves, 170 ppm
- §180.532(2) Cyprodinil, leaves, 35 ppm



§180.1127 Biochemical pesticide plant floral volatile attractant compounds: cinnamaldehyde, cinnamyl alcohol, 4-methoxy cinnamaldehyde, 3-phenyl propanol, 4-methoxy phenethyl alcohol, indole, and 1,2,4-trimethoxybenzene; exemptions from the requirement of a tolerance.

Pepper, black

§180.408 Metalaxyl, 0.3 ppm
§180.475 Difenoconazole, 0 .1 ppm

Peppermint Leaves

§180.106 Diuron, tops, 1.5 ppm
§180.108(1) Acephate, tops, 27 ppm
§180.108(2) Residues of methamidophos, *O,S*-dimethyl phosphoramidothioate, including its metabolites and degradates, in or on the commodities as the result of the application of acephate, tops, 1 ppm
§180.111 Malathion, tops, 8 ppm
§180.124 Methyl bromide, Section 18 emergency exemptions, tops, expires 12/31/20, 35 ppm
§180.151(1) Ethylene oxide, tops, dried, 7 ppm
§180.151(2) Residues of ethylene oxide reaction products 2-chloroethanol when ethylene oxide, tops, dried, 940 ppm
§180.205 Paraquat, tops, 0.5 ppm
§180.207 Trifluralin, tops, 0.05 ppm
§180.209 Terbacil, tops, 2.0 ppm
§180.253 Methomyl, tops, 2 ppm
§180.259 Propargite, tops, 50.0 ppm
§180.262 Ethoprop, tops, 0.02 ppm
§180.275 Chlorothalonil, tolerances with regional registrations, tops, 2 ppm
§180.293 Endothall, indirect or inadvertent residues, tops, 5.0 ppm
§180.303 Oxamyl, tops, 10.0 ppm
§180.318 Combined residues, free and conjugated, of the herbicide MCPB, 4-(4-chloro-2-methylphenoxy)butanoic acid, and its metabolite MCPA, (4-chloro-2-methylphenoxy)acetic acid, tops, 0.20 ppm
§180.324 Bromoxynil, hay, 0.1 ppm
§180.328 Napropamide, tops, 0.1 ppm
§180.330 S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl phosphorothioate, tops, 12.5 ppm
§180.331 4-(2,4-Dichlorophenoxy) butyric acid, tops, 0.2 ppm
§180.342 Chlorpyrifos, tops, 0.8 ppm
§180.355 Bentazon, tops, 1.0 ppm
§180.361 Pendimethalin, tops, 0.2 ppm



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§180.364	Glyphosate, tops, 200 ppm
§180.381	Oxyfluorfen, tops, 0.05 ppm
§180.412	Sethoxydim, tops, 30 ppm
§180.425	Clomazone, tops, 0.05 ppm
§180.431	Clopyralid, tops, 3.0 ppm
§180.434	Propiconazole, tops, 10.0 ppm
§180.441	Quizalofop ethyl, tops, 2.0 ppm
§180.443	Myclobutanil, tops, 3.0 ppm
§180.448	Hexythiazox, tops, 2.0 ppm
§180.449	Avermectin B1 and its delta-8,9-isomer, tops, 0.010 ppm
§180.458	Clethodim, tops, 5.0 ppm
§180.462	Pyridate, tops, 0.20 ppm
§180.482	Tebufenozide, tops, 10.0 ppm
§180.495	Spinosad, tops, 3.5 ppm
§180.498	Sulfentrazone, tops, 0.30 ppm
§180.507	Azoxystrobin, tops, 30 ppm
§180.515	Carfentrazone-ethyl, tops, 0.10 ppm
§180.523	Metaldehyde, tops, 4.0 ppm
§180.544	Methoxyfenozide, tops, 7.0 ppm
§180.564	Indoxacarb, tops, 11 ppm
§180.565	Thiamethoxam, tops, 1.5 ppm
§180.566	Fenpyroximate, tops, 7.0 ppm
§180.568	Flumioxazin, tops, 0.04 ppm
§180.572	Bifenazate, tops, 25 ppm
§180.582	Pyraclostrobin, tops, 8.0 ppm
§180.589	Boscalid, tops, 30.0 ppm
§180.593	Etoxazole, tops, 10 ppm
§180.607	Spiromesifen, tops, 45 ppm
§180.613	Flonicamid, tops, 7.0 ppm
§180.628	Chlorantraniliprole, tops, 9.0 ppm
§180.632	Fenazaquin, fresh leaves, 10 ppm
§180.635	Spinetoram, tops, 3.5 ppm
§180.659	Pyroxasulfone, Tolerances are established for residues of the herbicide pyroxasulfone, including its metabolites and degradates determined by measuring only the sum of pyroxasulfone (3-[(5-difluoromethoxy-1-methyl-3-(trifluoromethyl)pyrazol-4-yl)methylsulfonyl]-4,5-dihydro-5,5-dimethyl-1,2-oxazole), and its metabolites, M-1 (5-difluoromethoxy-1-methyl-3-trifluoromethyl-1H-pyrazol-4-yl) methanesulfonic acid), M-3 (5-difluoromethoxy-1-methyl-3-trifluoromethyl-1H-pyrazol-4-carboxylic acid), M-25 (5-difluoromethoxy-3-trifluoromethyl-1H-pyrazol-4-yl)methanesulfonic acid) and M-28 (3-[1-carboxy-2-(5,5-dimethyl-4,5-dihydroisoxazol-3-ylthio)ethylamino]-3-oxopropanoic acid)



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calculated as the stoichiometric equivalent of pyroxasulfone, fresh leaves, 0.20 ppm
§180.666 Flupyradifurone, indirect or inadvertent residues, tops, 0.01 ppm

Poppy Seed

§180.412 Sethoxydim, meal, 40 ppm
§180.418 Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin; Zeta-cypermethrin, 0.2 ppm
§180.662 Trinexapac-ethyl, imported, 8 ppm

Rosemary Leaves

§180.207(1) Trifluralin, dried leaves, 0.10 ppm
§180.207(2) Trifluralin, fresh leaves, 0.10 ppm
§180.328 Napropamide, 0.1 ppm
§180.361 Pendimethalin, fresh leaves, 0.2 ppm
§180.368(1) Metolachlor, S-metolachlor, dried leaves, 2 ppm
§180.368(2) Metolachlor, S-metolachlor, fresh leaves, 1.5 ppm

Savory Leaves

§180.328(1) Napropamide, summer, 0.1 ppm
§180.328(2) Napropamide, winter, 0.1 ppm

