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Title 40 – Protection of Environment
Chapter I – Environmental Protection Agency
Subchapter E – Pesticide Programs
Part 180 – Tolerances and Exemptions for Pesticide Chemical Residues in Food
Subpart D – Exemptions From Tolerances

Authority: 21 U.S.C. 321(q), 346a and 371.

Source: 36 FR 22540, Nov. 25, 1971, unless otherwise noted.

Editorial Note: Nomenclature changes to part 180 appear at 62 FR 66023, Dec. 17, 1997.

§ 180.910 Inert ingredients used pre- and post-harvest; exemptions from the requirement of a tolerance.

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:

TABLE 1 TO 180.910

Inert ingredients	Limits	Uses
Acetic acid		Catalyst
Acetic anhydride		Solvent, cosolvent
Acetone		Do.
Alcohols, C ₂₋₃₃ , manuf. of, by-products from, overheads (CAS Reg. No. 876065-86-0)		Solvent
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, related adjuvants of surfactants
C ₁₀ -C ₁₈ -Alkyl dimethyl amine oxides (CAS Reg. Nos. 1643-20-5, 2571-88-2, 2605-79-0, 3332-27-2, 61788-90-7, 68955-55-5, 70592-80-2, 7128-91-8, 85408-48-6, and 85408-49-7)	15% by weight in pesticide formulation	Surfactant
α-alkyl(C ₆ -C ₁₅)-ω-hydroxypoly(oxyethylene)sulfate, and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts, poly(oxyethylene) content averages 2-4 moles (CAS Reg. Nos.: 3088-31-1, 3694-74-4, 9004-82-4, 9004-84-6, 9021-91-4, 9086-52-6, 13150-00-0, 15826-16-1, 25446-78-0, 26183-44-8, 27140-00-7, 27731-62-0, 32612-48-9, 34431-25-9, 35015-74-8,	Not to exceed 30% of formulation	Surfactants, related adjuvants of surfactants.

