

Subpart D—Exemptions From Tolerances

§ 180.1001 Exemptions from the requirement of a tolerance.

(a) An exemption from a tolerance shall be granted when it appears that the total quantity of the pesticide chemical in or on all raw agricultural commodities for which it is useful under conditions of use currently prevailing or proposed will involve no hazard to the public health.

(b) When applied to growing crops, in accordance with good agricultural practice, the following pesticide chemicals are exempt from the requirement of a tolerance:

(1) The following copper compounds: Bordeaux mixture, basic copper carbonate (malachite), copper-ethylene-diamine complex, copper hydroxide, copper-lime mixtures, copper linoleate, copper oleate, copper oxychloride, cop-

per octanoate, copper sulfate basic, copper sulfate pentahydrate, cupric oxide, cuprous oxide. These compounds are used primarily as fungicides.

- (2) *N*-Octylbicyclo(2,2,1)-5-heptene-2,3-dicarboximide.
- (3) Petroleum oils.
- (4) Piperonyl butoxide.
- (5) [Reserved]
- (6) Pyrethrum and pyrethrins.
- (7) Rotenone or derris or cube roots.
- (8) Sabadilla.

These pesticides are not exempted from the requirement of a tolerance when applied to a crop at the time of or after harvest.

(c) Residues of the following materials are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest:

Inert ingredients	Limits	Uses
Acetic acid	Catalyst
Acetic anhydride	Solvent, cosolvent
Acetone	Do.
Acrylamide potassium acrylate—acrylic acid copolymer, cross-linked (CAS Reg. No. 31212-13-2), minimum number average molecular weight (in atomic mass units (amu)) 1,000,000.	Carrier
Acrylic acid—stearyl methacrylate copolymer (CAS Reg. No. 27756-15-6), minimum number average molecular weight (in amu) 2,500.	Emulsifier, suspending agent, or rheology modifier
Acrylic acid, styrene, α -methyl styrene Copolymer, ammonium salt (CAS Reg. No. 89678-90-0), minimum number average molecular weight (in amu) 1250.	Encapsulating agent, dispensers, resins, fibers and beads
Acrylic acid terpolymer, partial sodium salt (CAS Reg. No. 151006-66-5), minimum number average molecular weight (in amu) 2,400.	Dispersant
Alkanolic and alkenolic acids, mono- and diesters of α -hydro- ω -hydroxypoly (oxyethylene) with molecular weight (in amu) range of 200 to 6,000.	Emulsifiers
Alkyl (C ₈ -C ₂₄) benzenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Surfactants, related adjuvants of surfactants
α -Alkyl (C ₉ -C ₁₈ - ω -hydroxypoly(oxyethylene) with poly(oxyethylene) content of 2-30 moles.	Solvent, cosolvent, surfactant, and related adjuvants of surfactants
α -(<i>p</i> -Alkylphenyl)- ω -hydroxypoly(oxyethylene) produced by the condensation of 1 mole of alkylphenol (alkyl is a mixture of propylene tetramer and pentamer isomers and averages C ₁₃) with 6 moles of ethylene oxide.	Surfactants, related adjuvants of surfactants
α -alkyl (C ₁₂ -C ₁₅)- ω -hydroxypoly (oxypropylene)poly (oxyethylene)copolymers (where the poly(oxypropylene) content is 3-60 moles and the poly(oxyethylene) content is 5-80 moles), the resulting ethoxylated propoxylated (C ₁₂ -C ₁₅) alcohols having a minimum molecular weight (in amu) of 1,500, CAS Reg. No. 68551-13-3.	Not to exceed 20% of pesticide formulations	Surfactant

Inert ingredients	Limits	Uses
α-Alkyl (C ₆ -C ₁₄)-ω-hydroxypoly(oxypropylene) block copolymer with polyoxyethylene; polyoxypropylene content is 1-3 moles; polyoxyethylene content is 4-12 moles; average molecular weight (in amu) is approximately 635.	Do.
α-alkyl (C ₁₂ -C ₁₅)-ω-hydroxypoly (oxypropylene) poly (oxyethylene) copolymers (where the poly (oxypropylene) content is 3-60 moles and the poly (oxyethylene) content is 5-80 moles).	Not more than 20% of pesticide formulations	Surfactant
Alkyl (C ₈ -C ₁₈) sulfate and its ammonium, calcium, isopropylamine, magnesium, potassium, sodium, and zinc salts.	Surfactants.
Almond shells	Solid diluent and carrier
Aluminum hydroxide	Diluent, carrier
Aluminum oxide	Diluent
Aluminum stearate	Surfactant
Ammonium bicarbonate	Surfactant, suspending agent, dispersing agent
Ammonium carbamate	Synergist in aluminum phosphide formulations
Ammonium chloride	Intensifier when used with ammonium nitrate as a desiccant or defoliant in aluminum phosphide and magnesium phosphide formulations
Ammonium hydroxide	Solvent, cosolvent, neutralizer, solubilizing agent
Ammonium stearate	Surfactant
Ammonium sulfate	Solid diluent, carrier
Ammonium thiosulfate	Intensifier when used with ammonium nitrate as desiccant or defoliant
Amyl acetate	Solvent, cosolvent, attractant
Animal glue	Surfactant, adhesive
Apple pomace	Solid diluent, carrier
Ascorbic acid (CAS Reg. No. 50-81-7)	Stabilizer, preservative
Ascorbyl palmitate	Preservative
Attapulgate-type clay	Solid diluent, carrier, thickener
<i>Bacillus thuringiensis</i> fermentation solids and/or solubles.	Diluent, carrier
Beeswax	Coating agent
Bentonite	Solid diluent, carrier
Benzoic acid	Preservative for formulation
Butane	Propellant
n-Butanol (CAS Reg. No. 71-36-3)	Solvent, cosolvent
Butylated hydroxyanisole	Antioxidant
Butylated hydroxytoluene	Do.
α-Butyl-ω-hydroxypoly(oxypropylene) block polymer with poly(oxyethylene); molecular weight (in amu) 2,400-3,500.	Surfactants, related adjuvants of surfactants
α-(p-tert-Butylphenyl)-ω-hydroxypoly (oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the poly(oxyethylene) content averages 4-12 moles.	Surfactants related adjuvants of surfactants
Calcareous shale	Solid diluent carrier
Calcite	Do.
Calcium carbonate	Do.
Calcium chloride	Stabilizer
Calcium citrate	Solid diluent, carrier
Calcium phosphate	Do.
Calcium hydroxide	Do.
Calcium hypochlorite	Sanitizing and bleaching agent
Calcium oxide	Solid diluent, carrier
Calcium salt of partially dimerized rosin, conforming to 21 CFR 172.210.	Coating agent
Calcium silicate	Solid diluent, carrier
Calcium stearate	Do.
Carnauba wax	Coating agent
Carrageenan, conforming to 21 CFR 172.620	Minimum molecular weight (in amu): 100,000.	Thickener
Casein	Surfactant, emulsifier, wetting agent

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Inert ingredients	Limits	Uses
Castor oil, polyoxyethylated; the poly(oxyethylene) content averages 5-54 moles.	Surfactants, related adjuvants of surfactants
α-Cellulose .....	.....	Solid diluent, carrier
Cetyl alcohol (CAS Reg. No. 36653-82-4)	Not more than 5.0% of pesticide formulation.	Evaporation retardant
Charcoal, activated	Meets specifications in the Food Chemical Codex.	Carrier
Citric acid .....	.....	Sequestrant
Citrus meal .....	.....	Solid diluent, carrier
Cocoa shells .....	.....	Do.
Coconut oil .....	.....	Surfactant, emulsifier, wetting agent
Coconut shells .....	.....	Solid diluent and carrier
Cod liver oil .....	.....	Solvent, cosolvent
Coffee grounds .....	.....	Solid diluent, carrier
Corn cobs .....	.....	Do.
Corn dextrin .....	.....	Solid diluent, carrier
Corn meal .....	.....	Do.
Corn oil .....	.....	Solvent, cosolvent
Cornstarch .....	.....	Solid diluent, carrier
Corn syrup	Pre- and postharvest application.	Rehydrating agent
Cottonseed oil .....	.....	Safener
Coumarone—indene resin, conforming to 21 CFR 172.215.	For use on citrus only	Component of coating agent
Croscarmellose sodium (CAS Reg. No. 74811-65-7).	.....	Disintegrant, solid diluent, carrier, and thickener
Dextrin .....	.....	Surfactant, suspending agent, dispersing agent
Dextrose .....	.....	Solid diluent, carrier
Diacetyl tartaric acid esters of mono- and diglycerides of edible fatty acids.	.....	Emulsifier
Dialkyl (C ₈ -C ₁₈) dimethyl ammonium chloride	Not more than 0.2% in silica, hydrated silica.	Flocculating agent in the manufacture of silica, hydrated silica for use as a solid diluent, carrier
Diatomite (diatomaceous earth) .....	.....	Solid diluent carrier
Dichlorodifluoromethane .....	.....	Propellant
Dichlorotetrafluoroethane .....	.....	Do.
Diethylene glycol abietate .....	.....	Surfactants, related adjuvants of surfactants
1,1-Difluoroethane (CAS Reg. No. 75-37-6)	For aerosol pesticide formulations used for insect control in food- and feed-handling establishments and animals.	Aerosol propellant
1,2-Dihydro-6-ethoxy-2,2,4-trimethylquinolene	Not more than 0.02% of pesticide formulation.	Antioxidant
3,6-Dimethyl-4-octyn-3,6-diol	Not more than 2.5% of pesticide formulation.	Surfactants, related adjuvants of surfactants
Dimethyl silicone polymer with silica (CAS No. 67762-90-7).	.....	Moisture barrier, anti-caking agent, anti-settling agent
Dimethylpolysiloxane (as defined in 21 CFR 173.340).	.....	Defoaming agent
α-(<i>o,p</i> -Dinonylphenyl)-ω-hydroxypoly (oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4-14 moles.	.....	Surfactants, related adjuvants of surfactants
α-(<i>o,p</i> -Dinonylphenyl)-ω-hydroxypoly (oxyethylene) produced by condensation of 1 mole of dinonylphenol (nonyl group is a propylene trimer isomer) with an average of 4-14 or 140-160 moles of ethylene oxide.	.....	Do.
Dipropylene glycol .....	.....	Solvent, cosolvent
Disodium phosphate .....	.....	Anticaking agent, conditioning agent
Disodium zinc ethylenediaminetetraacetate dihydride.	.....	Sequestrant
1,12-Dodecanediol dimethacrylate polymer	Minimum molecular weight (in amu) 100,000.	Release rate regulator in pheromone formulation
Dodecylbenzenesulfonic acid, amine salts .....	.....	Do.

Inert ingredients	Limits	Uses
α -(<i>p</i> -Dodecylphenyl)- ω -hydroxypoly (oxyethylene) produced by the condensation of 1 mole of dodecylphenol (dodecyl group is a propylene tetramer isomer) with an average of 4-14 or 30-70 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 4-14 or 30-70.		Surfactants, related, adjuvants of surfactants
Dolomite		Solid diluent, carrier
Epoxidized linseed oil		Surfactants, related adjuvants of surfactants
Epoxidized soybean oil		Do.
1,2 Ethanediimine, polymer with oxirane and methyloxirane (CAS Reg. No. 26316–40–5) minimum number average molecular weight 2,800 and the range of number average molecular weight is 2,800 to 10,000 daltons.		Surfactant, dispersing agent
Ethoxylated lignosulfonic acid, sodium salt		Surfactant
Ethyl acetate		Solvent, cosolvent
Ethyl alcohol		Do.
Ethyl esters of fatty acids derived from edible fats and oils.		Solvent, cosolvent
Ethylene glycol dimethacrylate—lauryl methacrylate copolymer.	Minimum molecular weight (in amu) 100,000.	Release rate regulator in pheromone formulation
Ethylene glycol dimethacrylate polymer	Minimum molecular weight (in amu) 100,000.	Release rate regulator in pheromone formulation
Ethylene methylphenylglycidate		Synthetic flavoring
Ethylene oxide adducts of 2,4,7,9-tetramethyl-5-decynediol, the ethylene oxide content averages 3.5, 10, or 30 moles.		Surfactants, related adjuvants of surfactants
Ethylenediaminetetraacetic acid	3% of pesticide formulation	Sequestrant
Ethylenediaminetetraacetic acid, tetrasodium salt.	5% of pesticide formulation	Sequestrant
2-Ethyl-1-hexanol	Not more than 2.5% of pesticide formulation.	Solvent, adjuvant of surfactants
Fatty acids, conforming to 21 CFR 172.860		Binder, defoaming agent, lubricant
FD&C Blue No. 1	Not more than 0.2% of pesticide formulation.	Dye
FD&C Red No. 40 (CAS Reg. No. 25956–17–6) conforming to 21 CFR 74.340.	Not to exceed 0.002% by weight of pesticide formulation.	Dye, coloring agent
Ferric sulfate		Solid diluent, carrier
Fish meal		Do.
Fish oil		Solvent, cosolvent
Furcelleran		Thickener
Glycerol		Do.
Glycerol mono-, di-, and triacetate		Solvent, cosolvent
Glyceryl monostearate		Emulsifier
Granite		Do.
Grape pomace, dried		Do.
Graphite		Solid diluent, carrier
Guar gum		Surfactants, related adjuvants of surfactants
Gum arabic (acacia)		Surfactant, suspending agent, dispersing agent
Gypsum		Solid diluent, carrier
Hexamethyldisilazane, reaction product with silica (CAS No. 68909–20–6).		Moisture barrier, anti-caking agent, anti-settling agent
Hexamethylenetetramine	For use in citrus washing solutions only at not more than 1%.	Preservative
1,6-Hexanediol dimethacrylate polymer	Minimum molecular weight (in amu) 100,000.	Release rate regulator in pheromone formulation
<i>n</i> -Hexyl alcohol (CAS Reg. No. 111–27–3)		Solvent, cosolvent
Hydrochloric acid		Solvent, neutralizer
α -Hydro- ω -hydroxypoly(oxypropylene); molecular weight (in amu) 4,000.		Do.
Hydroxyethyl cellulose		Do.
Hydroxyethylidene diphosphonic acid (HEDP) (CAS Reg. No. 2809–21–4).	For use in antimicrobial pesticide formulations at not more than 1 percent.	Stabilizer, chelator
Hydroxypropyl methylcellulose		Thickener