Sesame Seed

§180.103 Captan, 0.05 ppm
§180.151(1) Ethylene oxide, 7 ppm
§180.151(2) Ethylene oxide reaction product 2-chloroethanol when ethylene oxide is used as a postharvest fumigant, 940 ppm
§180.222 Prometryn, 0.05 ppm
§180.225 Phosphine, 0.1 ppm
§180.368 Metolachlor, S-metolachlor, 0.13 ppm
§180.412 Sethoxydim, meal, 40 ppm
§180.418 Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, Zeta-cypermethrin, 0.2 ppm
§180.510 Pyriproxyfen, 0.02 ppm
§180.679 Flupyradifurone, 3 ppm

Spearmint Leaves

§180.106 Diuron, tops, 1.5 ppm
§180.108(1) Acephate, 27 ppm
§180.108(2) Residues of methamidophos, O,S-dimethyl phosphoramidothioate, tops, 1 ppm



- §180.111 Malathion, 8 ppm
- §180.124 Methyl bromide, Section 18 emergency exemptions, tops, 35 ppm
- §180.151(1) Ethylene oxide, tops, dried, 7 ppm
- §180.151(2) Ethylene oxide, Residues of the ethylene oxide reaction product 2-chloroethanol, tops, dried, 940 ppm
- §180.205 Paraquat, tops, 0.5 ppm
- §180.207 Trifluralin, tops, 0.05 ppm
- §180.209 Terbacil, tops, 2.0 ppm
- §180.253 Methomyl, tops, 2 ppm
- §180.259 Propargite, tops, 50.0 ppm
- §180.262 Ethoprop, tops, 0.02 ppm
- §180.275 Chlorothalonil, tolerances with regional registrations, tops, 2 ppm
- §180.293 Endothall, indirect or inadvertent residues, tops, 5.0 ppm
- §180.303 Oxamyl, tops, 10.0 ppm
- §180.318 4-(2-Methyl-4-chlorophenoxy) butyric acid, tops, 0.20 ppm
- §180.324 Bromoxynil, hay, 0.1 ppm
- §180.328 Napropamide, tops, 0.1 ppm
- §180.330 S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl phosphorothioate, tops, 12.5 ppm
- §180.331 4-(2,4-Dichlorophenoxy) butyric acid, tops, 0.2 ppm
- §180.342 Chlorpyrifos, tops, 0.8 ppm
- §180.355 Bentazon, tops, 1.0 ppm
- §180.361 Pendimethalin, tops, 0.2 ppm
- §180.364 Glyphosate, tops, 200 ppm
- §180.381 Oxyfluorfen, tops, 0.05 ppm
- §180.412 Sethoxydim, tops, 30 ppm
- §180.425 Clomazone, tops, 0.05 ppm
- §180.431 Clopyralid, tops, 3.0 ppm
- §180.434 Propiconazole, tops, 10.0 ppm
- §180.441 Quizalofop ethyl, tops, 2.0 ppm
- §180.443 Myclobutanil, tops, 3.0 ppm
- §180.448 Hexythiazox, tops, 2.0 ppm
- §180.449 Avermectin B1 and its delta-8,9-isomer, tops, 0.010 ppm
- §180.458 Clethodim, tops, 5.0 ppm
- §180.462 Pyridate, tops, 0.20 ppm
- §180.482 Tebufenozide, 10.0 ppm
- §180.495 Spinosad, tops, 3.5 ppm
- §180.498 Sulfentrazone, tops, 0.30 ppm
- §180.507 Azoxystrobin, tops, 30 ppm
- §180.515 Carfentrazone-ethyl, tops, 0.10 ppm
- §180.523 Metaldehyde, tops, 4.0 ppm



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- §180.544 Methoxyfenozide, tops, 7.0 ppm
- §180.564 Indoxacarb, tops, 11 ppm
- §180.565 Thiamethoxam, tops, 1.5 ppm
- §180.566 Fenpyroximate, tops, 7.0 ppm
- §180.568 Flumioxazin, tops, 0.04 ppm
- §180.572 Bifenazate, tops, 25 ppm
- §180.582 Pyraclostrobin, tops, 8.0 ppm
- §180.589 Boscalid, tops, 30.0 ppm
- §180.593 Etoxazole, tops, 10 ppm
- §180.607 Spiromesifen, tops, 45 ppm
- §180.613 Flonicamid, tops, 7.0 ppm
- §180.628 Chlorantraniliprole, tops, 9.0 ppm
- §180.632 Fenazaquin, fresh leaves, 10 ppm
- §180.635 Spinetoram, tops, 3.5 ppm
- §180.659 Pyroxasulfone, fresh leaves, 0.20 ppm
- §180.666 Fluxapyroxad, indirect or inadvertent residues, tops, 0.01 ppm

Vanilla Bean

- §180.515 Carfentrazone-ethyl, vanilla, 0.10 ppm

Dehydrated Vegetables Used as Spices

Garlic, bulb

- §180.111 Malathion, 8 ppm
- §180.291 Pentachloronitrobenzene, 0.1 ppm
- §180.303 Oxamyl, 0.2 ppm
- §180.378 Permethrin, 0.10 ppm
- §180.535 Fluroxypyr 1-methylheptyl ester, 0.03 ppm

Garlic

- §180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, postharvest, 50.0 ppm
- §180.185 Dimethyl tetrachloroterephthalate (DCPA), 1.0 ppm
- §180.200 Dicloran, 5 ppm
- §180.324 Bromoxynil, 0.1 ppm
- §180.345 Ethofumesate, 0.25 ppm
- §180.361 Pendimethalin, 0.1 ppm
- §180.399 Iprodione, 0.1 ppm
- §180.438(1) Lambda-cyhalothrin and an isomer gamma-cyhalothrin, 0.1 ppm



- §180.438(2) Combined residues of pyrethroid [gamma-cyhalothrin (the isolated active isomer of lambda-cyhalothrin) (S)-'-cyano-3-phenoxybenzyl (Z)-(1R,3R)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate)) and its epimer (R)-'-cyano-3-phenoxybenzyl (Z)-(1R,3R)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate, 0.10 ppm
- §180.464 Dimethenamid, 0.01 ppm
- §180.491(1) Propylene oxide, dried, 300 ppm
- §180.491(2) Propylene chlorohydrin (reaction product), dried, 6000 ppm
- §180.1019 Sulfuric acid, exemption from the requirement of a tolerance (**Appendix 7**)
- §180.1228 Diallyl sulfides, exemption from the requirement of a tolerance (**Appendix 7**)

