

Active Ingredients Exempt from Food Tolerances for Use on Marijuana

This list may be used to assist in determining if a product may be used in marijuana production. This guide was developed from information provided in [eCFR :: 40 CFR Part 180 -- Tolerances and Exemptions for Pesticide Chemical Residues in Food](#). MDAR recommends that you contact the manufacturer as well to ensure the active ingredient in the product you would like to use is exempt from a food tolerance. Please note, that there are additional criteria that needs to be met before selecting a product for use. You can learn more about the additional criteria by viewing the updated [policy](#).

ACTIVE INGREDIENT	FIFRA EXEMPTION
Acetic acid	<p>(a) An exemption from the requirement of a tolerance is established for residues of the biochemical pesticide acetic acid when used as a preservative on post-harvest agricultural commodities intended for animal feed, including Alfalfa, seed; alfalfa, hay; barley, grain; bermudagrass, hay; bluegrass, hay; bromegrass, hay; clover, hay; corn, field, grain; corn, pop, grain; cowpea, hay; fescue, hay; lespedeza, hay; lupin; oat, grain; orchardgrass, hay; peanut, hay; timothy, hay; vetch, hay; and wheat, grain, or commodities described as grain or hay.</p> <p>(b) An exemption from the requirement of a tolerance is established for residues of acetic acid in or on all food crops resulting from unintentional spray and drift to non-target vegetation including non-food, food and feed crops when used as a non-selective contact herbicide spray.</p>
Autographa californica Multiple Nucleopolyhedrovirus strain R3	Residues of <i>Autographa californica</i> multiple nucleopolyhedrovirus strain R3 are exempt from the requirement of a tolerance in or on all food commodities when used in accordance with label directions and good agricultural practices.
Azadirachtin	An exemption from the requirement of a tolerance is established for the biochemical azadirachtin, which is isolated from the berries of the Neem tree (<i>Azadirachta indica</i>), when used as a pesticide at 20 grams or less per acre on all raw agricultural commodities.

Bacillus amyloliquefaciens strain D747	An exemption from the requirement of a tolerance is established for residues of the microbial pesticide, <i>Bacillus amyloliquefaciens</i> strain D747 in or on all food commodities when used in accordance with good agricultural practices.
Bacillus amyloliquefaciens strain F727	An exemption from the requirement of a tolerance is established for residues of <i>Bacillus amyloliquefaciens</i> strain F727 in or on all food commodities when used in accordance with label directions and good agricultural practices.
<i>Bacillus amyloliquefaciens</i> strain PTA-4838	An exemption from the requirement of a tolerance is established for residues of <i>Bacillus amyloliquefaciens</i> strain PTA-4838 in or on all food commodities.
Bacillus amyloliquefaciens subsp. plantarum strain FZB42	An exemption from the requirement of a tolerance is established for residues of <i>Bacillus amyloliquefaciens</i> subspecies plantarum strain FZB42 in or on all food commodities when used in accordance with label directions and good agricultural practices.
Bacillus mycoides isolate J	An exemption from the requirement of a tolerance is established for residues of <i>Bacillus mycoides</i> isolate J in or on all agricultural commodities when used in accordance with label directions and good agricultural practices.
Bacillus thuringiensis subsp. aizawai strain GC-91 <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> strain SA-12 <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> strain ABTS-351 Bacillus thuringiensis subsp. <i>kurstaki</i> strain SA-11 Bacillus thuringiensis, subsp. <i>aizawai</i> strain ABTS 1857 Bacillus thuringiensis, subsp. <i>kurstaki</i> strain EG7841	(a) For the purposes of this section the microbial insecticide for which exemption from the requirement of a tolerance is being established shall have the following specifications: (1) The microorganism shall be an authentic strain of <i>Bacillus thuringiensis</i> Berliner conforming to the morphological and biochemical characteristics of <i>Bacillus thuringiensis</i> as described in Bergey's Manual of Determinative Bacteriology, Eighth Edition. (2) Spore preparations of <i>Bacillus thuringiensis</i> Berliner shall be produced by pure culture fermentation procedures with adequate control measures during production to detect any changes from the characteristics of the parent strain or contamination by other microorganisms.