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Inert ingredients	Limits	Uses
12-Hydroxystearic acid-polyethylene glycol copolymer (CAS Reg. No. 70142-34-6) minimum number average molecular weight (in amu) 3,690.	Surfactant, dispersing agent, suspending agent, related adjuvant.
Iron oxide	Solid diluent, carrier
Isopropyl alcohol	Solvent, cosolvent, stabilizer, inhibitor
Isopropyl myristate, CAS Reg. No. 110-27-0	Solvent
Kaolinite-type clay	Solid diluent, carrier
Lactic acid	Solvent
Lactose	Solid diluent, carrier
Lard	Do.
Lauryl alcohol	Surfactant
α -Lauryl- ω -hydroxypoly(oxyethylene), average molecular weight (in amu) of 600.	Emulsifier
α -Lauryl- ω -hydroxypoly(oxyethylene) sulfate, sodium salt; the poly(oxyethylene) content is 3-4 moles.	Surfactants, related adjuvants of surfactants
Lauryl methacrylate—1,6-hexanediol dimethacrylate copolymer.	Minimum molecular weight (in amu) 100,000.	Release rate regulator in pheromone formulation
Lecithin	Meeting Food Chemicals Codex specification.	Emulsifier
Licorice root
Lignosulfonate, ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Surfactants, related adjuvants of surfactants
d-Limonene (CAS Reg. No. 5989-27-5)	Solvent, fragrance
Magnesium carbonate	Anticaking agent, conditioning agent
Magnesium chloride	Safener
Magnesium lime	Solid diluent, carrier
Magnesium oxide	Do.
Magnesium silicate	Do.
Magnesium stearate	Surfactant
Magnesium sulfate	Solid diluent, carrier, safener
Maleic acid monobutyl ester—vinyl methyl ether copolymer, CAS No. 25119-68-0, minimum average molecular weight (in amu) 52,000.	Seed-coating adhesive, gel, and antitranspirant
Maleic acid monoethyl ester—vinyl methyl ether copolymer, CAS No. 25087-06-3, minimum average molecular weight (in amu) 46,000.	Seed-coating adhesive, gel, and antitranspirant
Maleic acid monoisopropyl ester—vinyl methyl ether copolymer, CAS No. 31307-95-6, minimum average molecular weight (in amu) 49,000.	Seed-coating adhesive, gel, and antitranspirant
Maleic anhydride- diisobutylene copolymer, sodium salt (CAS Reg. No. 37199-81-8), minimum number average molecular weight (in amu) 5,000-18,000.	Suspending agent and dispersing agent
Manganous oxide	Solid diluent, carrier
Methacrylic Copolymer (CAS Reg. No. 63150-03-8), minimum number average molecular weight (in amu) 15,000.	Inert
Methyl alcohol	Solvent
Methyl <i>n</i> -amyl ketone (CAS Reg. No. 110-43-0)	Solvent, cosolvent
Methylated silicones	Antifoaming agent
Methylcellulose	Thickener
Methyl esters of fatty acids derived from edible fats and oils.	Solvent, cosolvent
Methyl esters of higher fatty acids conforming to 21 CFR 573.640.	Antidusting agent, surfactant
Methyl ester of rosin, partially hydrogenated (as defined in 21 CFR 172.615).	Surfactants, related adjuvants of surfactants
Methyl isobutyl ketone	Solvent
Methyl methacrylate-methacrylic acid-monomethoxypolyethylene glycol methacrylate copolymer (CAS Reg. No. 119724-54-8) minimum number average molecular weight (in amu) 2,730.	Surfactant, dispersing agent, suspending agent, related adjuvant.
Methyl vinyl ether—maleic acid copolymer (CAS Reg. No. 25153-40-6), minimum number average molecular weight (in amu) 75,000.	Dispersant, seed-coating adhesive
Methyl vinyl ether—maleic acid copolymer calcium sodium salt (CAS Reg. No. 62386-95-2), minimum number average molecular weight (in amu) 900,000.	Dispersant, seed-coating adhesive
Mica	Solid diluent, carrier

Inert ingredients	Limits	Uses
Mineral oil, U.S.P., or conforming to 21 CFR 172.878 or 178.3620(a) (CAS Reg. No. 8012-95-1).	Diluent, carrier, and solvent
Modified polyester resin derived from ethylene glycol, fumaric acid, and rosin.	For use on citrus only	Resinous coating
Molasses	Attractant
Monoammonium phosphate	No more than 3.75% by weight in formulation.	Postharvest fumigation in formulation with aluminum phosphide
Mono- and diglycerides of C ₈ -C ₁₈ fatty acids	Surfactants, related adjuvants of surfactants
Montmorillonite-type clay	Solid diluent, carrier
Montmorillonite-type clay treated with polytetrafluoroethylene (PTFE; CAS Reg. No. 9002-84-0).	PTFE content not greater than 0.5% (w/w) of clay.	Carrier
Nonyl, decyl, and undecyl glycoside mixture with a mixture of nonyl, decyl, and undecyl oligosaccharides and related reaction products (primarily decanol and undecanol) produced as an aqueous-based liquid (50 to 65% solids) from the reaction of primary alcohols (containing 15 to 20% secondary alcohol isomers) in a ratio of 20% C ₉ , 40% C ₁₀ , and 40% C ₁₁ with carbohydrates (average glucose to alkyl chain ratio 1.3 to 1.8).	Surfactant.
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4-14 moles or 30 moles.	Surfactants, related adjuvants of surfactants
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) produced by the condensation of 1 mole of nonylphenol (nonyl group is a propylene trimer isomer) with an average of 4-14 or 30-90 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 4-14 or 30-90.	Do.
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) sulfate, ammonium, calcium, magnesium, potassium, sodium, and zinc salts; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4 moles.	Do.
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxypropylene) block polymer with poly(oxyethylene); polyoxypropylene content of 10-60 moles; polyoxyethylene content of 10-80 moles; molecular weight (in amu) 1,200-7,100.	Do.
α-(<i>p</i> -Nonylphenyl)poly(oxypropylene) block polymer with poly(oxyethylene); polyoxyethylene content 30 to 90 moles; molecular weight (in amu) averages 3,000.	Do.
Oatmeal	Solid diluent, carrier
Oats	Do.
Octadecanoic acid, 12-hydroxy-, homopolymer, octadecanoate (CAS Reg. No. 58128-22-6), minimum number-average molecular weight 1,370.	dispersing agent, related adjuvant of surfactants, surfactant, suspending agent
α- <i>cis</i> -9-Octadecenyl-ω-hydroxypoly(oxyethylene); the octadecenyl group is derived from oleyl alcohol and the poly(oxyethylene) content averages 20 moles.	Surfactants, related adjuvants of surfactants
Octyl and decyl glucosides mixture with a mixture of octyl and decyl oligosaccharides and related reaction products (primarily <i>n</i> -decanol) produced as an aqueous-based liquid (68-72% solids) from the reaction of straight chain alcohols (C ₈ (45%), C ₁₀ (55%)) with anhydrous glucose.	Do.
Oleic acid	Diluent

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Inert ingredients	Limits	Uses
Oleic acid diester of α -hydro- ω -hydroxypoly (oxyethylene); the poly(oxyethylene) having average molecular weight (in amu) 400.	Surfactants, related adjuvants of surfactants
α -Oleoyl- ω -hydroxypoly(oxyethylene), average molecular weight (in amu) of 600.	Emulsifier
Oleyl alcohol (CAS Reg. No. 143-28-2)	15%	Cosolvent
Orange pomace	Solid diluent, carrier
Oxalic acid	No more oxalic acid should be used than is necessary to chelate calcium and in no case should more than 2 lb oxalic acid per acre be used.	Calcium chelating hard water inhibitor
Oxidized pine lignin, sodium salt, (CAS Reg. No. 68201-23-0).	Maximum of 2% of formulation.	Surfactant, related adjuvant of surfactant
Oxirane, methyl-, polymer with oxirane, mono[2-(2-butoxyethoxy) ethyl]ether CAS Reg. No. 85637-75-8), minimum number average molecular weight (in .amu) 2,500.	15% Max	Emulsifier, dispersant, Surfactant or related adjuvant of surfactant.
Palmitic acid	Diluent
Peanut shells	Solid diluent, carrier
Pentaerythritol ester of maleic anhydride modified wood rosin.	Plasticizer
Pentaerythritol ester of modified resin	Do.
Pentaerythritol stearates mixture (CAS Reg. No. 85116-93-4) which include pentaerythritol monostearate (CAS Reg. No. 78-23-9), pentaerythritol distearate (CAS Reg. No. 13081-97-5), pentaerythritol tristearate (CAS Reg. No. 28188-24-1) and pentaerythritol tetrastearate (CAS Reg. No. 115-83-3).	No more than 25 ppm in pesticide formulations.	Emulsifier
Petrolatum, conforming to 21 CFR 172.880	Coating agent
Petroleum hydrocarbons, light odorless conforming to 21 CFR 172.884.	Solvent, diluent.
Petroleum hydrocarbons, synthetic isoparaffinic, conforming to 21 CFR 172.882.	Do.
Petroleum naphtha, conforming to 21 CFR 172.250(d).	Component of coating agent
Petroleum wax, conforming to 21 CFR 172.886(d).	Coating agent
Phosphoric acid	Buffer
Phosphorus oxychloride	Catalyst
Pine lignin	Adsorbent
B-Pinene polymers	Surfactants, related adjuvants of surfactants
Polyethylene, conforming to 21 CFR 177.1520(c).	Binder, carrier, and coating agent
Polyethylene, oxidized, conforming to 21 CFR 172.260.	Coating agent
Polyethylene glycol[α -hydro- ω -hydroxypoly(oxyethylene)]; mean molecular weight (in amu) 194 to 9,500 conforms to 21 CFR 178.3750.	Surfactants, related adjuvants of surfactants
Polyethylene glycol-polyisobutenyl anhydride-tall oil fatty acid copolymer (CAS Reg. No. 68650-28-2) minimum number average molecular weight (in amu) 2,960.	Surfactant, dispersing agent, suspending agent, related adjuvant.
Polyglycerol esters of fatty acids conforming to 21 CFR 172.854.	Surfactants, related adjuvants of surfactants
Polyglyceryl phthalate ester of coconut oil fatty acids.	Do.
Polymerized sodium methacrylate	pH control
Polymers derived from the following monomers: acrylic acid, sodium form; butyl acrylate; ethyl acrylate; methacrylic acid and its ammonium and potassium salts; and methyl methacrylate.	Surfactants, related adjuvants of surfactants
Poly(methylene- <i>p-tert</i> -butylphenoxy)-poly(oxyethylene) ethanol; the poly(oxyethylene) content averages 4-12 moles.	Coating agent
Poly(methylene- <i>p-nonyl</i> phenoxy)poly (oxyethylene) ethanol; the poly(oxyethylene) content averages 4-12 moles.	Coating agent

Inert ingredients	Limits	Uses
Poly(oxy-1,2-ethanediyl), α -(carboxymethyl)- ω -(nonylphenoxy) produced by the condensation of 1 mole of nonylphenol (nonyl group is a propylene trimer isomer) with an average of 4-14 or 30-90 moles of ethylene oxide. The molecular weight (in amu) ranges are 454-894 and 1598-4238.	Surfactant
Polyoxyethylated sorbitol fatty acid esters; the sorbitol solution containing up to 15% water is reacted with 20-50 moles of ethylene oxide and aliphatic alkanolic and/or alkenolic fatty acids C ₈ through C ₂₂ with minor amounts of associated fatty acids; the resulting polyoxyethylene sorbitol ester having a minimum MW (in amu) of 1,300.	Dispersants, emulsifiers, surfactants, related adjuvants of surfactants.
Polyoxyethylene (20) sorbitan monostearate	Surfactants, related adjuvants of surfactants
Poly(oxyethylene/oxypropylene) monoalkyl(C ₆ -C ₁₀)ether-sodium fumarate adduct (CAS Reg. No. 102900-02-7), minimum number average molecular weight (in amu) 1,900.	Surfactant
Poly(oxypropylene) block polymer with poly(oxyethylene); molecular weight (in amu) 1,800-16,000.	Do.
Polysorbate 65, conforming to 21 CFR 172.838	Emulsifier
Polystyrene (CAS Reg. No. 9003-53-6), minimum number average molecular weight (in amu) 50,000.	Suspending agent, thickener
Polyvinyl acetate, copolymer with maleic anhydride, partially hydrolyzed, sodium salt, minimum number average MW (in amu), 53,000.	Component of water soluble films
Polyvinyl chloride (CAS Reg. No. 9002-86-2), minimum number average molecular weight (in amu) 29,000.	Carrier
Poly (vinyl pyrrolidone); molecular weight (in amu) 40,000 or over.	Do.
Poly(vinylpyrrolidone) (CAS Reg. No. 9003-39-8), minimum number average molecular weight (in amu) 4,000.	Surfactant, related adjuvants of surfactant
Poly(vinylpyrrolidone-1-eicosene) (CAS Reg. No. 28211-18-9).	Minimum average molecular weight 3,000.	Dispersing agent
Poly(vinylpyrrolidone-1-hexadecene) (CAS Reg. No. 63231-81-2).	Minimum average molecular weight (in amu) 4,700.	Dispersing agent
Polyvinylpyrrolidone butylated polymer (CAS Reg. No. 26160-96-3), minimum number average molecular weight (in amu) 9,500.	Surfactants, related adjuvant of surfactants and binder
Potassium aluminum silicate	Solid diluent, carrier
Potassium chloride	Do.
Potassium citrate (CAS Reg. No. 866-84-2)	Chelating agent, pH control
Potassium hydroxide	Neutralizer
Potassium phosphate	Buffer
Potassium sulfate	Solid diluent
Propane	Propellant
n-Propanol	Solvent, cosolvent
2-Propene-1-sulfonic acid sodium salt, polymer with ethenol and ethenyl acetate, number average molecular weight (in amu) 6,000-12,000.	Binding agent
Propionic acid	Catalyst
Propylene glycol	Solvent, cosolvent.
Propylene glycol alginate (as defined in 21 CFR 172.858).	Defoaming agent
Propyl gallate	Antioxidant
Propyl <i>p</i> -hydroxybenzoate	Preservative for formulations
Pyrophyllite	Solid diluent, carrier
<i>Rhizobium</i> inoculants (e.g. <i>Sinorhizobium</i> , <i>Bradyrhizobium</i> & <i>Rhizobium</i>).	All leguminous food commodities
Rhodamine B	Dye
Rice bran	Solid diluent, carrier
Rosin, partially dimerized (as defined in 21 CFR 172.615).	Surfactants, related adjuvants of surfactants
Rosin, partially hydrogenated (as defined in 21 CFR 172.615).	Do.
Rosin, wood	Do.