Onion, bulb

- §180.111 Malathion, 8 ppm
- §180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, postharvest, 20.0 ppm
- §180.153 Diazinon, 0.75 ppm
- §180.175 Maleic hydrazide, 15.0 ppm
- §180.176 Mancozeb, 1.5 ppm
- §180.185 Dimethyl tetrachloroteerephthalate (DCPA), 1.0 ppm
- §180.191 Folpet, no U.S. registrations, 2.0 ppm
- §180.205 Paraquat, 0.1 ppm
- §180.241 Bensulide, 0.10 ppm
- §180.242 Thiabendazole, 0.02 ppm
- §180.275 Chlorothalonil, 0.5 ppm
- §180.301 Carboxin, 0.2 ppm
- §180.303 Oxamyl, 0.2 ppm
- §180.324 Bromoxynil, 0.1 ppm
- §180.330 S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl phosphorothioate, 0.05 ppm
- §180.342 Chlorpyrifos, 0.5 ppm
- §180.345 Ethofumesate, 0.25 ppm
- §180.361 Pendimethalin, 0.1 ppm
- §180.368 Metolachlor, S-Metolachlor, 0.10 ppm
- §180.371 Thiophanate-methyl, 0.5 ppm
- §180.378 Permethrin, 0.10 ppm
- §180.381 Oxyfluorfen, 0.05 ppm
- §180.399 Iprodione, 0.5 ppm
- §180.408 Metalaxyl, 3.0 ppm
- §180.411 Fluazifop-P-butyl, 0.5 ppm
- §180.414 Cyromazine, 0.3 ppm



- §180.415 Aluminum tris (O-ethylphosphonate), 0.5 ppm
- §180.418(1) Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, 0.1 ppm
- §180.418(2) Cypermethrin and isomers alpha-cypermethrin and zeta-cypermethrin, Zeta-cypermethrin, 0.10 ppm
- §180.434 Propiconazole, 0.2 ppm
- §180.435 Deltamethrin, 0.1 ppm
- §180.438(1) Lambda-cyhalothrin and an isomer gamma-cyhalothrin, 0.1 ppm
- §180.438(2) Lambda-cyhalothrin and an isomer gamma-cyhalothrin, Pyrethroid, 0.1 ppm
- §180.449 Avermectin B1 and its delta-8,9-isomer, 0.01 ppm
- §180.458 Clethodim, 0.50 ppm
- §180.464 Dimethenamid, 0.01 ppm
- §180.472 Imidacloprid, dry bulbs, 0.15 ppm
- §180.474 Tebuconazole, 0.2 ppm
- §180.475 Difenoconazole, 0.20 ppm
- §180.493 Dimethomorph, 0.6 ppm
- §180.495 Spinosad, 0.10 ppm
- §180.503 Cymoxanil, 0.05 ppm
- §180.507 Azoxystrobin, 1.0 ppm
- §180.516 Fludioxonil, 0.50 ppm
- §180.518 Pyrimethanil, 2.0 ppm
- §180.532 Cyprodinil, 0.6 ppm
- §180.535 Fluroxypyr 1-methylheptyl ester, 0.03 ppm
- §180.544 Methoxyfenozide, indirect or inadvertent tolerances, 0.10 ppm
- §180.546 Mefenoxam, 3.0 ppm
- §180.553 Fenhexamid, 2 ppm
- §180.561 Acibenzolar-S-methyl, 0.1 ppm
- §180.565 Thiamethoxam, dry bulb, 0.03 ppm
- §180.567 Zoxamide, 0.7 ppm
- §180.568 Flumioxazin, 0.02 ppm
- §180.574 Fluazinam, 0.20 ppm
- §180.578 Acetamiprid, 0.02 ppm
- §180.579 Fenamidone, 0.20 ppm
- §180.587 Famoxadone, 0.45 ppm
- §180.603 Dinotefuran, 0.15 ppm
- §180.628 Chlorantraniliprole, 0.30 ppm
- §180.635 Spinetoram, 0.10 ppm
- §180.637 Mandipropamid, 0.05 ppm
- §180.661 Fluopyram, 0.40 ppm
- §180.663 Ametoctradin, 1.5 ppm
- §180.668 Sulfoxaflor, 0.01 ppm



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- §180.669 Picoxystrobin, 0.50 ppm
- §180.672 Cyantraniliprole, 0.04 ppm
- §180.675 Tolfenpyrad, 0.09 ppm
- §180.679 Flupyradifurone, 0.09 ppm
- §180.685 Oxathiapiprolin, 0.04 ppm
- §180.686 Benzovindiflupyr, 0.02 ppm
- §180.699 Pydiflumetofen, 0.2 ppm

Onion

- §180.200 Dicloran, 10 ppm
- §180.491(1) Propylene oxide, dried, 300 ppm
- §180.491(2) Residues of the reaction product, propylene chlorohydrin, including its metabolites and degradates, in or on commodities, dried, 6000 ppm

- §180.1016 Ethylene, exemption from the requirement of a tolerance, injected into the soil to cause premature germination (**Appendix 7**)
- §180.1019 Sulfuric acid, exemption from the requirement of a tolerance (**Appendix 7**)
- §180.1087 Sesame stalks, exemption from the requirement of a tolerance for restudies of the biorational nematicide sesame stalk in or on onion (**Appendix 7**)
- §180.1228 Diallyl sulfides, exemption from the requirement of a tolerance (**Appendix 7**)



Appendix 1

Below is a list of spices as listed on the ASTA Spice list that are included in **Crop Group 19: Herbs and Spices**.

Allspice (<i>Pimenta dioica</i>)	Fenugreek (<i>Trigonella foenumgraecum</i>)
Anise (anise seed) (<i>Pimpinella anisum</i>)	Juniper berry (<i>Juniperus communis</i>)
Anise, star (<i>Illicium verum</i>)	Lavender (<i>Lavandula officinalis</i>)
Annatto (seed)	Mace (<i>Myristica fragrans</i>)
Balm (lemon balm) (<i>Melissa officinalis</i>)	Marjoram (<i>Origanum spp.</i>) (includes sweet or annual marjoram, wild marjoram or oregano, and pot marjoram)
Basil (<i>Ocimum basilicum</i>)	Mustard (seed) (<i>Brassica juncea</i> , <i>B. hirta</i> , <i>B. nigra</i>)
Camomile (<i>Anthemis nobilis</i>)	Nutmeg (<i>Myristica fragrans</i>)
Caraway (<i>Carum carvi</i>)	Parsley (dried) (<i>Petroselinum crispum</i>)
Cardamom (<i>Elettaria cardamomum</i>)	Pepper, black (<i>Piper nigrum</i>)
Cassia bark (<i>Cinnamomum aromaticum</i>)	Pepper, white
Celery seed (<i>Apicum graveolens</i>)	Poppy (seed) (<i>Papaver somniferum</i>)
Chervil (dried) (<i>Anthriscus cerefolium</i>)	Rosemary (<i>Rosemarinus officinalis</i>)
Chive (<i>Allium schoenoprasum</i>)	Saffron (<i>Crocus sativus</i>)
Cinnamon (<i>Cinnamomum verum</i>)	Sage (<i>Salvia officinalis</i>)
Clove buds (<i>Eugenia caryophyllata</i>)	Savory, summer and winter (<i>Satureja spp.</i>)
Coriander (cilantro) (seed) (<i>Coriandrum sativum</i>)	Tarragon (<i>Artemisia dracunculus</i>)
Cumin (<i>Cuminum cyminum</i>)	Thyme (<i>Thymus spp.</i>)
Dill (dillweed) (<i>Anethum graveolens</i>)	Vanilla (<i>Vanilla planifolia</i>)
Dill (seed) (<i>Anethum graveolens</i>)	
Fennel (common) (<i>Foeniculum vulgare</i>)	