	<p>(3) Each lot of spore preparation, prior to the addition of other materials, shall be tested by subcutaneous injection of at least 1 million spores into each of five laboratory test mice weighing 17 grams to 23 grams. Such test shall show no evidence of infection or injury in the test animals when observed for 7 days following injection.</p> <p>(4) Spore preparations shall be free of the <i>Bacillus thuringiensis</i> b-exotoxin when tested with the fly larvae toxicity test (“Microbial Control of Insects and Mites,” R.P.M. Bond et al., p. 280 ff., 1971). This specification can be satisfied either by determining that each master seed lot brought into production is a <i>Bacillus thuringiensis</i> strain which does not produce b-exotoxin under standard manufacturing conditions or by periodically determining that b-exotoxin synthesized during spore production is eliminated by the subsequent spore-harvesting procedure.</p> <p>Exemption from the requirement of a tolerance is established for residues of the microbial insecticide <i>Bacillus thuringiensis</i> Berliner, as specified in paragraph (a) of this section, in or on honey and honeycomb and all other raw agricultural commodities when it is applied either to growing crops, or when it is applied after harvest in accordance with good agricultural practices.</p>
Beauveria bassiana strain GH	<i>Beauveria bassiana</i> Strain GHA is exempted from the requirement of a tolerance in or on all raw agricultural commodities when applied to growing crops according to good agricultural practices.
Calcium salts of phosphorous acid	An exemption from the requirement of a tolerance is established for residues of calcium salts of phosphorous acid, including its metabolites and degradates, in or on all food commodities when used as a fungicide or as a systemic acquired resistance (SAR) inducer.
Capric acid (or Decanoic acid)	See 180.1225 Decanoic acid; An exemption from the requirement of a tolerance is established for residues of decanoic acid in or on all raw agricultural commodities and in

	processed commodities, when such residues result from the use of decanoic acid as an antimicrobial treatment in solutions containing a diluted end-use concentration of decanoic acid (up to 170 ppm per application) on food contact surfaces such as equipment, pipelines, tanks, vats, fillers, evaporators, pasteurizers and aseptic equipment in restaurants, food service operations, dairies, breweries, wineries, beverage and food processing plants.
Caprylic acid (or Octanoic Acid)	An exemption from the requirement of a tolerance for residues of Caprylic (Octanoic) Acid in foods has been established (40 CFR 180.940 (a)(b)(c)), as referenced in 'Caprylic Acid; Final Work Plan and Proposed Registration Review Decision', https://www.regulations.gov/document/EPA-HQ-OPP-2008-0477-0007
Capsicum (Resin-, Oleo-, capsicum or Capsicum oleoresin extract)	Capsaicin is cleared for food use under 40CFR§180.1165: Capsaicin is exempt from the requirement of a tolerance in or on all food commodities when used in accordance with approved label rates and good agricultural practices.
Chitosan	<p>Poly-<i>D</i>-glucosamine (chitosan); exemption from the requirement of a tolerance.</p> <p>(a) An exemption from the requirement of a tolerance is established for residues of the biological plant growth regulator poly-<i>D</i>-glucosamine when used as a seed treatment in or on barley, beans, oats, peas, rice, and wheat.</p> <p>(b) An exemption from the requirement of a tolerance is established for residues of the biological plant growth regulator poly-<i>D</i>-glucosamine when used as a pesticide in the production any raw agricultural commodity.</p>
Choline chloride	An exemption from the requirement of a tolerance is established for residues of Choline Chloride in or on all food commodities when Choline Chloride is applied pre-harvest and used in accordance with label directions and good agricultural practices.
<i>Chromobacterium subtsugae</i> strain PRAA4-1 cells	An exemption from the requirement of a tolerance is established for residues of <i>Chromobacterium subtsugae</i> strain PRAA4-1T in or on all food commodities when applied as an insecticide or miticide and used in accordance with good agricultural practices.