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Inert ingredients	Limits	Uses
Salts of fatty acids, conforming to 21 CFR 172.863.	Binder, emulsifier, anticaking agent
Sand	Solid diluent, carrier
Secondary alkyl (C ₁₁ -C ₁₅) poly(oxyethylene) acetate, sodium salt; the ethylene oxide content averages 5 moles.	Surfactant
Shellac, bleached; refined, food grade, arsenic and rosin-free.	Coating agent
Silane, dichloromethyl-, reaction product with silica (CAS No. 68611-44-9).	Moisture barrier, anti-caking agent, anti-settling agent, anti-thickening agent
Silica, hydrated	Solid diluent, carrier
Silicon dioxide, fumed, amorphous	Flow control, anticaking and carrier agent
Soap (sodium or potassium salts of fatty acids)	Surfactant, emulsifier, wetting agent
Soapstone	Solid diluent
Sodium acetate	Buffer
Sodium acid pyrophosphate	Surfactant, suspending agent, dispersing agent, buffer
Sodium alginate	Stabilizer
Sodium α-olefinsulfonate (sodium C ₁₄ -C ₁₆) (Olefin sulfonate).	Surfactants, related adjuvants of surfactants
Sodium aluminum silicate	Solid diluent, carrier
Sodium benzoate	Anticaking agent
Sodium bicarbonate	Neutralizer
Sodium carboxymethylcellulose	Surfactants, related adjuvants of surfactants
Sodium chloride	Solid diluent, carrier
Sodium diisobutylphthalenesulfonate	Surfactants, related adjuvants of surfactants
Sodium dioctylsulfosuccinate	Do.
Sodium dodecylphenoxybenzenedisulfonate	Do.
Sodium hexametaphosphate	Surfactant, emulsifier, wetting agent, suspending agent, dispersing agent, buffer
Sodium hydroxide	Neutralizer
Sodium isopropylisohexylnaphthalenesulfonate	Surfactants, related adjuvants of surfactants
Sodium N-lauroyl-N-methyltaurine	Do.
Sodium lauryl glyceryl ether sulfonate	Do.
Sodium metasilicate	Surfactants, emulsifiers, wetting agents, dispersing agents, buffer
Sodium monoalkyl and dialkyl (C ₈ -C ₁₆) phenoxybenzenedisulfonate mixtures containing not less than 70% of the monoalkylated product.	Surfactants, related adjuvants of surfactants
Sodium mono- and dimethyl naphthalenesulfonates, molecular weight (in amu) 245-260.	Do.
Sodium mono-, di-, and tributyl naphthalenesulfonates.	Do.
Sodium mono-, di-, and triisopropyl naphthalenesulfonate.	Do.
Sodium N-oleoyl-N-methyltaurine	Do.
Sodium oleyl sulfate	Do.
Sodium N-palmitoyl-N-methyltaurine	Do.
Sodium propionate	Preservative for formulation
Sodium salt of sulfated oleic acid	Surfactants, related adjuvants of surfactants
Sodium silicate	Surfactant, emulsifier, wetting agent, stabilizer, inhibitor
Sodium sulfate	Solid diluent, carrier
Sodium sulfite	Stabilizer
Sodium tripolyphosphate	Buffer, surfactant, suspending agent, dispersing agent, anticaking agent, conditioning agent
Sorbitan fatty acid esters (fatty acids limited to C ₁₂ , C ₁₄ , C ₁₆ , and C ₁₈ containing minor amounts of associated fatty acids) and their derivatives; the poly(oxyethylene) content averages 5-20 moles.	Surfactants, related adjuvants or surfactants.
Sorbic acid (and potassium salt)	Preservative for formulations
Sorbitol	Antidusting agent
Soy protein, isolated	Adhesive
Soybean flour	Surfactant
Soybean oil	Solvent, cosolvent
Soybean oil-derived fatty acids	Solvent, cosolvent
Sperm oil conforming to 21 CFR 172.210	Coating agent
Starch (potato, tapioca, and wheat)	Solid diluent, carrier
Stearic acid	Diluent
α-Stearoyl-ω-hydroxypoly(oxyethylene), average molecular weight (in amu) of 600.	Emulsifier

Inert ingredients	Limits	Uses
α-Stearoyl-ω-hydroxypoly(oxyethylene); the poly(oxyethylene) content averages either 8, 9, or 40 moles; if a blend of products is used, the average number of moles ethylene oxide reacted to produce any product that is a component of the blend shall be either 8, 9, or 40.	Surfactants, related adjuvants of surfactants
Styrene methacrylate—1,6-hexanediol dimethacrylate copolymer.	Minimum molecular weight (in amu) 100,000.	Release rate regulator in pheromone formulation
Styrene, 2-ethylhexyl acrylate, butyl acrylate copolymer (CAS Reg. No. 30795-23-4), minimum number average molecular weight (in amu) 4200.	Encapsulating agent, dispensers, resins, fibers and beads
Styrene-2-ethylhexyl acrylate-glycidyl methacrylate-2-acrylamido-2-methylpropanesulfonic acid graft copolymer, minimum number-average molecular weight 12,500.	Dispersing agent/solvent
Sucrose	Solid diluent carrier, safener
Sucrose octaacetate	Adhesive
Sulfuric acid (CAS Reg. No. 7664-93-9) that meets the Food Chemicals Codex specifications.	0.1% of pesticide formulation.	pH control agent
Sulfurous acid	Preservative
Synthetic paraffin and its succinic derivatives conforming to 21 CFR 172.275.	Carrier, binder, and carrying agent
Synthetic petroleum wax, conforming to 21 CFR 172.888.	Binder, carrier, and coating agent
Talc	Solid diluent, carriers
Tall oil; fatty acids not less than 58%, rosin acids not more than 44%, unsaponifiables not more than 8%.	Surfactants, related adjuvants of surfactants
Tartrazine	Dye
1,1,1,2-Tetrafluoroethane, (CAS Reg. No. 811-97-2).	Aerosol propellant
Tetrahydrofurfuryl alcohol	Solvent cosolvent
α-[p-(1,1,3,3-Tetramethylbutyl)phenyl]-ω-hydroxypoly(oxyethylene) produced by the condensation of 1 mole of p-(1,1,3,3-tetramethylbutyl)phenol with a range of 1-14 or 30-70 moles of ethylene oxide; if a blend of products is used, the average range number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 1-14 or 30-70.	Surfactants, related adjuvants of surfactants
α-[p-(1,1,3,3-Tetramethylbutyl)phenyl]-ω-hydroxypoly(oxyethylene) produced by the condensation of 1 mole of p-(1,1,3,3-tetramethylbutyl)phenol with an average of 4-14 or 30-70 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 4-14 or 30-70.	Do.
2,4,7,9-Tetramethyl-5-decyn-4, 7-diol	Not more than 2.5% of pesticide formulation.	Surfactants, related adjuvants of surfactants
Tetrasodium pyrophosphate	Anticaking agent, conditioning agent
Tricalcium phosphate	Surfactant, suspending agent, dispersing agent, anticaking agent, conditioning agent
1,1,1-Trichloroethane	Solvent, cosolvent
Trichlorofluoromethane	Propellant
Tridecylpoly(oxyethylene) acetate, sodium salt; where the ethylene oxide content averages 6-7 moles.	Surfactants, related adjuvants of surfactants
Trisodium phosphate	Surfactant, emulsifier, wetting agent
Urea	Stabilizer, inhibitor
Vermiculite	Solid diluent, carrier.
Vinyl alcohol-vinyl acetate copolymer, benzaldehyde-o-sodium sulfonate condensate, minimum number average molecular weight (in amu) 20,000.	Water soluble resin
Vinyl pyrrolidone-acrylic acid copolymer (CAS Reg. No. 28062-44-4), minimum number average molecular weight (in amu) 6,000.	Adhesive, dispersion stabilizer and coating for sustained release granules

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Inert ingredients	Limits	Uses
Vinyl pyrrolidone-dimethylaminoethylmethacrylate copolymer (CAS Reg. No. 30581-59-0), minimum number average molecular weight (in amu) 20,000.	Leaching inhibitor, binder for water-dispersible aggregates, sticker and suspension stabilizer
Walnut shells .....	.....	Do.
Wheat bran .....	.....	Do.
Wintergreen oil .....	.....	Attractant
Wood flour	Derived from wood free of chemical preservatives.	Solid diluent and carrier
Xanthan gum .....	.....	Thickener
Xanthan gum-modified, produced by the reaction of xanthan gum and glyoxal (maximum 0.3% by weight).	Not more than 0.5% of pesticide formulation.	Surfactant
Xylene meeting the specifications listed in 21 CFR 172.884(b)(4).	In pesticide formulations for grain storage only.	Solvent, cosolvent
Zeolite (hydrated alkali aluminum silicate) .....	.....	Solid diluent, carrier
Zinc oxide .....	.....	Coating agent
Zinc sulfate (basic and monohydrate) .....	.....	Do.
Zinc sulfate (basic and monohydrate) .....	.....	Solid diluent, carrier

(d) The following materials are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only:

Inert ingredients	Limits	Uses
Acetic acid ethenyl ester, polymer with ethenol and (α)-2-propenyl-(ω)-hydroxypoly (oxy-1,2-ethanediyl) (CAS Reg. No.137091-12-4); minimum number average molecular weight 15,000.	.....	Component of water-soluble film
Acetonitrile	Not more than 0.5% of pesticide formulation.	Solvent for blended emulsifiers in all pesticides used before crop emerges from soil and in herbicides before or after crop emerges
Acetophenone .....	.....	Attractant
Acrylamide—acrylic acid resins .....	.....	Thickeners
Acrylamide—sodium acrylate resins .....	.....	Do.
Acrylic acid, polymerized, and its ethyl and methyl esters.	.....	Surfactants, related adjuvants of surfactants
Acrylic acid—sodium acrylate—sodium-2-methylpropanesulfonate copolymer (minimum average molecular weight (in amu) 4,500); CAS No. 97953-25-8.	.....	Dispersing agent
Acrylonitrile—styrene—hydroxypropyl methacrylate copolymer; minimum number average molecular weight (in amu) 447,000.	.....	Pigment carrier
Adenosine (CAS Reg. No. 58-61-7)	Maximum of 0.5% of formulation.	Synergist
Alder bark .....	.....	Seed germination stimulator
α-Alkyl (C ₁₂ -C ₁₈)-ω-hydroxypoly(oxyethylene) copolymers with poly(oxypropylene); polyoxyethylene content averages 3-12 moles and polyoxypropylene content 2-9 moles.	.....	Surfactants, related adjuvants of surfactants
α-Alkyl (C ₁₀ -C ₁₆)-ω-hydroxypoly(oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the poly(oxyethylene) content averages 3-20 moles.	.....	Surfactants, related adjuvants of surfactants
α-Alkyl (C ₁₂ -C ₁₅)-ω-hydroxypoly(oxyethylene) sulfosuccinate, isopropylamine and N-hydroxyethyl isopropylamine salts of; the poly(oxyethylene) content averages 3-12 moles.	Not more than 0.2% in the final solution.	Emulsifiers in pesticide concentrates applied with liquid fertilizer solutions before crop emerges from soil or not later than 4 weeks after planting