Appendix 2

Below is a list of spices as listed on the ASTA Spice list that are included in **Crop Group 19A: Herb Subgroup**.

Basil	Parsley (dried)
Camomile	Rosemary
Chervil (dried)	Sage
Chive	Savory, summer and winter
Dillweed	Tarragon
Lavender	Thyme
Marjoram (<i>Origanum spp.</i>)	



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Appendix 3

Below is a list of spices as listed on the ASTA Spice list that are included in ***Crop Group 19B: Spice Subgroup***.

Allspice	Fennel, common
Anise (seed)	Fenugreek
Anise, star	Juniper (berry)
Annatto (seed)	Mace
Caraway	Mustard (seed)
Cardamom	Nutmeg
Celery (seed)	Pepper, black
Cinnamon	Pepper, white
Clove (buds)	Poppy (seed)
Coriander (seed)	Saffron
Cumin	Vanilla
Dill (seed)	



Appendix 4

Below is a list of spices as listed on the ASTA Spice list that are included in **Crop Group 25: Herb Group** and their related crop subgroup.

- Balm, fresh leaves, *Melissa officinalis* L. (Group 25A)
- Balm, dried leaves, *Melissa officinalis* L. (Group 25B)
- Basil, fresh leaves, *Ocimum basilicum* L. (Group 25A)
- Basil, dried leaves, *Ocimum basilicum* L. (Group 25B)
- Basil, American, fresh leaves, *Ocimum americanum* L. (Group 25A)
- Basil, American, dried leaves, *Ocimum americanum* L. (Group 25B)
- Basil, Greek, fresh leaves, *Ocimum minimum* L. (Group 25A)
- Basil, Greek, dried leaves, *Ocimum minimum* L. (Group 25B)
- Basil, holy, fresh leaves, *Ocimum tenuiflorum* L. (Group 25A)
- Basil, holy, dried leaves, *Ocimum tenuiflorum* L. (Group 25B)
- Basil, lemon, fresh leaves, *Ocimum x citriodorum* Vis (Group 25A)
- Basil, lemon, dried leaves, *Ocimum x citriodorum* Vis (Group 25B)
- Basil, Russian, fresh leaves, *Ocimum gratissimum* L. (Group 25A)
- Basil, Russian, dried leaves, *Ocimum gratissimum* L. (Group 25B)
- Bay, fresh leaves, *Laurus nobilis* L. (Group 25A)
- Bay, dried leaves, *Laurus nobilis* L. (Group 25B)
- Camomile (Chamomile), fresh leaves, *Chamaemelum* spp. and *Matricaria* spp. (Group 25A)
- Camomile (Chamomile), dried leaves, *Chamaemelum* spp. and *Matricaria* spp. (Group 25B)
- Camomile (Chamomile), German, fresh leaves, *Matricaria recutita* L. (Group 25A)
- Camomile (Chamomile), German, dried leaves, *Matricaria recutita* L. (Group 25B)
- Camomile (Chamomile), Roman, fresh leaves, *Chamaemelum nobile* (L.) All (Group 25A)
- Camomile (Chamomile), Roman, dried leaves, *Chamaemelum nobile* (L.) All (Group 25B)
- Chervil, dried leaves, *Anthriscus cerefolium* (L.) Hoffm (Group 25B)
- Chive, dried leaves, *Allium schoenoprasum* L. (Group 25B)
- Cilantro, dried leaves, *Coriandrum sativum* L. (Group 25B)
- Dillweed, dried leaves, *Anethum graveolens* L. (Group 25B)
- Lavender, fresh leaves, *Lavandula angustifolia* Mill (Group 25A)
- Lavender, dried leaves, *Lavandula angustifolia* Mill (Group 25B)
- Marjoram, fresh leaves, *Origanum* spp. (Group 25A)
- Marjoram, dried leaves, *Origanum* spp. (Group 25B)
- Marjoram, pot, fresh leaves, *Origanum onites* L. (Group 25A)
- Marjoram, pot, dried leaves, *Origanum onites* L. (Group 25B)
- Marjoram, sweet, fresh leaves, *Origanum majorana* L. (Group 25A)
- Marjoram, sweet, dried leaves, *Origanum majorana* L. (Group 25B)
- Mint, fresh leaves, *Mentha* spp. (Group 25A)
- Mint, dried leaves, *Mentha* spp. (Group 25B)