Chrysodeixis includens Nucleopolyhedrovirus isolate #460	Residues of <i>Chrysodeixis includens</i> nucleopolyhedrovirus isolate #460 are exempt from the requirement of a tolerance in or on all food commodities, when used in accordance with label directions and good agricultural practices.
Cinnamaldehyde	Cinnamaldehyde (3-phenyl-2-propenal) is exempted from the requirement of a tolerance in or on all food commodities, when used as a fungicide, insecticide, and algacide in accordance with good agricultural practices.
Complex Polymeric Polyhydroxy Acids	<p>An exemption from the requirement of a tolerance is established for the residues of complex polymeric polyhydroxy acids in or on all food commodities when applied as a plant growth regulator and used in accordance with good agricultural practices.</p> <p>An exemption from the requirement of a tolerance is established for the residues of complex polymeric polyhydroxy acids in or on all food commodities when applied as a nematocide and used in accordance with good agricultural practices.</p>
Copper sulfate pentahydrate	Copper sulfate pentahydrate (CAS Reg. No. 7758-99-8) is exempt from the requirement of a tolerance when applied as a fungicide to growing crops or to raw agricultural commodities after harvest, and as a bactericide/fungicide in or on meat, fat and meat by-products of cattle, sheep, hogs, goats, horses and poultry, milk and eggs when applied as a bactericide/fungicide to animal premises and bedding.
Cytokinin (as kinetin)	An exemption from the requirement of a tolerance is established for residues of cytokinins (specifically: aqueous extract of seaweed meal and kinetin) in or on all food commodities when used as plant regulators on plants, seeds, or cuttings and on all food commodities after harvest in accordance with good agricultural practices
Ethaneperoxoic acid (Peracetic acid; Peroxyacetic Acid)	An exemption from the requirement of a tolerance is established for residues of the biochemical pesticide peroxyacetic acid and its metabolites and degradates, including hydrogen peroxide and acetic acid, in or on all food commodities, when used in accordance

	with good agricultural practices.
Gamma-aminobutyric acid	Gamma aminobutyric acid is exempt from the requirement of a tolerance on all food commodities when used in accordance with good agricultural practices.
Garlic oil (<i>Allium sativum</i>)	<i>Allium sativum</i> is exempt from the requirement of a tolerance as an active or inert ingredient under 40 CFR 180.950(a). The biochemical is exempt from the requirement of a tolerance because is considered a commonly consumed food commodity.
<i>Gliocladium catenulatem</i> (maybe <i>Clonostachys rosea</i>) strain J1446	An exemption from the requirement of a tolerance is established for residues of the microbial pesticide <i>Gliocladium catenulatum</i> strain J1446 when used in or on all food commodities.
GS-omega/kappa - Hxtx-Hv1a (spider venom peptides)	An exemption from the requirement of a tolerance is established for residues of the pesticide GS-omega/kappa- Hxtx-Hv1a in or on all food commodities when applied or used in accordance with label directions and good agricultural practices.
Heat-Killed <i>Burkholderia spp</i> strain A396 cells	An exemption from the requirement of a tolerance is established for residues of heat-killed <i>Burkholderia spp.</i> strain A396 cells and spent fermentation media in or on all food commodities when applied as a biological insecticide to agricultural crops and used in accordance with label directions and good agricultural practices.
<i>Helicoverpa armigera</i> Nucleopolyhedrovirus strain BV-0003	The BRAD (https://www.regulations.gov/document/EPA-HQ-OPP-2014-0151-0008) for this active ingredient states: Because <i>Helicoverpa zea</i> (H. zea) nucleo-polyhedrovirus (NPV) already is exempt from this requirement and since H. zea NPV and H. armigera NPV are variants of the same virus, the applicant did not petition the EPA for an exemption from the requirement of a tolerance for residues of the new strain, <i>Helicoverpa armigera</i> nucleopolyhedrovirus strain BV-0003. In 1980 the EPA granted an exemption from the requirement of a tolerance for residues of the active ingredient H. zea NPV in or on all agricultural commodities (7 CFR 180.1027) as long as the manufacturer meets certain specifications related to identity, contamination control, and safety.