Inert ingredients	Limits	Uses
α-Alkyl(C ₁₀ -C ₁₂)-ω-hydroxypoly(oxyethylene) poly(oxypropylene) copolymer; poly(oxyethylene) content is 11-15 moles; poly(oxypropylene) content is 1-3 moles.	.....	Surfactants, related adjuvants of surfactants.
α-Alkyl(C ₁₂ -C ₁₈)-ω-hydroxypoly(oxyethylene/ oxypropylene) hetero polymer in which the oxyethylene content averages 13-17 moles and the oxypropylene content averages 2-6 moles.	.....	Do.
α-Alkyl (C ₁₀ -C ₁₆)-ω-hydroxypoly (oxyethylene)poly(oxypropylene) mixture of di- and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the combined poly(oxyethylene) poly(oxypropylene) content averages 3-20 moles.	.....	Do.
α-Alkyl (C ₁₂ -C ₁₈)-ω-hydroxypoly(oxyethylene/ oxypropylene) hetero polymer in which the oxyethylene content is 8-12 moles and the oxypropylene content is 3-7 moles.	.....	Do.
α-Alkyl (C ₁₂ -C ₁₅)-ω-hydroxypoly(oxyethylene/ oxypropylene) hetero polymer in which the oxyethylene content is 8-13 moles and the oxypropylene content is 7-30 moles.	.....	Solvent, cosolvent, surfactant, and related adjuvants of surfactants
α-Alkyl (C ₂₁ -C ₇₁)-ω-hydroxypoly (oxyethylene) in which the poly(oxyethylene) content is 2 to 91 moles and molecular weight range from 390 to 5,000.	Not to exceed 10%	Wetting agent or granule coating
<i>n</i> -Alkyl(C ₈ -C ₁₈)amine acetate .....	.....	Surfactants, related adjuvants of surfactants
Alkyl (C ₁₂ -C ₂₀) methacrylate-methacrylic acid copolymer; minimum molecular weight (in amu) 11,900.	.....	Stabilizer; component of spray drift retardant
Almond, bitter .....	.....	Attractant
Aluminum 2-ethylhexanoate	Not more than 0.25% of pesticide formulation.	Gelling agent
Aluminum sulfate .....	.....	Safener adjuvant
Amine salts of alkyl(C ₈ -C ₂₄) benzenesulfonic acid (butylamine, dimethylaminopropylamine, mono- and diisopropylamine, mono-, di-, and triethanolamine).	.....	Surfactants, related adjuvants of surfactants
<i>N</i> -(Aminoethyl) ethanolamine salt of dodecylbenzenesulfonic acid.	For use only in liquid emulsifiable herbicide concentrates.	Do.
Ammonium nitrate (CAS Reg. No. 6484-52-2) ..	.....	Adjuvant/ intensifier for herbicides
Ammonium polyphosphate (CAS Reg. No. 68333-79-9).	.....	Sequestrant, buffer, or surfactant
Ammonium thiocyanate .....	.....	Adjuvant/intensifier for defoliation of, and weed control in/on cotton and soybeans
Animal waste material (produced by the thermophilic digestion of cattle and poultry manure).	<i>E. coli</i> and <i>Salmonella</i> free; heavy metal content not to exceed the following: Material/Concentration (ppm): As/12.5; Cd/12.0; Cu/14.0; Pb/17.0; Hg/0.1; Se/0.2.	Carrier
Barium sulfate .....	.....	Carrier
Benzene .....	.....	Solvent, cosolvent
1,2-Benzisothiazolin-3-one	Not more than 0.1% of formulation. Not more than 0.02 lb to be applied per acre.	Preservative/stabilizer
<i>N,N</i> -Bis[α-ethyl-ω-hydroxypoly(oxyethylene) alkylamine; the poly(oxyethylene) content averages 3 moles; the alkyl groups (C ₁₄ -C ₁₈) are derived from tallow, or from soybean or cottonseed oil acids.	.....	Surfactants for preemergence use with herbicides on sugarcane only
<i>N,N</i> -Bis(2-hydroxyethyl)alkylamine, where the alkyl groups (C ₈ -C ₁₈) are derived from coconut, cottonseed, soya, or tallow acids.	Surfactants, related adjuvants of surfactants

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Inert ingredients	Limits	Uses
<i>N,N</i> -Bis 2-(ω -hydroxypolyoxyethylene) ethyl alkylamine; the reaction product of 1 mole <i>N,N</i> -bis(2-hydroxyethyl)alkylamine and 3-60 moles of ethylene oxide, where the alkyl group (C ₈ -C ₁₈) is derived from coconut, cottonseed, soya, or tallow acids.	Do.
<i>N,N</i> -Bis-2-(ω -hydroxypolyoxyethylene/polyoxypropylene) ethyl alkylamine; the reaction product of 1 mole of <i>N,N</i> -bis(2-hydroxyethyl alkylamine) and 3-60 moles of ethylene oxide and propylene oxide, where the alkyl group (C ₈ -C ₁₈) is derived from coconut, cottonseed, soya, or tallow acids.	.....	Surfactant, related adjuvants of surfactants
3,5-Bis(6-isocyanatohexyl)-2 <i>H</i> -1,3,5-oxadiazine-2,4,6-(3 <i>H</i> ,5 <i>H</i>)-trione, polymer with diethylenetriamine (CAS Reg. No. 87823-33-4); minimum number average molecular weight (in amu) 1,000,000.	.....	Encapsulating agent
Boric acid .....	.....	Sequestrant
Buffalo gourd root powder (<i>Cucurbita foetidissima</i> root powder); or, Zucchini juice (<i>Cucurbita pepo</i> juice) or Hawkesbury melon <i>Citrullus lanatus</i> ..	No more than 2.5 lbs/acre/season (3.4 gm/acre/season of Cucurbitacin).	Gustatory stimulant
Butadiene-styrene copolymer .....	.....	Adhesive, component of adhesive
2-Butenedioic acid (Z)-, polymer with ethenol and ethenyl acetate, sodium salt (minimum number average molecular weight (in amu) 75,000; CAS No. 139871-83-3).	.....	Component of water-soluble film
Butoxytriethylene glycol phosphate .....	.....	Surfactants for arsenical herbicide formulations only
1,3-Butylene glycol dimethacrylate	Not more than 0.1% of pesticide formulation.	Stabilizer
Butyl stearate .....	.....	Defoamer
γ -Butyrolactone .....	.....	Solvent
C.I. Pigment Blue #15 (CAS Reg. No. 147-14-8; containing no more than 50 ppm polychlorinated biphenyls (PCBs)).	For seed treatment use only	Dye, coloring agent
C.I. Pigment Green #7 (CAS Reg. No. 1328-53-6; containing no more than 50 ppm polychlorinated biphenyls (PCBs)).	For seed treatment use only.	Dye, coloring agent
C.I. Pigment Violet #23 (CAS Reg. No. 6358-30-1; containing no more than 20 ppb of polychlorinated dibenzo- <i>p</i> -dioxins and/or polychlorinated dibenzofurans).	For seed treatment use only.	Dye, coloring agent
Calcium and sodium salts of certain sulfonated petroleum fractions (mahogany soaps); calcium salt molecular weight (in amu) 790-1,020, sodium salt molecular weight (in amu) 400-500.	.....	Surfactants, related adjuvants of surfactants
Calcium hypochlorite .....	.....	Sanitizing and bleaching agent
Camphor (CAS Reg. No. 76-22-2)	Not more than 5% weight to weight (w/w) of pesticide formulations.	Deodorant, melting point adjustment
Carous chloride	10 ppm in formulation	Tagging agent
Carrageenan, conforming to 21 CFR 172.260	Not more than 0.15% of pesticide formulation.	Thickener and stabilizer for pesticide formulations applied to seeds before planting
Cellulose acetate (CAS Reg. No. 9004-35-7), minimum number average molecular weight 28,000.	.....	Pesticide rate-release regulating agent
Chlorobenzene	Contains not more than 1% impurities. Not for use after edible parts of plant begin to form. Do not graze livestock in treated areas within 48 hours after application.	Solvent, cosolvent
5-Chloro-2-methyl-4-isothiazolin-3-one (in combination with 2-methyl-4-isothiazolin-3-one).	Not more than 0.0022% (22.5 ppm) in the formulation; 0.00022% (or 2.25 ppm) in the final solution applied to growing crops.	Preservative
Cinnamon .....	.....	Attractant
Clove .....	.....	Do.

Inert ingredients	Limits	Uses
Coal (derived only from anthracite and bituminous coals).	Soil application only	Carrier, extender
Coffee .....	.....	Attractant
Coke (from anthracite and bituminous coals only and petroleum).	Soil application only	Carrier, extender
Condensation product of orthophenylphenol with 5 moles of ethylene oxide.	.....	Stabilizer.
Copper naphthenate	Not more than 2.5% of formulation; application limited to before edible portions of plants begin to form.	Mercaptan scavenger in technical pesticide
Copper salts of neodecanoic acid and 2-ethylhexanoic acid.	Not more than 1% of formulation; application limited to before edible portions of plants begin to form.	Do.
Corn .....	.....	Attractant
Corn gluten meal, hydrolyzed .....	.....	Attractant
Cross-linked polyurea-type encapsulating polymer formed by the reduction of a mixture of toluene diisocyanate and polymethylene polyphenylisocyanate.	.....	Encapsulating agent
Cyclohexane .....	.....	Solvent, cosolvent
Cyclohexanol .....	.....	Do.
Cyclohexanone .....	.....	Do.
Cysteine (CAS Reg. No. 52-90-4)	Maximum of 0.5% of formulation.	Synergist
D&C Green No. 6 .....	.....	Dye
D&C Red No. 17, technical grade .....	.....	Dye
D&C Red No. 33 (CAS Reg. No. 3567-66-6); meeting the specifications listed in 21 CFR 74.1333.	.....	Dye
D&C Violet No. 2, technical grade	Not more than 0.005% of pesticide formulation.	Dye
<i>n</i> -Decyl alcohol .....	.....	Do.
Diacetone alcohol .....	.....	Deactivator, solvent for formulations used before crop emerges from soil
Diallyl phthalate	Not more than 0.1% of pesticide formulation.	Stabilizer
Diammonium phosphate (CAS Reg. No. 7783-28-0).	.....	Buffer, surfactant
α -(Di- <i>sec</i> -butyl)phenylpoly(oxypropylene) block polymer with poly(oxyethylene); the poly(oxypropylene) content averages 4 moles, the poly(oxyethylene) content averages 5 to 12 moles, the molecular.	.....	Surfactants, related adjuvants of surfactants
Diethanolamine .....	.....	Stabilizer, inhibitor for formulations used before crop emerges from soil
Diethylene glycol .....	.....	Deactivator for formulations used before crop emerges from soil
Diethylene glycol .....	.....	Deactivator, adjuvant for formulations used before crop emerges from soil
Diethylene glycol and diethylene glycol monobutyl, monoethyl, and monomethyl ethers.	.....	Deactivator for formulations used before crop emerges from soil, stabilizer
Dimethylformamide (see also § 180.1046)	For use only in preemergence application, application prior to formation of edible parts of food plants, and seed and transplant treatment. Also, as part of the USDA witchweed quarantine program, postemergent application in field corn, after silking and tasseling of the corn.	Solvent, cosolvent
3,6-Dimethyl-4-octyn-3,6-diol	In pesticide formulations, for soil prior to planting or to plants before edible parts form.	Surfactants, related adjuvants of surfactants
Dimethyl sulfoxide	Solvent or cosolvent for formulations used before crop emerges from soil or prior to formation of edible parts of food plants

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Inert ingredients	Limits	Uses
Dioxane	Solvent, cosolvent
Dipotassium hydrogen phosphate	Buffering agent
Dipropylene glycol dibenzoate	For seed treatment use only.	Solvent, cosolvent
Dipropylene glycol monomethyl ether .....	.....	Stabilizer
Disodium 4-isodecyl sulfosuccinate .....	.....	Surfactants related adjuvants of surfactants.
Dodecylphenol .....	.....	Coupling agent in emulsifier
α-Dodecylphenol-ω-hydroxypoly(oxyethylene/oxypropylene) hetero polymer where ethylene oxide content is 11-13 moles and oxypropylene content is 14-16 moles, molecular weight (in amu) averages 600 to 965.	.....	Surfactants, related adjuvants of surfactants
Douglas-fir bark, ground .....	.....	Solid diluent, carrier
Dysprosium chloride	10 ppm in formulation	Tagging agent
Ethylene glycol .....	.....	Antifreeze, deactivator for all pesticides used before crop emerges from soil and in herbicides before or after crop emerges
Ethylene glycol monobutyl ether .....	.....	.....
Ethylene glycol monomethyl ether .....	.....	Solvent for formulations used before crop emerges from soil
2-Ethylhexanol .....	.....	Cosolvent, defoamer, solvent for all pesticides used before crop emerges from soil and in herbicides before or after crop emerges
Ethyl methacrylate .....	.....	Surfactants, related adjuvants of surfactants
Europic chloride	10 ppm in formulation	Tagging agent
FD&C Red No. 40 (CAS Reg. No. 25956-17-6)	For seed treatment use only. Not to exceed 2% by weight of the pesticide formulation.	Dye, coloring agent
Fenugreek .....	.....	Attractant
Ferric chloride .....	.....	Not greater than 2% of suspending, dispersing agent, pesticide formulation
Fluoroapatite .....	.....	Solid diluent, carrier
Folic acid (CAS Reg. No. 59-30-3)	Maximum of 0.5% of formulation.	Synergist
Formaldehyde	Not more than 1% of pesticide formulation.	Preservative for formulation
Fumaric acid—isophthalic acid—styrene—ethylene/propylene glycol copolymer (minimum average molecular weight (in amu) 1×10^{18}).	.....	Encapsulating agent
Furfural byproduct (a granular steam-acid sterilized, lignocellulosic residuum in the extraction of furfural from corn cobs, sugarcane bagasse, cottonseed hulls, oat hulls, and rice hulls).	.....	Solid diluent, carrier
Gluconic acid (and sodium salt) .....	.....	Sequestrant
L-Glutamic acid (C ₅ H ₉ NO ₄ ; CAS Reg. No. 56-86-0).	Seed treatment use only	Plant nutrient
Glutamine (CAS Reg. No. 56-85-9)	Maximum of 0.5% of formulation.	Synergist
Glycerol—propylene oxide polymer (CAS Reg. No. 25791-96-2).	.....	Component in water-soluble film
Glyceryl triacetate .....	.....	Stabilizer
Glyceryl tris-12-hydroxystearate .....	.....	Flow control agent
Graphite .....	.....	Treatment aid for seeds
Hexamethylenetetramine .....	.....	Stabilizer for carriers in solid pesticide formulations
α-Hydro-ω-hydroxypoly(oxyethylene); molecular weight (in amu) 100,000 minimum.	.....	Carrier
α-Hydro-ω-hydroxypoly(oxypropylene) (mol. wt. 2,000).	.....	Component of defoamers
2-Hydroxy-4- <i>n</i> -octoxybenzophenone (CAS Reg. No. 1843-05-6).	Not more than 0.2 pt of pesticide formulation.	Light stabilizer
Hydroxypropyl cellulose .....	.....	Thickener
Hydroxypropyl guar gum .....	.....	Do.
Isoamyl acetate	Not more than 0.5% of pesticide formulation.	Odor-masking agent
Isobornyl acetate .....	.....	Solvent
Isobutyl alcohol .....	.....	Do.
Isobutylene-butene copolymers	For soil application only	Binder
Isocadecanol	Not more than 2% of pesticide formulation.	Defoaming agent
Isophorone (CAS Reg. No. 78-59-1) .....	.....	Solvent, cosolvent
Isopropyl alcohol .....	.....	Solvent, cosolvent, stabilizer, inhibitor