- Oregano, fresh leaves, *Origanum vulgare* L. (Group 25A)
- Oregano, dried leaves, *Origanum vulgare* L. (Group 25B)
- Oregano, Mexican, fresh leaves, *Lippia graveolens* Kunth (Group 25A)
- Oregano, Mexican, dried leaves, *Lippia graveolens* Kunth (Group 25B)
- Oregano, Puerto Rico, fresh leaves, *Lippia micromera* Schauer (Group 25A)
- Oregano, Puerto Rico, dried leaves, *Lippia micromera* Schauer (Group 25B)
- Parsley, dried leaves, *Petroselinum crispum* (Mill.) Fuss (Group 25B)
- Peppermint, fresh leaves, *Mentha X piperita* L. (Group 25A)
- Peppermint, dried leaves, *Mentha X piperita* L. (Group 25B)
- Rosemary, fresh leaves, *Rosmarinus officinalis* L. (Group 25A)
- Rosemary, dried leaves, *Rosmarinus officinalis* L. (Group 25B)
- Sage, fresh leaves, *Salvia officinalis* L. (Group 25A)
- Sage, dried leaves, *Salvia officinalis* L. (Group 25B)
- Sage, Greek, fresh leaves, *Salvia fruticosa* Mill (Group 25A)
- Sage, Greek, dried leaves, *Salvia fruticosa* Mill (Group 25B)
- Sage, Spanish, fresh leaves, *Salvia lavandulifolia* Vahl (Group 25A)
- Sage, Spanish, dried leaves, *Salvia lavandulifolia* Vahl (Group 25B)
- Sage, white, fresh leaves, *Salvia apiana* Jeps (Group 25A)
- Sage, white, dried leaves, *Salvia apiana* Jeps (Group 25B)
- Savory, summer, fresh leaves, *Satureja hortensis* L. (Group 25A)
- Savory, summer, dried leaves, *Satureja hortensis* L. (Group 25B)
- Savory, winter, fresh leaves, *Satureja montana* L. (Group 25A)
- Savory, winter, dried leaves, *Satureja montana* L. (Group 25B)
- Spearmint, fresh leaves, *Mentha spicata* L. (Group 25A)
- Spearmint, dried leaves, *Mentha spicata* L. (Group 25B)
- Tarragon, fresh leaves, *Artemisia dracunculus* L. (Group 25A)
- Tarragon, dried leaves, *Artemisia dracunculus* L. (Group 25B)
- Thyme, fresh leaves, *Thymus* spp. (Group 25A)
- Thyme, dried leaves, *Thymus* spp. (Group 25B)
- Thyme, creeping, fresh leaves, *Thymus serpyllum* L. (Group 25A)
- Thyme, creeping, dried leaves, *Thymus serpyllum* L. (Group 25B)



Appendix 5

Below is a list of spices as listed on the ASTA Spice list that are included in ***Crop Group 26: Spice Group***.

Allspice, *Pimenta dioica* (L.) Merr.
Anise, seed, *Pimpinella anisum* L.
Anise, star, *Illicium verum* Hook. f.
Annatto, seed, *Bixa orellana* L.
Caraway, black, *Nigella sativa* L.
Cardamom, green, *Elettaria cardamomum* (L.) Maton.
Cassia, bark, *Cinnamomum* spp.
Cassia, Chinese, bark, *Cinnamomum aromaticum* Nees.
Celery, seed, *Apium graveolens* var. *dulce* (Mill.) Pers.
Cinnamon, bark, *Cinnamomum verum* J. Presl.
Cinnamon, Saigon, bark, *Cinnamomum loureiroi* Nees.
Clove buds, *Syzygium aromaticum* (L.) Merr. & L.M. Perry.
Cassia, Chinese, bark, *Cinnamomum aromaticum* Nees.
Celery, seed, *Apium graveolens* var. *dulce* (Mill.) Pers.
Coriander, seed, *Coriandrum sativum* L.
Cumin, *Cuminum cyminum* L.
Dill, seed, *Anethum graveolens* L.
Fennel, common, seed, *Foeniculum vulgare* Mill. subsp. *vulgare* var. *vulgare*.
Fennel, Florence, seed, *Foeniculum vulgare* Mill. subsp. *vulgare* var. *azoricum* (Mill.) Thell.
Fenugreek, seed, *Trigonella foenum-graecum* L.
Juniper berry, *Juniperus communis* L.
Mace, *Myristica fragrans* Houtt.
Mustard, seed, *Brassica* spp. and *Sinapis* spp.
Nutmeg, *Myristica fragrans* Houtt.
Pepper, black, *Piper nigrum* L.
Pepper, pink, *Schinus terebinthifolius* Raddi.
Pepper, white, *Piper nigrum* L.
Peppercorn, green, *Piper nigrum* L.
Poppy, seed, *Papaver somniferum* L. subsp. *somniferum*.
Saffron crocus, *Crocus sativus* L.
Sesame, seed, *Sesamum indicum* L., *S. radiatum* Thonn. ex Hornem.
Vanilla, *Vanilla planifolia* Jacks.



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Appendix 6

Attached is the table included under CFR §180.950. Residues resulting from the use of the following substances as either inert or an active ingredient in a pesticide chemical formulation, including antimicrobial pesticide chemicals, are exempted from the requirement of a tolerance under FFDCA section 408, if such use is in accordance with good agricultural or manufacturing practices, on commodities and substances specified in the citation.

Chemical	CAS No.
Acetic acid, sodium salt	127-09-3
Alpha-cyclodextrin	10016-20-3
Amylopectin, acid-hydrolyzed, 1-octenylbutanedioate	113894-85-2
Amylopectin, hydrogen 1-octadecenylbutanedioate	125109-81-1
Animal glue	None
Ascorbic acid (vitamin C)	50-81-7
Beeswax	8012-89-3
Benzoic acid, sodium salt	532-32-1
Beta-cyclodextrin	7585-39-9
Carbonic acid, monopotassium salt	298-14-6
Carbonic acid, monosodium salt (sodium bicarbonate)	144-55-8
Carnauba wax	8015-86-9
Carob gum (locust bean gum)	9000-40-2
Castor oil	8001-79-4
Castor oil, hydrogenated	8001-78-3
Cellulose	9004-34-6
Cellulose acetate	9004-35-7
Cellulose, carboxy methyl ether, sodium salt	9004-32-4
Cellulose, 2-hydroxyethyl ether	9004-62-0
Cellulose, 2-hydroxypropyl ether	9004-64-2
Cellulose, 2-hydroxypropyl methyl ether	9004-65-3
Cellulose, methyl ether	9004-67-5



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Cellulose, mixture with cellulose carboxymethyl ether, sodium salt	51395-75-6
Cellulose, pulp	65996-61-4
Cellulose, regenerated	68442-85-3
Citric acid	77-92-9
Citric acid, 2-(acetyloxy)-, tributyl ester	77-90-7
Citric acid, calcium salt	7693-13-2
Citric acid, calcium salt (2:3)	813-94-5
Citric acid, dipotassium salt	3609-96-9
Citric acid, disodium salt	144-33-2
Citric acid, monohydrate	5949-29-1
Citric acid, monopotassium salt	866-83-1
Citric acid, monosodium salt	18996-35-5
Citric acid, potassium salt	7778-49-6
Citric acid, triethyl ester	77-93-0
Citric acid, tripotassium salt	866-84-2
Citric acid, tripotassium salt, monohydrate	6100-05-6
Citric acid, sodium salt	994-36-5
Citric acid, trisodium salt	68-04-2
Citric acid, trisodium salt, dihydrate	6132-04-3
Citric acid, trisodium salt, pentahydrate	6858-44-2
Coffee grounds	68916-18-7
Dextrins	9004-53-9
1,3-Dioxolan-2-one, 4-methyl-(propylene carbonate)	108-32-7
Fumaric acid	110-17-8
Gamma-cyclodextrin	17465-86-0
Gellan gum	71010-52-1
D-Glucitol (sorbitol)	50-70-4