Inert ingredients	Limits	Uses
<p>50602-06-7, 52286-18-7, 52286-19-8, 54116-08-4, 55901-67-2, 61702-79-2, 61894-66-4, 62755-21-9, 63428-85-3, 63428-86-4, 63428-87-5, 65086-57-9, 65086-79-5, 65104-74-7, 65122-38-5, 67674-66-2, 67762-19-0, 67762-21-4, 67845-82-3, 67845-83-4, 67923-90-4, 68037-05-8, 68037-06-9, 68171-41-5, 68424-50-0, 68511-39-7, 68585-34-2, 68610-66-2, 68611-29-0, 68611-55-2, 68649-53-6, 68890-88-0, 68891-29-2, 68891-30-5, 68891-38-3, 69011-37-6, 73665-22-2, 75422-21-8, 78330-16-2, 78330-17-3, 78330-25-3, 78330-26-4, 78330-27-5, 78330-28-6, 78330-29-7, 78330-30-0, 96130-61-9, 106597-03-9, 110392-50-2, 119432-41-6, 125301-88-4, 125301-89-5, 125301-92-0, 125736-54-1, 157627-92-4, 157707-85-2, 160104-51-8, 160901-27-9, 160901-28-0, 160901-29-1, 160901-30-4, 161025-28-1, 161074-79-9, 162063-19-6, 219756-63-5)</p>		
<p>α-alkyl (C₁₂-C₁₅)-ω-hydroxypoly (oxypropylene) poly (oxyethylene) copolymers (where the poly (oxypropylene) content is 3-60 moles and the poly (oxyethylene) content is 5-80 moles)</p>	Not more than 20% of pesticide formulations	Surfactant
<p>α-Alkyl-ω-hydroxypoly (oxypropylene) and/or poly (oxyethylene) polymers where the alkyl chain contains a minimum of six carbons (CAS Reg. Nos.: 9002-92-0; 9004-95-9; 9004-98-2; 9005-00-9; 9035-85-2; 9038-29-3; 9038-43-1; 9040-05-5; 9043-30-5; 9087-53-0; 25190-05-0; 24938-91-8; 25231-21-4; 251553-55-6; 26183-52-8; 26468-86-0; 26636-39-5; 26636-40-8; 27252-75-1; 27306-79-2; 31726-34-8; 32128-65-7; 34398-01-1; 34398-05-5; 37251-67-5; 37311-00-5; 37311-01-6; 37311-02-7; 37311-04-9; 39587-22-9; 50861-66-0; 52232-09-4; 52292-17-8; 52609-19-5; 57679-21-7; 59112-62-8; 60636-37-5; 60828-78-6; 61702-78-1; 61723-78-2; 61725-89-1; 61791-13-7; 61791-20-6; 61791-28-4; 61804-34-0; 61827-42-7; 61827-84-7; 62648-50-4; 63303-01-5; 63658-45-7; 63793-60-2; 64366-70-7; 64415-24-3; 64415-25-4; 64425-86-1; 65104-72-5; 65150-81-4; 66455-14-9; 66455-15-0; 67254-71-1; 67763-08-0; 68002-96-0; 68002-97-1; 68131-39-5; 68131-40-8; 68154-96-1; 68154-97-2; 68154-98-3; 68155-01-1; 68213-23-0; 68213-24-1; 68238-81-3; 68238-82-4; 68409-58-5; 68409-59-6; 68439-30-5; 68439-45-2; 68439-46-3; 68439-48-5; 68439-49-6; 68439-50-9; 68439-51-0; 68439-53-2; 68439-54-3; 68458-88-8; 68526-94-3; 68526-95-4; 68551-12-2; 68551-13-3; 68551-14-4; 68603-20-3; 68603-25-8; 68920-66-1; 68920-69-4; 68937-66-6; 68951-67-7; 68954-94-9; 68987-81-5; 68991-48-0; 69011-36-5; 69013-18-9; 69013-19-0; 69227-20-9; 69227-21-0; 69227-22-1; 69364-63-2; 70750-27-5; 70879-83-3; 70955-07-6; 71011-10-4; 71060-57-6; 71243-46-4; 72066-65-0; 72108-90-8; 72484-69-6; 72854-13-8; 72905-87-4; 73018-31-2; 73049-34-0; 74432-13-6; 74499-34-6; 78330-19-5; 78330-20-8; 78330-21-9; 78330-23-1; 79771-03-2; 84133-50-6; 85422-93-1; 97043-91-9; 97953-22-5; 102782-43-4; 103331-86-8; 103657-84-7; 103657-85-8; 103818-93-5; 103819-03-0; 106232-83-1; 111905-54-5; 116810-31-2; 116810-32-3; 116810-33-4; 120313-48-6; 120944-68-5; 121617-09-2; 126646-02-4; 126950-62-7; 127036-24-2; 139626-71-4; 152231-44-2; 154518-36-2; 157627-86-6; 157627-88-8; 157707-41-0;</p>		Surfactants, related adjuvants of surfactants