Inert ingredients	Limits	Uses
Isopropylbenzene		Solvent, cosolvent
Isopropylbenzenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.		Surfactants and related adjuvants of surfactants
Lanthanum chloride (3-Lauramidopropyl) trimethylammonium methyl sulfate.	10 ppm in formulation Not more than 2.6% in the formulation. Not to be applied within 7 days of harvest.	Tagging agent. Antistatic agent
Linoleic diethanolamide (CAS Reg. No. 56863-02-6).		Surfactant
Locust bean gum		Adhesive, component of defoamers
Low erucic acid rapeseed oil, conforming to 21 CFR 184.1555(c) (CAS Reg. No. None).		Surfactant, related adjuvants of surfactant
Magnesium nitrate (in combination with 2-methyl-4-isothiazolin-3-one and 5-chloro-2-methyl-4-isothiazolin-3-one).	None	Preservation
Maleic acid and maleic anhydride	For pesticide formulations applied to apples with a minimum preharvest interval of 21 days.	Stabilizer
Maleic acid—butadiene copolymer	3% of pesticide formulation	Surfactants, related adjuvants surfactants
Maleic anhydride—methyl vinyl ether, copolymer; average molecular weight (in amu) 250,000.		Do.
Manganese carbonate		Plant nutrient
Mesityl oxide	Not for use after edible parts of plant begin to form. Do not graze livestock in treated areas within 48 hours after application.	Solvent, cosolvent
Methionine (CAS Reg. No. 59-51-8)	Maximum of 0.5% of formulation.	Synergist
Methyl alcohol		Do.
Methyl bis(2-hydroxyethyl)alkyl ammonium chloride, where the carbon chain (C ₈ -C ₁₈) is derived from coconut, cottonseed, soya, or tallow acids.		Surfactant
α,α'-[Methylenebis]-4-(1,1,3,3-tetramethylbutyl)-o-phenylene bis[ω-hydroxypoly(oxyethylene)] having 6-7.5 moles of ethylene oxide per hydroxyl group.		Solvent, cosolvent, surfactant, and related adjuvants of surfactants
Methylene blue		Dye for formulations used on cotton
Methylene chloride (Dichloromethane)		Solvent, cosolvent
Methyl ethyl ketone		Surfactant
Methyl p-hydroxybenzoate		Preservative for formulations
Methyl isoamyl ketone		Solvent, cosolvent
Methyl isobutyl ketone		Do.
2-Methyl-4-isothiazolin-3-one (in combination with 5-chloro-2-methyl-4-isothiazolin-3-one).	Not more than 0.0022% (22.5 ppm) in the formulation; 0.00022% (or 2.25 ppm) in the final solution applied to growing crops.	Preservative
Methyl methacrylate		Surfactants, related adjuvants of surfactants
Methyl methacrylate-2-sulfoethyl methacrylate-dimethylaminoethyl methacrylate-glycidyl methacrylate-styrene-2-ethylhexyl acrylate graft copolymer (minimum average molecular weight (in amu) 9,600).		Carrier
Methylnaphthalenesulfonic acid—formaldehyde condensate, sodium salt.		Dispersant
Methyl oleate		Surfactant
2-Methyl-2,4-pentanediol		Solvent for formulations used before crop emerges from soil
Methyl poly(oxyethylene) alkyl ammonium chloride, where the poly(oxyethylene) content is 3-15 moles and the alkyl group (C ₈ -C ₁₈) is derived from coconut, cottonseed, soya, or tallow acids.		Surfactant
N-Methylpyrrolidone (CAS Reg. No. 872-504)		Solvent, cosolvent
Methyl violet 2B		Dye

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Inert ingredients	Limits	Uses
Mixed phytosterols (consisting of campesterol, sitosterol and stigmasterol, with minor amounts of associated plant sterols) derived from edible vegetable oils.	Surfactant.
Mono- and bis-(1 <i>H</i> , 1 <i>H</i> , 2 <i>H</i> , 2 <i>H</i> -perfluoroalkyl) phosphates where the alkyl group is even numbered and in the C ₆ -C ₁₂ range.	Not more than 0.5% of pesticide formulation.	Defoaming agent
Mono- and dialkyl (C ₈ -C ₁₈) methylated ammonium chloride compounds, where the alkyl group(s) (C ₈ -C ₁₈) are derived from coconut, cottonseed, soya, tallow, or hogfat fatty acids.	.....	Surfactants, related adjuvants of surfactants
Monophosphate ester of the block copolymer α -hydro- ω -hydroxypoly(oxyethylene) poly(oxypropylene) poly(oxyethylene); the poly(oxypropylene) content averages 37-41 moles, and the molecular weight (in amu) averages 8,000.	.....	Do.
Morpholine salt of dodecylbenzenesulfonic acid	.....	Do.
Naphthalenesulfonic acid-formaldehyde condensate, ammonium and sodium salts.	.....	Do.
Nicotinamide (CAS Reg. No. 98-92-0)	Maximum of 0.5% of formulation.	Synergist
α -(<i>p</i> -Nonylphenyl)- ω -hydroxypoly(oxyethylene); produced by the condensation of 1 mole of nonylphenol (nonyl group is a propylene trimer isomer) with an average of 4-14 or 30-100 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range 4-14 or 30-100.	.....	Surfactant
X-(<i>p</i> - Nonylphenyl)- ω -hydroxy-poly(oxyethylene) sulfosuccinate isopropylamine and <i>N</i> -hydroxyethyl isopropylamine salts of: the poly(oxyethylene) content averages r moles.	Not more than 0.2% in the final solution.	Emulsifiers in pesticide concentrates applied with liquid fertilizer solutions before crop emerges from soil or not later than 4 weeks after planting
Oat hulls .....	.....	Solid diluent carrier
<i>n</i> - Octyl alcohol .....	.....	Solvent, cosolvent
Oleic acid diester of α -hydro- ω -hydroxypoly(oxyethylene); the poly(oxyethylene) molecular weight (in amu) averages 2,300.	.....	Surfactant
α - Oleoyl- ω -(oleoyloxy) poly(oxyethylene) derived from α -hydro- ω -hydroxypoly(oxyethylene) (molecular weight 600 amu).	.....	Component of defoamers
Oxo-decyl acetate (CAS reg. No. 108419-33-6)	.....	Solvent
Oxo-heptyl acetate (CAS Reg. No. 90438-79-2)	.....	Solvent
Oxo-hexyl acetate (CAS Reg. No. 88230-35-7)	.....	Solvent
Oxo-nonyl acetate (CAS Reg. No. 108419-34-7).	.....	Solvent
Oxo-octyl acetate (CAS Reg. No. 108419-32-5)	.....	Solvent
Oxo-tridecyl acetate (CAS Reg. No. 108419-35-8).	.....	Solvent
Paper fiber, deinked or recycled, conforming to 21 CFR 109.30(a)(9) and 21 CFR 176.260.	.....	Carrier
Paper fiber, produced by the kraft (sulfate) or sulfite pulping processes.	.....	Carrier
Paraformaldehyde	Not more than 2% of pesticide formulation.	Preservative for formulation
Partial sodium salt of <i>N</i> - lauryl- α -iminodipropionic acid.	Not more than 1% of pesticide formulation.	Surfactants, related adjuvants of surfactants
Phenol .....	.....	Solvent, cosolvent
Phenolic resins	Soil applications	Binding agent
Phenolsulfonic acid—formaldehyde—urea condensate and its sodium salt.	Applied to growing plants only.	Dispersant surfactant
(Phthalocyaninato (2)) copper; (C.I. pigment blue No. 15).	When used as a colorant in low-density plastic films.	Coloring agent, pigment
Pigment red 48	For seed treatment use only.	Dye
α -Pinene	Not more than 2% of formulation by weight.	Stabilizer
Polyethylene, oxidized (as defined in 21 CFR 172.260(a)).	.....	Surfactants, related adjuvants of surfactants

Inert ingredients	Limits	Uses
Polymethylene polyphenylisocyanate, polymer with ethylene diamine, diethylene triamine and sebacoyl chloride, cross-linked; minimum number average molecular weight 100,000.	Encapsulating agent
Poly(methylene- <i>p</i> -nonylphenoxy)poly(oxypropylene) propanol; the poly(oxy-propylene) content averages 4-12 moles.	Do.
Polyoxyethylated primary amine (C ₁₄ -C ₁₈); the fatty amine is derived from an animal source and contains 3% water; the poly(oxyethylene) content averages 20 moles.	Applied prior to planting of any crop, or as directed spray around the base of any crop.	Surfactant
Poly(oxyethylene) adducts of mixed phytosterols (such sterols to consist of campesterol, stigmasterol and sitosterol with minor amounts of associated plant sterols) derived from edible vegetable oils; polyoxyethylene content averaging 5-26 moles.	Surfactant, related adjuvants
Poly(oxyethylene) (5) sorbitan monooleate	Surfactants, related adjuvants of surfactants
Poly(phenylhexylurea), cross-linked; minimum average molecular weight 36,000.	Encapsulating agent
Polysorbate 60, conforming to 21 CFR 172.836	Surfactant
Polyvinyl acetate (as defined in 21 CFR 172.615).	Adhesive
Polyvinyl acetate—polyvinyl alcohol copolymer (CAS Reg. No. 25213-24-5).	Minimum number average molecular weight (in amu) 50,000.	Component of water-soluble film
Polyvinyl alcohol	Binder; water soluble bag-container or film-tape for encapsulating seeds
Polyvinylpyrrolidone, butylated	Surfactants, related adjuvants of surfactants
Potassium carbonate	Buffering agent
Potassium dihydrogen phosphate	Do.
Primary <i>n</i> -alkylamines, where the alkyl group (C ₈ -C ₁₈) is derived from coconut, cottonseed, soya, or tallow acids.	Surfactant
<i>n</i> - Propanol	Solvent for blended emulsifiers
Propylene dichloride	Solvent for formulations used before crop emerges from soil
Propylene glycol monomethyl ether	Solvent
Pyridoxine (CAS Reg. No. 65-23-6)	Maximum of 0.5% of formulation.	Synergist
Rosin, dark wood (as defined in 21 CFR 178.3870(a)(1)(v)).	Surfactants, related adjuvants of surfactants
Rosin, gum	Do.
Rosin, tall oil	Do.
Scandium chloride	10 ppm in formulation	Tagging agent
Silicon dioxide, fumed, amorphous	Flow control, anticating, and carrier agent
Soapbark (quillaja)	Dispersing agent, wetting agent
Sodium bisulfate (CAS Reg. No. 7681-38-1)	Acidifying/buffering agent
Sodium butyl naphthalenesulfonate	Surfactants, related adjuvants of surfactants
Sodium caseinate	Suspending agent and binder
Sodium citrate	Sequestrant
Sodium 1,4-dicyclohexyl sulfosuccinate	Surfactants, related adjuvants of surfactants
Sodium 1,4-dihexyl sulfosuccinate	Do.
Sodium dihydrogen phosphate (CAS Reg. No. 7558-80-7) conforming to 21 CFR 182.6778.	Buffering agent
Sodium 1,4-diisobutyl sulfosuccinate	Surfactants, related adjuvants of surfactants
Sodium 1,4-dipentyl sulfosuccinate	Do.
Sodium 1,4-ditridecyl sulfosuccinate	Do.
Sodium fluoride	Not more than 0.25% of pesticide formulation.	Stabilizer carrier for formulations used before crop emerges from soil
Sodium metaborate	Sequestrant
Sodium molybdate	Plant nutrient
Sodium mono- and dimethyl naphthalenesulfonate; molecular weight (in amu) 245-260.	Surfactants, related adjuvants of surfactants
Sodium mono-, di-, and trisopropyl naphthalenesulfonate.	Do.
Sodium nitrate	Solid diluent
Sodium nitrite	Not more than 3% of pesticide formulation.	Stabilizer, inhibitor.
Sodium <i>o</i> -phenylphenate	Not more than 0.1% of pesticide formulation.	Preservative for formulation