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Glycerol (glycerin) (1,2,3-propanetriol)	56-81-5
Guar gum	9000-30-0
Humic acid	1413-93-6
Humic acid, potassium salt	68514-28-3
Humic acid, sodium salt	68131-04-4
Lactic acid, n-butyl ester	138-22-7
Lactic acid, n-butyl ester, (S)	34451-19-9
Lactic acid, ethyl ester	97-64-3
Lactic acid, ethyl ester,(S)	687-47-8
Lanolin	8006-54-0
Lecithins	8002-43-5
Lecithins, soya	8030-76-0
Licorice Extract	68916-91-6
Maltodextrin	9050-36-6
Paper	None
Potassium chloride	7447-40-7
2-Propanol (isopropyl alcohol)	67-63-0
Red cabbage color, expressed from edible red cabbage heads via a pressing process using only acidified water	None
Silica, amorphous, fumed (crystalline free)	112945-52-5
Silica, amorphous, precipitated and gel	7699-41-4
Silica gel	63231-67-4
Silica gel, precipitated, crystalline-free	112926-00-8
Silica, hydrate	10279-57-9
Silica, vitreous	60676-86-0
Soap (The water soluble sodium or potassium salts of fatty acids produced by either the saponification of fats and oils, or the neutralization of fatty acid)	None
Sorbic acid, potassium salt	24634-61-5



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Soapbark (Quillaja saponin)	1393-03-9
Sodium alginate	9005-38-3
Sodium chloride	7647-14-5
Syrups, hydrolyzed starch, hydrogenated	68425-17-2
Ultramarine blue (C.I. Pigment Blue 29)	57455-37-5
Urea	57-13-6
Vanillin	121-33-5
Xanthan gum	



Appendix 7

The following pesticides are exempted from the requirement of a tolerance on the specified commodities. However, specific conditions of use apply for each exemption. To ensure compliance and to avoid adulteration, please refer to the complete CFR reference listed for a comprehensive explanation of the acceptable conditions of use and application.

Table 1. Exemptions from the requirement of a tolerance for specific herbs and spices contained within the ASTA Spice List.

Commodity	Pesticide	CFR Reference
Capsicums (Pepper); Onion; All food commodities	Ethylene	§180.1016
Garlic; Onion	Sulfuric acid	§180.1019
Capsicums (Pepper), nonbell	Sodium chlorate	§180.1020
Capsicums (Pepper), bell; Onion	Sesame stalks	§180.1087
Capsicums (Pepper)	Biochemical pesticide plant floral volatile attractant compounds: cinnamaldehyde, cinnamyl alcohol, 4-methoxy cinnamaldehyde, 3-phenyl propanol, 4-methoxy phenethyl alcohol, indole, and 1,2,4-trimethoxybenzene	§180.1127
Garlic; Onion	Diallyl sulfides	§180.1228
Capsicums (Pepper)	<i>Xanthomonas campestris pv. vesicatoria</i> and <i>Pseudomonas syringae pv. tomato</i> specific Bacteriophages	§180.1261
All sprouting root, tuber, and bulb crops (Includes horseradish, ginger, turmeric, garlic, onion)	1,4-Dimethylnaphthalene	§180.1142
Root and tuber vegetables (includes horseradish, ginger, turmeric)	1-Octanol	§180.1330



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Table 2. Exemptions from the requirement of a tolerance that generally pertain to herbs and spices contained within the ASTA Spice List.

Commodity	Pesticide	CFR Reference
Raw agricultural commodities	Viable spores of the microorganism <i>Bacillus thuringiensis</i> Berliner; exemption from the requirement of a tolerance.	§180.1011
Growing crops and food commodities	Diatomaceous earth	§180.1017
Growing crops	Copper	§180.1021
Raw agricultural commodities	Propanoic acid, propanoic acid, calcium salt, propanoic sodium salt	§180.1023
All agricultural commodities	Nuclear polyhedrosis virus of <i>Heliothis zea</i>	§180.1027
All food commodities	Methoprene	§180.1033
All raw agricultural commodities	Nosema locustae	§180.1041
All food commodities	Carbon dioxide	§180.1049
All food commodities	Nitrogen	§180.1050
All raw agricultural commodities	Calcium hypochlorite	§180.1054
Raw agricultural commodities	Tomato pinworm insect pheromone	§180.1064
All raw agricultural commodities	Methyl eugenol and malathion combination	§180.1067
All raw agricultural commodities	C12-C18 fatty acid potassium salts	§180.1068
All food commodities	Peanuts, Tree Nuts, Milk, Soybeans, Eggs, Fish, Crustacea, and Wheat	§180.1071
Any raw agricultural commodity	Poly-D-glucosamine (chitosan)	§180.1072
All raw agricultural commodities	Isomate-M	§180.1073
All raw agricultural commodities	Monocarbamide dihydrogen sulfate	§180.1084
All raw agricultural commodities	3,7,11-Trimethyl-1,6,10-dodecatriene-1-ol and 3,7,11-trimethyl-2,6,10-dodecatriene-3-ol	§180.1086
Variety of agricultural crops	Poly-N-acetyl-D-glucosamine	§180.1089
All raw agricultural crops	Lactic acid	§180.1090
Growing crops	Aluminum isopropoxide and aluminum secondary butoxide	§180.1091
All raw agricultural crops	Chlorine gas	§180.1095
All food commodities	Gibberellins [Gibberellic Acids (GA3 and GA4 + GA7), and Sodium or Potassium Gibberellate]	§180.1098
All raw agricultural commodities	<i>Gliocladium virens</i> isolate GL-21	§180.1100
All food commodities	<i>Trichoderma harzianum</i> KRL-AG2 (ATCC #20847) strain T-22	§180.1102
All raw agricultural commodities	Isomate-C	§180.1103
All raw agricultural commodities	3-Carbamyl-2,4,5-trichlorobenzoic acid	§180.1110
All raw agricultural commodities	<i>Bacillus subtilis</i> GB03	§180.1111