	Nuclear polyhedrosis virus of <i>Heliothis zea</i> ; Exemptions from the requirement of a tolerance are established for the residues of the microbial insecticide <i>Heliothis zea</i> NPV, as specified in paragraphs (a) and (b) of this section, in or on all agricultural commodities.
Hydrogen peroxide	An exemption from the requirement of a tolerance is established for residues of hydrogen peroxide in or on all food commodities at the rate of $\leq 1\%$ hydrogen peroxide per application on growing and postharvest crops.
Indole-3-butyric acid	An exemption from the requirement of a tolerance is established for residues of auxins (specifically: indole-3-acetic acid and indole-3-butyric acid) in or on all food commodities when used as plant regulators on plants, seeds, or cuttings and on all food commodities after harvest in accordance with good agricultural practices.
Iron Phosphate (Ferric Phosphate)	180.1191: An exemption from the requirement of a tolerance is established for residues of the biochemical pesticide, ferric phosphate (FePO_4 , CAS No. 11045-86-0) in or on all food commodities.
<i>Isaria fumosorosea</i> Apopka strain 97	An exemption from the requirement of a tolerance is established for residues of <i>Isaria fumosorosea</i> (formerly <i>Paecilomyces fumosoroseus</i>) Apopka strain 97 in or on all food commodities when applied as an insecticide or miticide and used in accordance with good agricultural practices.
<i>Isaria fumosorosea</i> strain FE 9901	An exemption from the requirement of a tolerance is established for residues of <i>Isaria fumosorosea</i> strain FE 9901 in or on all food commodities when used in accordance with label directions and good agricultural practices.
<i>Methylobacterium populi</i> (<i>Methylobacterium</i>) strain NLS0089	Issued by the EPA on 11/15/2021: § 180.1385, <i>Methylobacterium populi</i> strain NLS0089; An exemption from the requirement of a tolerance is established for residues of <i>Methylobacterium populi</i> strain NLS0089 in or on all food commodities when used in accordance with label directions and good agricultural practices. [FR Doc. 2021-24794; Filed 11-12-21]

Mono- and di-potassium salts of Phosphorus Acid	An exemption from the requirement of a tolerance is established for residues of phosphorous acid and its ammonium, sodium and <u>potassium</u> salts in or on all food commodities when used as an agricultural fungicide and in or on potatoes when applied as a post-harvest treatment at 35,600 ppm or less phosphorous acid.
Neem Oil	<p>Clarified hydrophobic extract of neem oil is exempt from the requirement of a tolerance on all food commodities when used as a botanical fungicide/insecticide/miticide.</p> <p>Residues of the biochemical pesticide cold pressed neem oil are exempt from the requirement of a tolerance in or on all food commodities.</p>
Oil of thyme (Thymol)	<p>An exemption from the requirement of a tolerance is established for thymol (5-methyl-2-isopropyl-1-phenol) in or on all food commodities when used in accordance with good agricultural practices.</p> <p>An exemption from the requirement of a tolerance for residues of the thymol (as present in thyme oil) in or on food commodities when applied/used in/on public eating places, dairy processing equipment, and/or food processing equipment and utensils.</p>
Oleo-, : See Capsicum (Resin-, Oleo-, capsicum)	See Capsicum (Resin-, Oleo-, capsicum)
Phosphorous acid	<p>An exemption from the requirement of a tolerance is established for residues of phosphorous acid and its ammonium, sodium and potassium salts in or on all food commodities when used as an agricultural fungicide and in or on potatoes when applied as a post-harvest treatment at 35,600 ppm or less phosphorous acid.</p> <p>An exemption from the requirement of a tolerance is established for residues of calcium salts of phosphorous acid, including its metabolites and degradates, in or on all food commodities when used as a fungicide or as a systemic acquired resistance (SAR) inducer.</p>
Polyhedral occlusion bodies of the nuclear polyhedrosis virus of Helicoverpa zea (corn earworm); formerly known as 'Indian Meal Moth Granulosis Virus'	§ 180.1218 Indian Meal Moth Granulosis Virus: An exemption from the requirement of a tolerance is established for residues of the microbial pesticide Indian Meal Moth Granulosis Virus when used in or on all food commodities.