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Inert ingredients	Limits	Uses
Sodium polyflavinoidsulfonate, consisting chiefly of the copolymer of catechin and leucocyanidin.	Sunscreen agent for viral insecticides for use on cotton
Sodium salt of the insoluble fraction of rosin .....	.....	Surfactants, related adjuvants of surfactants
Sodium salt of partially or completely saponified dark wood rosin (as defined in 21 CFR 178.3870(a)(4)).	.....	Surfactants, related adjuvants of surfactants
Sodium tetraborate	Not more than 2% of pesticide formulation.	Buffering agent; corrosion inhibitor
Styrene—maleic anhydride copolymer	For preemergence use only	Suspending or dispersing agent
Styrene—maleic anhydride copolymer, ester derivative.	Limited to 3% of the formulation.	Suspending or dispersing agent. For pre-emergence use and use prior to formation of edible parts of plant
Sulfosuccinic acid ester with <i>N</i> -(2,-hydroxypropyl) oleamide, ammonia and isopropylamine salts of.	Not more than 0.2% in the final solution.	Emulsifiers in pesticide concentrates applied with liquid fertilizer solutions before crop emerges from soil or not later than 4 weeks after planting
Tall oil diesters with polypropylene glycol (CAS Reg. No. 68648-12-4).	.....	Component in water-soluble film
Tannin .....	.....	Dispersing agent
Tertiary butylhydroquinone .....	.....	Antioxidant
1-Tetradecanamine, <i>N,N</i> -dimethyl-, <i>N</i> -oxide (CAS Reg. No. 3332-27-2).	.....	Component in water-soluble film
<i>N,N,N,N'</i> -Tetrakis-(2-hydroxypropyl) ethylenediamine.	.....	Stabilizer for formulations used before crop emerges from soil
α -[<i>p</i> -(1,1,3,3-Tetramethylbutyl)phenyl]- ω -hydroxypoly(oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding sodium salts of the phosphate esters; the poly(oxyethylene) content averages 6 to 10 moles.	.....	Surfactants, related adjuvants of surfactants
α -[<i>p</i> -(1,1,3,3-Tetramethylbutyl)phenyl] poly(oxypropylene) block polymer with poly(oxyethylene); the poly(oxypropylene) content averages 25 moles, the poly(oxyethylene) content averages 40 moles, the molecular weight (in amu) averages 3,400.	.....	Do.
2,4,7,9-Tetramethyl-5-decyne 4,7-diol	In pesticide formulations, for application to soil prior to planting or to plants before edible parts form.	Do.
Tetrapotassium pyrophosphate (CAS Reg. No. 7320-345).	Not to exceed 10% of formulation.	Sequestrant, anticaking agent, conditioning agent
Tetrasodium <i>N</i> -(1,2-dicarboxyethyl)- <i>N</i> -octadecylsulfosuccinamate.	.....	Do.
[2,2'(2,5-Thiophenediyl) bis (5- <i>tert</i> -butylbenzoxazole)] (CAS Reg. Number 7128-64-5).	10 ppm in pesticide formulations.	Quality control agent
Titanium dioxide (CAS Reg. No. 13463-67-7) ...	.....	Pigment/coloring agent in plastic bags used to wrap growing bananas (preharvest), colorant on seeds for planting
Toluene .....	.....	Solvent, cosolvent
Toluenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	.....	Do.
Tri- <i>tert</i> -butylphenol polyglycol ether (molecular weight (in amu) 746).	.....	Surfactant for formulations used before crop emerges from soil
Triethanolamine .....	.....	Stabilizer, inhibitor for formulations used before crop emerges from soil
Triethylene glycol .....	.....	Deactivator
Triethyl phosphate .....	.....	Stabilizer for formulations used before crop emerges from soil
Trimethylolpropane (CAS Reg. No. 77-66-9)	Not more than 15% of the pesticide formulation.	Component of water-soluble film
Trimethylolpropane (CAS Reg. No. 77-99-6)	Not to exceed 15% by weight of the film.	Component in water-soluble film
α -[2,4,6-Tris[1-(phenyl)ethyl]phenyl]- ω -hydroxy poly(oxyethylene), the poly(oxyethylene) content averages 4-150 moles).	Not more than 15% of the formulation.	Surfactant.

Inert ingredients	Limits	Uses
α-[2,4,6-Tris[1-(phenyl)ethyl]phenyl]-ω-hydroxy poly(oxyethylene); mixture of monohydrogen and dihydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, potassium, sodium, and zinc salts, the poly(oxyethylene) content averages 4-150 moles.	Not more than 15% of the formulation.	Do.
α-[2,4,6-Tris[1-(phenyl)ethyl]phenyl]-ω-hydroxy poly(oxyethylene) poly(oxypropylene) copolymer, the poly(oxypropylene) content averages 2-8 moles, the poly(oxyethylene) content averages 16-30 moles, and the average molecular weight (in amu) is 1,500.	Not more than 15% in the pesticide formulation.	Do.
α-[2,4,6-Tris[1-(phenyl)ethyl]phenyl]-ω-hydroxy poly(oxyethylene) sulfate, and the corresponding ammonium, calcium, magnesium, potassium, sodium, and zinc salts, the poly(oxyethylene) content averages 4-150 moles.	Not more than 15% of the pesticide formulation.	Do.
Tryptophan (CAS Reg. No. 73-22-3)	Maximum of 0.5% of formulation.	Synergist
Urea (CAS Reg. No. 57-13-6)		Adjuvant/ intensifier for herbicides
Urea—formaldehyde copolymer (minimum average molecular weight (in amu) 30,000); CAS No. 9011-05-6.		Encapsulating agent
Valeric acid, normal	Not more than 2% in pesticide formulations.	Stenching agent or odorant
Vanillin		Attractant
Vinyl acetate—allyl acetate—monomethyl maleate copolymer (minimum average molecular weight (in amu) 20,000).		Component on water-soluble film
Vinyl acetate—ethylene copolymer (CAS Reg. No. 24937-78-8); minimum number average molecular weight (in amu) 69,000.		Component of water-soluble film
Vinyl acetate—vinyl alcohol—alkyl lactone copolymer.	Minimum estimated number average molecular weight (in amu) 40,000; minimum viscosity of 18 centipoise.	Component of water-soluble film
Vinyl alcohol—disodium itaconate copolymer (minimum average molecular weight (in amu) 50,290).		Component of water-soluble film
Vinyl alcohol—vinyl acetate—monomethyl maleate, sodium salt—maleic acid, disodium salt-γ-butyrolactone acetic acid, sodium salt copolymer, minimum number average molecular weight (in amu) 20,000.		Carrier
Vinyl chloride—vinyl acetate copolymers	Not more than 2% of pesticide formulation.	Inert binding agent for formulation applied only to soil
Vinylpyrrolidone—styrene copolymer (CAS Reg. No. 25086-29-7).	Not to exceed 2% of the formulation.	Opacifier
Wheat		Attractant
Wheat flour		Do.
Wool fat (anhydrous lanolin)		Stabilizer
Woolwax alcohols		Safener
Xylene		Solvent, cosolvent
Xylenesulfonic acid its ammonium calcium, magnesium, potassium, sodium, and zinc salts.		Surfactants, related adjuvants of surfactants
Ytterbium chloride	10 ppm in formulation	Tagging agent
Yttrium chloride	10 ppm in formulation	Tagging agent
Zinc orthophosphate		Plant nutrient and safener
Zinc stearate, conforming to 21 CFR 182.5994 and 582.5994.		Flow control agent

(e) The following materials are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals:

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Inert ingredients	Limits	Uses
Acetic acid (CAS Reg. No. 64-19-7)	Not more than 0.5% of pesticide formulation.	Catalyst
Acetic anhydride	Solvent, cosolvent, stabilizer
Acetyl tributyl citrate (CAS Reg. No. 77-90-7)	Component of plastic animal tags
Acetylated lanolin alcohol	Moisturizer
Acrylic acid—stearyl methacrylate copolymer (CAS Reg. No. 27756-15-6), minimum number average molecular weight (in amu) 2,500.	Emulsifier, suspending agent, or rheology modifier
Acrylic acid, styrene, α -methyl styrene copolymer, ammonium salt (CAS Reg. No. 89678-90-0), minimum number average molecular weight (in amu) 1250.	Encapsulating agent, dispensers, resins, fibers and beads
Acrylic acid terpolymer, partial sodium salt (CAS Reg. No.151006-66-5), minimum number average molecular weight (in amu) 2,400.	Dispersant
Acrylonitrile—butadiene copolymer (CAS Reg. No. 9003-18-3) conforming to 21 CFR 180.22, minimum average molecular weight (in amu) 1,000.	Carrier in animal tag and similar slow-release devices
Alkanoic and alkenoic acids, mono- and diesters of α -hydro- ω -hydroxypoly(oxyethylene) with molecular weight (in amu) range of 200 to 6,000.	Emulsifiers
Alkyl (C ₈ -C ₂₄) benzenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Surfactants, emulsifier, related adjuvants of surfactants
α -Alkyl (C ₉ -C ₁₈)- ω -hydroxy poly(oxyethylene): the poly(oxyethylene) content averages 2-20 moles.	Solvent, cosolvent, surfactant, and related adjuvants of surfactants
α -Alkyl (C ₁₂ -C ₁₅)- ω -hydroxypoly(oxyethylene) sulfate and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts; the poly(oxyethylene) content averages 3 moles.	Surfactants, related adjuvants of surfactants
α - Alkyl (C ₁₂ - C ₁₅)- ω -hydroxypoly(oxyethylene/oxypropylene) hetero polymer in which the oxyethylene content is 8-13 moles and the oxypropylene content is 7-30 moles.	Solvent, cosolvent, surfactant, and related adjuvants of surfactants
α - Alkyl (C ₈ -C ₁₀) hydroxypoly(oxypropylene) block polymer with polyoxyethylene; polyoxypropylene content averages 3 moles and polyoxyethylene content averages 5-12 moles.	Do.
α -Alkyl (C ₆ -C ₁₄)- ω -hydroxypoly(oxypropylene) block copolymer with polyoxyethylene; polyoxypropylene content is 1-3 moles; polyoxyethylene content is 7-9 moles; average molecular weight (in amu) approximately 635.	Surfactants, related adjuvants of surfactants
α -alkyl (C ₁₂ -C ₁₅)- ω -hydroxypoly (oxypropylene)poly (oxyethylene)copolymers (where the poly(oxypropylene) content is 3-60 moles and the poly(oxyethylene) content is 5-80 moles), the resulting ethoxylated propoxylated (C ₁₂ -C ₁₅) alcohols having a minimum molecular weight (in amu) of 1,500, CAS Reg. No. 68551-13-3.	Not to exceed 20% of pesticide formulations	Surfactant
α -(<i>p</i> - Alkylphenyl)- ω -hydroxypoly (oxyethylene) produced by the condensation of 1 mole of alkylphenol (alkyl is a mixture of propylene tetramer and pentamer isomers and averages C ₁₃) with 6 moles of ethylene oxide.	Do.
Alkyl (C ₈ -C ₁₈) sulfate and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Do.
Amine salts of alkyl (C ₈ -C ₂₄) benzenesulfonic acid (butylamine; dimethylamino propylamine; mono- and diisopropyl- amine; and mono-, di-, and triethanolamine).	Do.
Ascorbyl palmitate	Preservative
Attapulgate-type clay	Solid diluent, carrier
Barium sulfate (CAS Reg. No. 7727-43-7)	Carrier, density control agent
Benzoic acid	Preservative for formulations
Butane	Propellant

Inert ingredients	Limits	Uses
1,4-Butanediol-methylenebis(4-phenylisocyanate)-poly(tetramethylene glycol) copolymer (CAS Reg. No. 9018-04-6); minimum molecular weight (in amu) 158,000.	Solid diluent; carrier
<i>n</i> -Butanol (CAS Reg. No. 71-36-3)	Solvent for blended emulsifiers
Butylated hydroxyanisole	Antioxidant
Butylated hydroxytoluene	Do.
α -Butyl- ω -hydroxypoly(oxypropylene) block polymer with poly(oxyethylene); molecular weight (in amu) 2,400-3,500.	Surfactants, emulsifier, related adjuvants of surfactants.
α -(<i>p</i> - <i>tert</i> -Butylphenyl)- ω -hydroxypoly (oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the poly(oxyethylene) content averages 4-12 moles.	Surfactants, related adjuvants of surfactants
Calcium carbonate	Solid diluent, carrier
Calcium chloride	Stabilizer
Calcium silicate, hydrated calcium silicate	Anticaking agent, solid diluent, carrier
Calcium stearate (CAS Reg. No. 1592-23-0)	Stabilizer, component of plastic animal tag
Calcium sulfate	Solid diluent, carrier
Calcium and sodium salts of certain sulfonated petroleum fractions (mahogany soaps); calcium salt molecular weight (in amu) 790-1,020, sodium salt molecular weight (in amu) 400-500.	Surfactants, related adjuvants of surfactants
Carbon black (CAS Reg. No. 1333-86-4)	Colorant/pigment in animal tag
Carnauba wax (CAS Reg. No. 8015-86-9)	Binder
Carrageenan, conforming to 21 CFR 172.620	Minimum molecular weight (in amu): 100,000.	Thickener
Castor oil, U.S.P.	Cosolvent
Castor oil, polyoxyethylated; the poly(oxyethylene) content averages 5-54 moles.	Surfactants, related adjuvants of surfactants
Castor oil, polyoxyethylated; the poly(oxyethylene) content averages 40 moles.	Surfactants, related adjuvants of surfactants
α -Cellulose	Food grade	Suspending
Chlorinated polyethylene (CAS Reg. No. 64754-90-1).	Resin, component animal tag
Citric acid	Buffer
Corn syrup	Sticker, attractant
Cross-linked polyurea-type encapsulating polymer.	Encapsulating agent
Cumene (isopropylbenzene)	Solvent, cosolvent
Cyclohexanone	Do.
D&C Green No. 6	Dye, coloring agent
D&C Red No. 17	Do.
D&C Violet No. 2	Do.
Dextrin (CAS Reg. No. 9004-53-9)	Surfactant, suspending agent, dispersing agent
Dextrose	Solid diluent, carrier, sweetener
Diacetyl tartaric acid esters of mono- and diglycerides of edible fatty acids.	Emulsifier
Dialkyl (C ₈ -C ₁₈) dimethylammonium chloride	Not more than 0.2% in silica hydrated silica.	Flocculating agent in the manufacture of silica hydrated silica for use as a solid diluent, carrier
Diatomite (diatomaceous earth)	Solid diluent, carrier
Dibutyltin dilaurate (CAS Reg. No. 77-58-7)	Component of plastic slow release tag
Dichlorodifluoromethane	Propellant
Diethylphthalate	Solvent, cosolvent
1,1-Difluoroethane (CAS Reg. No. 75-37-6)	For aerosol pesticide formulations used for insect control in food- and feed-handling establishments and animals.	Aerosol propellant
Dimethyl ether (CAS Reg. No. 115-10-6)	Propellant
3,6-Dimethyl-4-octyne-3,6-diol	Not more than 2.5% of pesticide formulation.	Surfactants, related adjuvants of surfactants
Dimethylpolysiloxane (CAS Reg. No. 9016-00-6).	Defoaming agent
Dimethyl silicone polymer with silica (CAS No. 67762-90-7).	Moisture barrier, anti-caking agent, anti-settling agent