All raw agricultural commodities	<i>Pseudomonas fluorescens</i> A506, <i>Pseudomonas fluorescens</i> 1629RS, and <i>Pseudomonas syringae</i> 742RS	\$180.1114
All raw agricultural commodities	<i>Spodoptera exigua</i> nuclear polyhedrosis virus	\$180.1118
All raw agricultural commodities	Azadirachtin	\$180.1119
All raw agricultural commodities	<i>Streptomyces</i> sp. strain K61	\$180.1120
Raw agricultural commodities	Boric acid and its salts, borax (sodium borate decahydrate), disodium octaborate tetrahydrate, boric oxide (boric anhydride), sodium borate and sodium metaborate	\$180.1121
Growing crops	Inert ingredients of semiochemical dispensers	\$180.1122
Raw agricultural commodities	Arthropod pheromones	\$180.1124
All raw agricultural commodities	Codlure, (E,E)-8,10-Dodecadien-1-ol	\$180.1126
All food commodities	<i>Bacillus amyloliquefaciens</i> MBI600	\$180.1128
All raw agricultural commodities, except roots and tubers	<i>Pasteuria penetrans</i>	\$180.1135
All food commodities	Sodium 5-nitroguaiacolate	\$180.1139
All food commodities	Sodium o-nitrophenolate	\$180.1140
All food commodities	Sodium p-nitrophenolate	\$180.1141
All food commodities	Methyl anthranilate	\$180.1143
All raw agricultural commodities	<i>Pseudomonas syringae</i>	\$180.1145
All raw agricultural commodities	<i>Beauveria bassiana</i> Strain GHA	\$180.1146
All raw agricultural products	Occlusion Bodies of the Granulosis Virus of <i>Cydia pomonella</i>	\$180.1148
All raw agricultural products	Inclusion bodies of the multi-nuclear polyhedrosis virus of <i>Anagrapha falcifera</i>	\$180.1149
All raw agricultural commodities	Lepidopteran pheromones	\$180.1153
All food commodities	Cinnamaldehyde	\$180.1156
All food commodities	Cytokinins	\$180.1157
All food commodities	Auxins	\$180.1158
All food commodities	Pelargonic acid	\$180.1159
All raw agricultural commodities	Jojoba oil	\$180.1160
All food commodities	Clarified hydrophobic extract of neem oil	\$180.1161
Raw agricultural commodities	Acrylate polymers and copolymers	\$180.1162
All raw agricultural commodities	Killed <i>Myrothecium verrucaria</i>	\$180.1163
All food commodities	Capsaicin	\$180.1165
All raw agricultural commodities	Allyl isothiocyanate as a component of food grade oil of mustard	\$180.1167
All raw agricultural commodities	Sodium bicarbonate	\$180.1176
All raw agricultural commodities	Potassium bicarbonate	\$180.1177



All raw agricultural commodities	Plant extract derived from <i>Opuntia lindheimeri</i> , <i>Quercus falcata</i> , <i>Rhus aromatica</i> , and <i>Rhizophoria mangle</i>	\$180.1179
Food commodities	Kaolin	\$180.1180
All raw agricultural commodities	<i>Bacillus cereus</i> strain BP01	\$180.1181
All food commodities	L-glutamic acid	\$180.1187
All food commodities	Gamma aminobutyric acid	\$180.1188
Food	Methyl salicylate	\$180.1189
All food commodities	Ferric phosphate	\$180.1191
All food commodities	Potassium dihydrogen phosphate	\$180.1193
Growing crops	Titanium dioxide	\$180.1195
All food commodities	Peroxyacetic acid	\$180.1196
All food commodities	Hydrogen peroxide	\$180.1197
All food commodities	<i>Gliocladium catenulatum</i> strain J1466	\$180.1198
All food commodities	Lysophosphatidylethanolamine (LPE)	\$180.1199
All food crops	<i>Bacillus sphaericus</i>	\$180.1202
All food commodities	Harpin protein	\$180.1204
All food commodities	<i>Beauveria bassiana</i> ATCC #74040	\$180.1205
All food commodities	<i>Bacillus subtilis</i> strain QST 713 and strain QST 713 variant soil	\$180.1029
All food commodities	Phosphorous acid	\$180.1210
All food commodities	<i>Pseudomonas chlororaphis</i> Strain 63-28	\$180.1212
All food commodities	<i>Coniothyrium minitans</i> strain CON/M/91-08	\$180.1213
All food commodities	Indian Meal Moth Granulosis Virus	\$180.1218
Fruits and vegetables	1-Methylcyclopropene	\$180.1220
All food commodities	Sucrose octanoate esters	\$180.1222
All food commodities	Imazamox	\$180.1223
All food commodities	<i>Bacillus pumilus</i> GB34	\$180.1224
All raw agricultural commodities and processed commodities	Decanoic acid	\$180.1225
All raw agricultural commodities	<i>Bacillus pumilus</i> strain QST2808	\$180.1226
All food commodities	Sodium metasilicate	\$180.1237
All food commodities	Thymol	\$180.1240
All agricultural commodities	<i>Bacillus subtilis</i> var. <i>amyloliquefaciens</i> strain FZB24	\$180.1243
All food commodities	Ammonium bicarbonate	\$180.1244
All food commodities	Rhamnolipid biosurfactant	\$180.1245
All food commodities	Yeast Extract Hydrolysate from <i>Saccharomyces cerevisiae</i>	\$180.1246
All food commodities	Citronellol	\$180.1248
All food commodities	C8, C10, and C12 fatty acid monoesters of glycerol and propylene glycol	\$180.1250



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All food commodities	Geraniol	\$180.1251
All agricultural commodities	<i>Streptomyces lydicus</i> WYEC 108	\$180.1253
All agricultural commodities	<i>Bacillus pumilus</i> strain QST 2808	\$180.1255
All food commodities	<i>Purpureocillium lilacinum</i> strain 251	\$180.1257
All food crops	Acetic acid	\$180.1258
All food commodities	<i>Reynoutria sachalinensis</i> extract	\$180.1259
All food commodities	<i>Muscodor albus</i> QST 20799 and the volatiles produced on rehydration	\$180.1260
All food commodities	Sorbitol octanoate	\$180.1262
All raw agricultural commodities	Tetrahydrofurfuryl alcohol	\$180.1263
All food commodities	Potassium silicate	\$180.1268
All agricultural commodities	<i>Bacillus mycoides</i> isolate J	\$180.1269
All food/feed commodities	<i>Beauveria bassiana</i> HF23	\$180.1273
All food commodities	<i>Pythium oligandrum</i> DV 74	\$180.1275
All food commodities	<i>Quillaja saponaria</i> extract (saponins)	\$180.1278
All food commodities	Poly(hexamethylenebiguanide) hydrochloride (PHMB)	\$180.1280
All food commodities	S-Abcsicic Acid, (S)-5-(1-hydroxy-2,6,6-trimethyl-4-oxo-1-cyclohex-2-enyl)-3-methyl-penta-(2Z,4E)-dienoic Acid	\$180.1281
All food/feed commodities	<i>Bacillus firmus</i> I-1582	\$180.1282
All food and feed crops	(Z)-7,8-exoxy-2-methyloctadecane	\$180.1283
All food commodities	Ammonium salts of higher fatty acids (C8-C18 saturated; C8-C12 unsaturated)	\$180.1284
All food commodities	Polyoxin D zinc salt	\$180.1285
All food commodities	Extract of <i>Chenopodium ambrosioides</i> near <i>ambrosioides</i>	\$180.1287
All food commodities	<i>Pasteuria usage</i>	\$180.1290
All food commodities	Cold pressed neem oil	\$180.1291
All food commodities	<i>Ulocladium oudemansii</i> (U3 Strain)	\$180.1292
All food and feed commodities	<i>Trichoderma gamsii</i> strain ICC 080	\$180.1293
All food and feed commodities	<i>Trichoderma asperellum</i> strain ICC 012	\$180.1294
All food commodities	Laminarin	\$180.1295
All food commodities	Terpene Constituents α -terpinene, d-limonene and p-cymene, of the Extract of <i>Chenopodium ambrosioides</i> near <i>ambrosioides</i> as Synthetically Manufactured	\$180.1296
All food commodities	Homobrassinolide	\$180.1297
All food commodities	<i>Trichoderma hamatum</i> isolate 382	\$180.1298
All commodities	Potassium hypochlorite	\$180.1300
All food commodities	Sodium ferric ethylenediaminetetraacetate (EDTA)	\$180.1302