Potassium bicarbonate	The biochemical pesticide potassium bicarbonate is exempted from the requirement of a tolerance in or on all raw agricultural commodities when applied as a fungicide or post-harvest fungicide in accordance with good agricultural practices.
Potassium Salts of Fatty Acids	<p>Unless specifically excluded, residues resulting from the use of the following substances as either an 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, if such use is in accordance with good agricultural or manufacturing practices.</p> <p>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)</p>
Potassium Silicate	Potassium silicate is exempt from the requirement of a tolerance in or on all food commodities so long as the potassium silicate is not applied at rates exceeding 1% by weight in aqueous solution and when used in accordance with good agricultural practices.
Pseudomonas chlororaphis strain AFS009	An exemption from the requirement of a tolerance is established for residues of <i>Pseudomonas chlororaphis</i> strain AFS009 in or on all food commodities when used in accordance with label directions and good agricultural practices
Quillaja extract	Residues of the biochemical pesticide <i>Quillaja saponaria</i> extract (saponins) are exempt from the requirement of a tolerance in or on all food commodities
Resin: See Capsicum (Resin-, Oleo-, capsicum)	See Capsicum (Resin-, Oleo-, capsicum)
Reynoutria sachalinesis	Residues of the biochemical pesticide <i>Reynoutria sachalinesis</i> extract, when derived from the whole plant extract, are exempt from the requirement of a tolerance in or on all food commodities
Saccharomyces cerevisiae strain LAS02	§ 180.1391: Saccharomyces cerevisiae strain LAS02; An exemption from the requirement of a tolerance is established for residues of Saccharomyces cerevisiae strain LAS02 in or on all

	<p>food commodities when used in accordance with label directions and good agricultural practices. [FR Doc. 2022-02099 Filed 2-1-22; 8:45 am]</p> <p>This regulation establishes an exemption from the requirement of a tolerance for residues of the biochemical pesticide Yeast Extract Hydrolysate from <i>Saccharomyces cerevisiae</i> on all food commodities when applied/used for the management of plant diseases.</p>
Sodium Ferric EDTA	<p>An exemption from the requirement of a tolerance is established for residues of sodium ferric EDTA in or on all food commodities when applied as a molluscicide and used in accordance with good agricultural practices.</p>
Soybean Oil	<p>Unless specifically excluded, residues resulting from the use of the following substances as either an 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, if such use is in accordance with good agricultural or manufacturing practices.</p> <p>(c) <i>Edible fats and oils</i>. Edible fats and oils means all edible (food or feed) fats and oils, derived from either plants or animals, whether or not commonly consumed, including products derived from hydrogenating (food or feed) oils, or liquefying (food or feed) fats.</p> <p>(1) Included within the term edible fats and oils are oils (such as soybean oil) that are derived from the commodities specified in paragraph (a)(2)(ii) of this section when such oils are highly refined via a solvent extraction procedure.</p>
Spent fermentation media	<p>An exemption from the requirement of a tolerance is established for residues of heat-killed <i>Burkholderia spp.</i> strain A396 cells and spent fermentation media in or on all food commodities when applied as a biological insecticide to agricultural crops and used in accordance with label directions and good agricultural practices.</p>
Spodoptera frugiperda Multiple Nucleopolyhedrovirus strain 3AP2	<p>An exemption from the requirement of a tolerance is established for residues of <i>Spodoptera frugiperda</i> multiple nucleopolyhedrovirus strain 3AP2 in or on all food commodities when used in accordance with label directions and good agricultural practices.</p>

Streptomyces strain K61	The biological pesticide <i>Streptomyces</i> sp. strain K61 is exempted from the requirement of a tolerance in or on all raw agricultural commodities when used as a fungicide for the treatment of seeds, cuttings, transplants, and plants of agricultural crops in accordance with good agricultural practices.
Trichoderma asperellum strain T34	An exemption from the requirement of a tolerance is established for residues of <i>Trichoderma asperellum</i> , strain T34 in or on all food commodities when used in accordance with label directions and good agricultural practices.
Trichoderma harzianum Rifai strain T-22	An exemption from the requirement of a tolerance is established for residues of the biofungicide <i>Trichoderma harzianum</i> KRL-AG2 (ATCC #20847); also known as strain T-22 when applied in/or on all food commodities.
Trichoderma virens strain G-41	An exemption from the requirement of a tolerance is established for residues of <i>Trichoderma virens</i> strain G-41, in or on all food commodities, when applied as a fungicide and used in accordance with good agricultural practices.
Vinegar (CAS 64-19-7) (Acetic Acid)	Acetic acid; (b) An exemption from the requirement of a tolerance is established for residues of acetic acid in or on all food crops resulting from unintentional spray and drift to non-target vegetation including non-food, food and feed crops when used as a non-selective contact herbicide spray.

December 1, 2022