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Inert ingredients	Limits	Uses
α -(<i>o,p</i> -Dinonylphenyl)- ω -hydroxypoly (oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4-14 moles.	Surfactants, related adjuvants of surfactants
α -(<i>o,p</i> -Dinonylphenyl)- ω -hydroxypoly (oxyethylene), produced by the condensation of 1 mole of dinonylphenol (nonyl group is a propylene trimer isomer) with an average of 4-14 moles of ethylene oxide.	Do.
Dipropylene glycol monomethyl ether	Do.
Dodecylbenzenesulfonic acid, amine salts	Do.
α -(<i>p</i> -Dodecylphenyl)- ω -hydroxypoly (oxyethylene) produced by the condensation of 1 mole of dodecylphenol (dodecyl group is a propylene tetramer isomer) with an average of 4-14 or 30-70 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 4-14 or 30-70 moles.	Surfactants, emulsifier
Epoxidized soybean oil	Stabilizer
Epoxidized soybean oil (CAS Reg. No. 8013-07-8).	Stabilizer, plasticizer, component animal tag
1,2 Ethanediamine, polymer with oxirane and methyloxirane (CAS Reg. No. 26316-40-5) minimum number average molecular weight 2,800 and the range of number average molecular weight is 2,800 to 10,000 daltons.	Surfactant, dispersing agent
Ethyl alcohol	Solvent, cosolvent
Ethylene oxide adducts of 2,4,7,9-tetramethyl-5-decyndiol, the ethylene oxide content averages 3.5, 10, or 30 moles.	Surfactants, related adjuvants of surfactants
2-Ethyl-1-hexanol	Not more than 2.5% of pesticide formulation.	Solvent, adjuvant of surfactants
Ethyl vinyl acetate (CAS Reg. No. 24937-78-8)	Component of plastic slow release tag
FD&C Blue No. 1	Dye
FD&C Blue No. 1	Dye, coloring agent
FD&C Yellow No. 6 Aluminum Lake (CAS Reg. No. 15790-07-5).	Not more than 2% by weight of pesticide formulation.	Pigment in animal tag and similar slow-release devices
Glycerol (glycerin)	Meets specifications of Food Chemicals Codex.	Solvent and thickener
Glycerol monooleate	Surfactants, related adjuvants of surfactants
Glyceryl monostearate	Emulsifier
Glyceryl tris-12-hydroxystearate	Flow control agent
Graphite	Solid diluent, carrier
Hexamethyldisilazane, reaction product with silica (CAS No. 68909-20-6).	Moisture barrier, anti-caking agent, anti-settling agent
<i>n</i> -Hexyl alcohol (CAS Reg. No. 111-27-3)	Solvent, cosolvent
α -Hydro- ω -hydroxypoly(oxypropylene); molecular weight (in amu) 2,000.	Surfactants, related adjuvants of surfactants
α -Hydro- ω -hydroxypoly(oxyethylene)poly(oxypropylene) poly(oxyethylene) block copolymer; the minimum poly(oxypropylene) content is 27 moles and the minimum molecular weight (in amu) is 1,900.	Surfactant, wetting agent
2-(2'-Hydroxy-5'-methylphenyl)benzotriazole (CAS Reg. No. 2440-22-4).	Not more than 0.5% by weight of pesticide formulation.	Ultraviolet light absorber/stabilizer in animal tag and similar slow-release devices
12-Hydroxystearic acid-polyethylene glycol copolymer (CAS Reg. No. 70142-34-6) minimum number average molecular weight (in amu) 3,690.	Surfactant, dispersing agent, suspending agent, related adjuvant.
Iron oxide (CAS Reg. No. 1309-37-1)	Colorant in pesticide formulations for animal tags
Isopropyl alcohol	Solvent, cosolvent

Inert ingredients	Limits	Uses
4,4'-Isopropylidenediphenol alkyl (C ₁₂ -C ₁₅) phosphites (CAS Reg. No. 92908-32-2).	Not to exceed 1% of polymer.	Stabilizer, component animal tag
Isopropyl myristate, CAS Reg. No. 110-27-0	Solvent
Kaolinite-type clay	Solid diluent, carrier
Kerosene, U.S.P. reagent	Solvent, cosolvent
Lactic acid	Solvent
α-Lauryl-ω-hydroxypoly(oxyethylene), average molecular weight (in amu) of 600.	Emulsifier
α-Lauryl-ω-hydroxypoly(oxyethylene) sulfate, sodium salt; the poly(oxyethylene) content is 3-4 moles.	Surfactants, related adjuvants of surfactants
Lignosulfonate: ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Surfactants, related adjuvants of surfactants
d-Limonene (CAS Reg. No. 5989-27-5)	Solvent, fragrance
Magnesium carbonate	Solid diluent, carrier
Magnesium silicate, hydrated magnesium silicate.	Do.
Maleic acid monobutyl ester—vinyl methyl ether copolymer, CAS No. 25119-68-0, minimum average molecular weight (in amu) 52,000.	Seed-coating adhesive, gel, and antitranspirant
Maleic acid monoethyl ester—vinyl methyl ether copolymer, CAS No. 25087-06-3, minimum average molecular weight (in amu) 46,000.	Seed-coating adhesive, gel, and antitranspirant.
Maleic acid monoisopropyl ester—vinyl methyl ether copolymer, CAS No. 31307-95-6, minimum average molecular weight (in amu) 49,000.	Seed-coating adhesive, gel, and antitranspirant
Maleic anhydride-diisobutylene copolymer, sodium salt (CAS Reg. No. 37199-81-8), minimum number average molecular weight (in amu) 5,000-18,000.	Suspending agent and dispersing agent
Manganous oxide	Do.
Methacrylic Copolymer (CAS Reg. No. 63150-03-8), minimum number average molecular weight (in amu) 15,000.	Inert
Methyl alcohol	Solvent, cosolvent
Methyl <i>n</i> -amyl ketone (CAS Reg. No. 110-43-0)	Solvent, cosolvent
Methylcellulose	Dispersing-wetting agent
Methylene chloride	Dispersant
α-(Methylene (4-(1,1,3,3-tetramethylbutyl)- <i>o</i> -phenylene) bis-ω-hydroxypoly(oxyethylene) having 6-7.5 moles of ethylene oxide per hydroxyl group.	Surfactants, related adjuvants of surfactants
Methyl esters of higher fatty acids conforming to 21 CFR 573.640.	Antidusting agent
Methyl- <i>p</i> -hydroxybenzoate (Methyl paraben)	Meets specifications of Food Chemicals Codex; not to exceed 0.1% in formulations.	Preservative
Methyl isobutyl ketone	Solvent, cosolvent
Methyl methacrylate-methacrylic acid-monomethoxypolyethylene glycol methacrylate copolymer (CAS Reg. No.119724-54-8) minimum number average molecular weight (in amu) 2,730.	Surfactant, dispersing agent, suspending agent, related adjuvant.
2-[Methyl [(perfluoroalkyl)alkyl(C ₂ -C ₈)sulfonyl] amino]alkyl(C ₂ -C ₈) acrylate—alkyl(C ₂ -C ₈) methacrylates- <i>N</i> -methylolacrylamide copolymer.	Water repellent agent
Methyl vinyl ether—maleic acid copolymer (CAS Reg. No. 25153-40-6), minimum number average molecular weight (in amu) 75,000.	Dispersant
Methyl vinyl ether—maleic acid copolymer calcium sodium salt (CAS Reg. No. 62386-95-2), minimum number average molecular weight (in amu) 900,000.	Dispersant
Mineral oil, U.S.P., or conforming to 21 CFR 172.878 or 178.3620(a), (b).	Solvent, diluent
Mono-, di-, and trimethylnaphthalenesulfonic acids-formaldehyde condensates, sodium salts.	Not to exceed 0.006% in final formulation.	Dispersing-wetting agent in dip vat operations for large animals, such as cattle
Montmorillonite-type clay	Solid diluent, carrier
Naphthalenesulfonic acid and its sodium salt	Surfactants, related adjuvants of surfactants

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Inert ingredients	Limits	Uses
Nitrile rubber modified acrylonitrile methacrylate (CAS Reg. No. 27012-62-0) conforming to 21 CFR 177.1480.	Component of plastic slow release tag
Nonyl, decyl, and undecyl glycoside mixture with a mixture of nonyl, decyl, and undecyl oligosaccharides and related reaction products (primarily decanol and undecanol) produced as an aqueous-based liquid (50 to 65% solids) from the reaction of primary alcohols (containing 15 to 20% secondary alcohol isomers) in a ratio of 20% C ₉ , 40% C ₁₀ , and 40% C ₁₁ with carbohydrates (average glucose to alkyl chain ratio 1.3 to 1.8).	Surfactant
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4-14 moles.	Surfactants, related adjuvants of surfactants
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) produced by the condensation of 1 mole of nonylphenol (nonyl group is a propylene trimer isomer) with an average of 4-15 or 30-90 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 4-15 or 30-90 moles.	Surfactants, emulsifier, related adjuvants of surfactants.
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) sulfate, and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4 moles.	Surfactants, related adjuvants of surfactants
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxyethylene) sulfate, and its ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts; the nonyl group is a propylene trimer isomer and the poly(oxyethylene) content averages 4-14 or 30-90 moles of ethylene oxide.	Surfactants, related adjuvants of surfactants
α-(<i>p</i> -Nonylphenyl)-ω-hydroxypoly(oxypropylene) block polymer with poly(oxyethylene); polyoxypropylene content of 20-60 moles; polyoxyethylene content of 30-80 moles; molecular weight (in amu) 2,100-7,100.	Surfactants, related adjuvants of surfactants
α-(<i>p</i> -Nonylphenyl)poly(oxypropylene) block polymer with poly(oxyethylene); polyoxyethylene content 30 to 90 moles; molecular weight (in amu) averages 3,000.	Do.
α- <i>cis</i> -9-Octadecenyl-ω-hydroxypoly(oxyethylene); the octadecenyl group is derived from oleyl alcohol and the poly(oxyethylene) content average 20 moles.	Do.
Octadecyl 3,5-di- <i>tert</i> -butyl-4-hydroxyhydrocinnamate (CAS Reg. No. 2082-79-3).	Not more than 0.5% by weight of pesticide formulation.	Thermal stabilizer/antioxidant in animal tag and similar slow-release devices
Octyl and decyl glucosides mixture with a mixture of octyl and decyl oligosaccharides and related reaction products (primarily <i>n</i> -decanol) produced as an aqueous-based liquid (68-72% solids) from the reaction of straight chain alcohols (C ₈ (45%), C ₁₀) with anhydrous glucose.	Do.
Octyl epoxytallate (CAS Reg. No. 61788-72-5)	Plasticizer, component animal tag
Oleic acid, conforming to 21 CFR 172.862 (CAS Reg. No. 112-80-1).	Defoaming agent
α-Oleoyl-ω-hydroxypoly(oxyethylene), average molecular weight (in amu) of 600.	Emulsifier