All food commodities	Metarhizium anisopliae strain F52	\$180.1303
All food commodities	Pseudomonas fluorescens strain CL145A	\$180.1304
All food commodities	Chromobacterium subsugae strain PRAA4-1 ^T	\$180.1305
All food commodities	Isaria fumosorosea (formerly Paecilomyces fumosoroseus) Apopka strain 97	\$180.1306
All food commodities	Bacillus amyloliquefaciens strain D747	\$180.1308
All food commodities	Bacillus subtilis strain CX-9060	\$180.1309
All food commodities	Trichoderma virens strain G-41	\$180.1310
All food commodities	Pasteuria mishizawae—Pn1	\$180.1311
All food commodities	Aureobasidium pullulans strains DSM14940 and DSM 14941	\$180.1312
All food commodities	Bacillus pumilus strain GHA 180	\$180.1313
All food commodities	Killed, nonviable Streptomyces acidiscabies strain RL-110	\$180.1314
All food commodities	Pasteuria spp. (Rotylenchulus reniformis nematode)—Pr3	\$180.1316
All food commodities	Banda de Lupinus albus doce (BLAD)	\$180.1319
All food commodities	Methyl jasmonate	\$180.1320
All food commodities	Complex polymeric polyhydroxy acids	\$180.1321
All food commodities	Bacillus pumilus strain BU F-33	\$180.1322
All food commodities	Ethyl-2E,4Z-decadienoate (Pear ester)	\$180.1323
All food commodities	GS-omega/kappa-Htxt-Hv1a	\$180.1324
All food commodities	Heat-killed Burkholderia spp. Strain A396 cells and spent fermentation media	\$180.1325
All food commodities	Pseudomonas fluorescens strain D7	\$180.1326
All food commodities	Beauveria bassiana strain ANT-03	\$180.1328
All food commodities	Bacillus subtilis strain IAB/BS03	\$180.1329
All food commodities	Trichoderma asperelloides strain JM41R	\$180.1331
All raw agricultural commodities	Lavandulyl senecioate	\$180.1332
All food commodities	Choline Chloride	\$180.1334
All food commodities	Isaria fumosorosea strain FE 9901	\$180.1335
All food commodities	Bacillus amylosliquefaciens strain PTA-4838	\$180.1336
All food commodities	Spodoptera frugiperda multiple nucleopolyhedrovirus strain 3AP2	\$180.1339
All food commodities	Muscodor albus strain SA-13 and the volatiles produced on rehydration	\$180.1340
All food commodities	Pseudomonas chlororaphis strain AFS009	\$180.1341
Rotated crops	Cyclaniliprole	\$180.1344
All food commodities	1-Triacontanol	\$180.1345
Raw agricultural commodities	1,3-Dibromo-5,5-Dimethylhydantoin	\$180.1346
All food commodities	Bacillus amyloliquefaciens strain F727	\$180.1347
All food commodities	Bacillus subtilis strain BU1814	\$180.1348



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All food commodities	<i>Bacillus licheniformis</i> strain FMCH001	§180.1350
All food commodities	<i>Bacillus subtilis</i> strain FMCH002	§180.1351
All raw agricultural commodities	Methyl-alpha-D-mannopyranoside (Alpha methyl mannoside)	§180.1352
All food commodities	Lipochoitooligosaccharide (LCO) SP104	§180.1353
All food commodities not listed in §180.697(a)	Flutianil	§180.1354
All food commodities	Duddingtonia flagrans strain IAH 1297	§180.1355
All food commodities	Extract of <i>Swinglea glutinosa</i>	§180.1356
All food commodities	Cerevisane (cell walls of <i>Saccharomyces cerevisiae</i> strain LAS117)	§180.1357
All food commodities	<i>Beauveria bassiana</i> strain PPRI 5339	§180.1362
All food commodities	<i>Bacillus amyloliquefaciens</i> strain ENV503	§180.1363
All food commodities	Bacteriophage active against <i>Xylella fastidiosa</i>	§180.1365
All food commodities	24-Epibrassinolide	§180.1366
All food commodities	<i>Bacillus amyloliquefaciens</i> subspecies plantarum strain FZB42	§180.1367
All food commodities	<i>Clonostachys rosea</i> strain CR-7	§180.1368
All food commodities	<i>Autographa californica</i> multiple nucleopolyhedrovirus strain FV#!1	§180.1369
All food commodities	Lipochoitoolgiosaccharide (LCO) MOR116	§180.1370
All food and feed commodities	Florpyrauxifen-benzyl	§180.1371
All food commodities	Sodium lauryl sulfate	§180.13722
All food commodities	<i>Chrysodeixis includens</i> nucleopolyhedrovirus isolate #460	§180.1373
All food commodities	<i>Autographa californica</i> multiple nucleopolyhedrovirus strain R3	§180.1374
All food commodities	Methyl mercaptan	§180.1375
All food commodities	Ea peptide 91398	§180.1376
All food commodities	<i>Trichoderma atroviride</i> strain SC1	§180.1378
All food commodities	<i>Trichoderma asperellum</i> , strain T34	§180.1379

Table 3. General exemptions from the establishment of a tolerance.

Ferrous sulfate	§180.1230
Lime	§180.1231
Lime-sulfur	§180.1232
Potassium sorbate	§180.1233
Sodium carbonate	§180.1234
Sodium hypochlorite	§180.1235
Sulfur	§180.1236