Inert ingredients	Limits	Uses
α -Oleoyl- ω -(oleoyloxy)poly(oxyethylene) derived from α -hydro- ω -hydroxypoly(oxyethylene), molecular weight (in amu) 600.	Emulsifier, defoaming agent
Oxidized pine lignin, sodium salt (CAS Reg. No. 68201-23-0).	Maximum of 2% of formulation.	Surfactant, related adjuvant of surfactant
Oxirane, methyl-, polymer with oxirane, mono[2-(2-butoxyethoxy) ethyl]ether CAS Reg. No. 85637-75-8), minimum number average molecular weight (in amu) 2,500.	15% Max	Emulsifier, dispersant, Surfactant or related adjuvant of surfactant.
Paraformaldehyde	Not more than 2% of pesticide formulation.	Preservative for formulation
Petroleum hydrocarbons, light, odorless, conforming to 21 CFR 172.884 or 178.3650.	Solvent, diluent
Petroleum hydrocarbons, synthetic isoparaffinic, conforming to 21 CFR 172.882 or 178.3530.	Do.
Phenol	Solvent, cosolvent
Pine lignin	Adsorbent
α -Pinene	Not more than 2% of formulation by weight.	Stabilizer
Polyacrylic acid	Surfactants, related adjuvants of surfactants
Polyethylene (CAS Reg. No. 9002-88-4) conforming to 21 CFR 172.615.	Component of plastic slow release tag
Polyethylene esters of fatty acids, conforming to 21 CFR 172.854.	Surfactants, related adjuvants of surfactants
Polyethylene glycol [α -hydro- ω -hydroxypoly(oxyethylene)]; mean molecular weight (in amu) 194 to 9,500 conforms to 21 CFR 178.3750.	Surfactants, related adjuvants of surfactants
Polyethylene glycol-polyisobutenyl anhydride-tall oil fatty acid (CAS Reg. No. 68650-28-2) minimum number average molecular weight (in amu) 2,960.	Surfactant, dispersing agent, suspending agent, related adjuvant.
Polyglyceryl phthalate esters of coconut oil fatty acids.	Do.
Poly(methylene- <i>p-tert</i> -butylphenoxy)poly(oxyethylene) ethanol; the poly(oxyethylene) content averages 4-12 moles.	Do.
Poly(methylene- <i>p</i> -nonylphenoxy)poly(oxyethylene) ethanol; the poly(oxyethylene) content averages 4-12 moles.	Do.
Poly(methylene- <i>p</i> -nonylphenoxy)poly(oxypropylene) propanol; the poly(oxypropylene) content averages 4-12 moles.	Do.
Polyoxyethylated sorbitol fatty acid esters; the polyoxyethylated sorbitol solution containing 15% water is reacted with fatty acids limited to C ₁₂ , C ₁₄ , C ₁₆ , and C ₁₈ containing minor amounts of associated fatty acids; the poly(oxyethylene) content averages 30 moles.	Do.
Polyoxyethylated Sorbitol Fatty Acid Esters; the sorbitol solution containing up to 15% water is reacted with 20-50 moles of ethylene oxide and aliphatic alkanolic and/or alkenolic fatty acids C ₈ through C ₂₂ with minor amounts of associated fatty acids; the resulting polyoxyethylene sorbitol ester having a minimum molecular weight (in amu) of 1,300.	Dispersants, emulsifiers, surfactants, related adjuvants of surfactants
Poly(oxypropylene) block polymer with poly(oxyethylene); molecular weight (in amu) 1,800-9,000.	Do.
Polypropylene (CAS Reg. No. 9003-07-0)	Carrier, component of plastic slow-release tag
Polystyrene (CAS Reg. No. 9003-53-6), minimum number average molecular weight (in amu) 50,000).	Suspending agent, thickener
Polytetrafluoroethylene (CAS Reg. No. 9002-84-0).	Component of plastic slow release tag
Polyvinyl alcohol (CAS Reg. No. 9002-89-5)	Surfactant
Polyvinyl chloride	Solid diluent, carrier
Polyvinylpyrrolidone butylated polymer (CAS Reg. No. 26160-96-3), minimum number-average molecular weight (in amu) 9,500.	Surfactants, related adjuvant of surfactants and binder

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Inert ingredients	Limits	Uses
Potassium citrate (CAS Reg. No. 866-84-2)	Chelating agent, pH control
Potassium hydroxide	Meeting Food Chemicals, Codex specifications.	Neutralizer
Propane	Propellant
<i>n</i> -Propanol	Solvent, for blended emulsifiers
2-Propene-1-sulfonic acid sodium salt, polymer with wthanol and ethenyl acetate, number av- erage molecular weight (in amu) 6,000- 12,000.	Binding agent
Propylene glycol	Solvent, cosolvent
Propylene glycol monomethyl ether	Deactivator, emmolient
Propyl gallate	Antioxidant
Propyl <i>p</i> -hydroxybenzoate (Propyl paraben)	Meets specifications of Food Chemicals Codex; not to exceed 0.1% in formulations.	Preservative
Pyrophyllite	Solid diluent, carrier
Rhodamine B	Dye
Secondary alkyl (C ₁₁ -C ₁₅) poly(oxyethylene) ac- etate, sodium salt; the ethylene oxide content averages 5 moles.	Surfactant
Silane, dichloromethyl-, reaction product with silica (CAS No. 68611-44-9).	Moisture barrier, anti-caking agent, anti-settling agent, anti-thickening agent
Silica, hydrated silica	Anticaking agent, solid diluent, carrier
Silica aerogel (finely powdered microcellular sili- ca foam having a minimum silica content of 89.5%).	Component of antifoaming agent
Soapstone	Solid diluent
Sodium alginate	Stabilizer
Sodium benzoate (CAS Reg. No. 532-32-1)	Anticaking agent/stabilizer/preservative
Sodium butyl-naphthalenesulfonate	Not more than 0.5% of pesticide formulation
Sodium carboxymethylcellulose	Suspending and thickening agent
Sodium diisobutyl-naphthalenesulfonate	Surfactants, related adjuvants of surfactants
Sodium dioctylsulfosuccinate	Do.
Sodium hydroxide	Neutralizer
Sodium isopropylisohexyl-naphthalenesulfonate	Surfactants, related adjuvants of surfactants
Sodium isopropyl-naphthalenesulfonate	Do.
Sodium monoalkyl and diakyl (C ₈ -C ₁₃) phenoxybenzenedisulfonate mixtures con- taining not less than 70% of the monoalkylated product.	Do.
Sodium mono- and dimethylnaphthalenesulfonate, molecular weight (in amu) 245-260.	Do.
Sodium mono-, di-, and tributyl-naphthalenesulfonates.	Solvent, cosolvent stabilizer
Sodium <i>N</i> -oleoyl- <i>N</i> -methyl taurine	Not more than 1% of pes- ticide formulations.	Surfactant
Sodium sulfate	Solid diluent, carrier
Sorbitan fatty acid esters (fatty acids limited to C ₁₂ , C ₁₄ , C ₁₆ , and C ₁₈ containing minor amounts of associated fatty acids) and poly(oxyethylene) derivatives of sorbitan fatty acid esters; the poly(oxyethylene) content averages 16-20 moles.	Buffering agent; corrosion inhibition
Sorbitol	Antidusting agent.
Soy protein, isolated	Adhesive
Stearic acid (CAS Reg. No. 57-11-4)	Lubricant, component animal tag
α-Stearoyl-ω-hydroxypoly(oxyethylene), average molecular weight (in amu) of 600.	Emulsifier
α-Stearoyl-ω-hydroxypoly(oxyethylene); the poly(oxyethylene) content averages 8, 9, or 40 moles; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a com- ponent of the blend shall be 8, 9, or 40.	Surfactants; related adjuvants of surfactants
Styrene, 2-ethylhexyl acrylate, butyl acrylate co- polymer (CAS Reg. No. 30795-23-4), min- imum number average molecular weight (in amu) 4200.	Encapsulating agent, dispensers, resins, fibers and beads
Sucrose	Solid diluent, carrier
Sulfur (CAS Reg. No. 7704-34-9)	Stabilizer
Talc	Do.

Inert ingredients	Limits	Uses
Tall oil; fatty acids not less than 58%, rosin acids not more than 44%, unsaponifiables not more than 8%.	Surfactants, related adjuvants of surfactants
Tartrazine	Dye, coloring agent
α -[<i>p</i> -(1,1,3,3-Tetramethylbutyl)phenyl]- ω -hydroxypoly(oxyethylene) produced by the condensation of 1 mole of <i>p</i> (1,1,3,3-tetramethylbutyl)phenol with a range of 1-14 or 30-70 moles of ethylene oxide; if a blend of products is used, the average range number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 1-14 or 30-70.	Surfactants, related adjuvants of surfactants
α -[<i>p</i> -(1,1,3,3-Tetramethylbutyl)phenyl]- ω -hydroxypoly(oxyethylene) produced by the condensation of 1 mole of <i>p</i> -(1,1,3,3-tetramethylbutyl) phenol with an average of 4-14 or 30-70 moles of ethylene oxide; if a blend of products is used, the average number of moles of ethylene oxide reacted to produce any product that is a component of the blend shall be in the range of 4-14 or 30-70.	Surfactants, related adjuvants of surfactants
2,4,7,9-Tetramethyl-5-decyne-4,7-diol	Not more than 2.5% of pesticide formulation.	Do.
Titanium dioxide (CAS Reg. No. 13463–67–7)	Pigment/colorant in pesticide formulations for animal tag
Toluenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Do.
Triacetin (glyceryl triacetate)	Solvent, cosolvent
Tri- <i>tert</i> -butylphenol polyglycol ether (molecular weight (in amu) 746).	Dispersing agent
1,1,1-Trichloroethane	Solvent, cosolvent
1,1,1-Trichloroethane	Not more than 25% of pesticide formulation.	Do.
Trichlorofluoromethane	Propellant
Tridecylpoly(oxyethylene) acetate sodiums salt; where the ethylene oxide content averages 6-7 moles.	Surfactants, related adjuvants of surfactants
Triethylene glycol diacetate (CAS Reg. No. 111–21–7).	For use on beef cattle only	Solvent
Trisodium phosphate	Precipitant, buffer, filler
Ultramarine blue(CAS Reg. No. 57455–37–5)	Not more than 1.5% of pesticide formulation.	Pigment/colorant in animal tag
Urea	Stabilizer, inhibitor
Vinyl alcohol-vinyl acetate copolymer, benzaldehyde-o-sodium sulfonate condensate, minimum number average molecular weight (in amu) 20,000.	Water soluble resin
Vinyl pyrrolidone-acrylic, acid copolymer (CAS Reg. No. 28062–44–4), minimum number average molecular weight (in amu) 6,000.	Adhesive, dispersion stabilizer and coating for sustained release granules
Vinyl pyrrolidone—dimethylaminoethylmethacrylate copolymer (CAS Reg. No. 30581–590), minimum number average molecular weight (in amu) 20,000.	Leaching inhibitor, binder for water-dispersible aggregates, sticker and suspension stabilizer
Wheat shorts	Solid diluent
Wood rosin acid, potassium salts, conforming to 21 CFR 178.3870.	Surfactants, related adjuvants of surfactants
Xanthan gum	Thickener
Xylene	Solvent, cosolvent
Xylenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts.	Surfactants, related adjuvants of surfactants
Zinc oxide	Solid diluent, carrier
Zinc stearate, conforming to 21 CFR 182.5994 and 582.5994.	Water repellent, desiccant, and coating agent.
Zinc stearate (CAS Reg. No. 557–05–1)	Water repellent, desiccant, and coating agent; stabilizer, component of plastic animal tag
Zinc sulfate (basic and monohydrate)	Water repellent, desiccant, and coating agent

[36 FR 22540, Nov. 25, 1971]

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EDITORIAL NOTES: 1. For FEDERAL REGISTER citations affecting §180.1001, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

2. At 63 FR 69208, Dec. 16, 1998, §180.1001(b)(1) was amended by adding "copper ammonium complex" immediately after "copper acetate". However, "copper acetate" doesn't exist in this section in the 1999 edition of this volume.

§ 180.1002 Allethrin (allyl homolog of cinerin I); exemption from the requirement of a tolerance.

The insecticide allethrin is exempted from the requirement of a tolerance for residues when used before harvest in the production of the following commodities:

COMMODITY	
Apples	Kohlrabi
Artichokes	Leeks
(Jerusalem)	Lettuce
Beans	Mushrooms
Beets	Mustard greens
Beets, sugar	Onions
Broccoli	Parsley
Brussels sprouts	Parsnips
Cabbage	Peaches
Carrots	Pears
Cauliflower	Peppers
Celery	Potatoes
Chickory	Radishes
Chinese cabbage	Rutabagas
Citrus	Salsify
Collards	Shallots
Corn	Sorghum (milo)
Endive	Sorghum, grain
Escarole	Spinach
Garlic	Sweet potatoes
Horseradish	Tomatoes
Kale	Turnips

[47 FR 20307, May 12, 1982]

§ 180.1003 Ammonia; exemption from the requirement of a tolerance.

The fungicide ammonia is exempted from the requirement of a tolerance when used after harvest on the raw agricultural commodities grapefruit, lemons, oranges, and corn grain for feed use only.

[44 FR 44845, July 31, 1979]

§ 180.1008 Chloropicrin; exemption from the requirement of a tolerance.

The insecticide chloropicrin is exempted from the requirement of a tolerance for residues when used as a fu-

migrant after harvest for the following grains: Barley, buckwheat, corn (including popcorn), oats, rice, rye, grain sorghum, wheat.

§ 180.1011 Viable spores of the microorganism *Bacillus thuringiensis* Berliner; exemption from the requirement of a tolerance.

(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 *Bacillus thuringiensis* Berliner conforming to the morphological and biochemical characteristics of *Bacillus thuringiensis* as described in Bergey's Manual of Determinative Bacteriology, Eighth Edition.

(2) Spore preparations of *Bacillus thuringiensis* 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.

(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.

(4) Spore preparations shall be free of the *Bacillus thuringiensis* β-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 *Bacillus thuringiensis* strain which does not produce β-exotoxin under standard manufacturing conditions or by periodically determining that β-exotoxin synthesized during spore production is eliminated by the subsequent spore-harvesting procedure.

(b) Exemption from the requirement of a tolerance is established for residues of the microbial insecticide *Bacillus thuringiensis* Berliner, as specified in paragraph (a) of this section, in or on beeswax and honey and all other