Inert ingredients	Limits	Uses
<p>157707-43-2; 159653-49-3; 160875-66-1; 160901-20-2; 160901-09-7; 160901-19-9; 161025-21-4; 161025-22-5; 161133-70-6; 166736-08-9; 169107-21-5; 172588-43-1; 176022-76-7; 196823-11-7; 287935-46-0; 288260-45-7; 303176-75-2; 954108-36-2; 2222805-23-2; 2409830-33-5)</p> <p>α-alkyl (minimum C₆ linear, branched, saturated and/or unsaturated)-ω-hydroxypolyoxyethylene polymer with or without polyoxypropylene, mixture of di- and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; minimum oxyethylene content is 2 moles; minimum oxypropylene content is 0 moles (CAS Reg. Nos.: 9004-80-2, 9046-01-9, 26982-05-8, 31800-89-2, 37280-82-3, 37281-86-0, 39341-09-8, 39341-65-6, 39464-66-9, 39464-69-2, 42612-52-2, 50643-20-4, 50668-50-3, 51325-10-1, 51884-64-1, 52019-36-0, 57486-09-6, 58206-38-5, 58318-92-6, 58857-49-1, 59112-71-9, 60267-55-2, 61837-79-4, 62362-49-6, 62482-61-5, 63747-86-4, 63887-54-7, 63887-55-8, 66020-37-9, 66272-25-1, 66281-20-7, 67711-84-6, 67786-06-5, 67989-06-4, 68070-99-5, 68071-17-0, 68071-35-2, 68071-37-4, 68130-44-9, 68130-45-0, 68130-46-1, 68130-47-2, 68186-29-8, 68186-34-5, 68186-36-7, 68186-37-8, 68238-84-6, 68311-02-4, 68311-04-6, 68332-75-2, 68389-72-0, 68400-75-9, 68413-78-5, 68425-73-0, 68425-75-2, 68439-39-4, 68458-48-0, 68511-15-9, 68511-36-4, 68511-37-5, 68551-05-3, 68585-15-9, 68585-16-0, 68585-17-1, 68585-36-4, 68585-39-7, 68603-24-7, 68607-14-7, 68610-64-0, 68610-65-1, 68649-29-6, 68649-30-9, 68650-84-0, 68815-11-2, 68855-46-9, 68856-03-1, 68890-90-4, 68890-91-5, 68891-12-3, 68891-13-4, 68891-26-9, 68908-64-5, 68909-65-9, 68909-67-1, 68909-69-3, 68921-24-4, 68921-60-8, 68954-87-0, 68954-88-1, 68954-92-7, 68987-35-9, 69029-43-2, 69980-69-4, 70247-99-3, 70248-14-5, 70844-96-1, 70903-63-8, 71965-23-6, 71965-24-7, 72480-27-4, 72623-67-7, 72623-68-8, 72828-56-9, 72828-57-0, 73018-34-5, 73038-25-2, 73050-08-5, 73050-09-6, 73361-29-2, 73378-71-9, 73378-72-0, 73559-42-9, 73559-43-0, 73559-44-1, 73559-45-2, 74499-76-6, 76930-25-1, 78041-18-6, 78330-22-0, 78330-24-2, 82465-25-6, 84843-37-8, 91254-26-1, 93925-54-3, 95014-34-9, 96416-89-6, 99924-51-3, 103170-31-6, 103170-32-7, 106233-09-4, 106233-10-7, 108818-88-8, 110392-49-9, 111798-26-6, 111905-50-1, 116671-23-9, 117584-36-8, 119415-05-3, 120913-45-3, 121158-61-0, 121158-63-2, 123339-53-7, 125139-13-1, 125301-86-2, 125301-87-3, 126646-03-5, 129208-04-4, 129870-77-5, 129870-80-0, 130354-37-9, 136504-88-6, 143372-50-3, 143372-51-4, 144336-75-4, 146815-57-8, 151688-56-1, 154518-39-5, 154518-40-8, 155240-11-2, 157627-92-4, 159704-69-5, 160498-49-7, 160611-24-5, 171543-66-1, 172027-16-6, 172274-69-0, 176707-42-9, 181963-82-6, 188741-55-1, 191940-53-1, 210493-60-0, 210993-53-6, 246159-55-7, 251298-11-0, 261627-68-3, 290348-69-5, 290348-70-8, 317833-96-8, 340681-28-9, 422563-19-7, 422563-26-6, 522613-09-8, 717140-06-2, 717140-09-5, 717827-29-7, 762245-80-7, 762245-81-8, 866538-89-8, 866538-90-1, 873662-29-4, 913068-96-9, 936100-29-7, 936100-30-0, 1072943-56-6, 1087209-87-7, 1174313-54-2, 1187742-89-7, 1187743-35-6,</p>		

Inert ingredients	Limits	Uses
<p>1205632-03-6, 1233235-49-8, 1451002-50-8, 1456802-88-2, 1456802-89-3, 1456803-12-5)</p> <p>α-alkyl (minimum C₆ linear, branched, saturated and/or unsaturated)-ωhydroxypolyoxyethylene polymer with or without polyoxypropylene, mixture of di- and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, monoethanolamine, potassium, sodium, and zinc salts of the phosphate esters; minimum oxyethylene content is 2 moles; minimum oxypropylene content is 0 moles (CAS Reg. Nos.: 9004-80-2, 9046-01-9, 26982-05-8, 31800-89-2, 37280-82-3, 37281-86-0, 39341-09-8, 39341-65-6, 39464-66-9, 39464-69-2, 42612-52-2, 50643-20-4, 50668-50-3, 51325-10-1, 51884-64-1, 52019-36-0, 57486-09-6, 58206-38-5, 58318-92-6, 58857-49-1, 59112-71-9, 60267-55-2, 61837-79-4, 62362-49-6, 62482-61-5, 63747-86-4, 63887-54-7, 63887-55-8, 66020-37-9, 66272-25-1, 66281-20-7, 67711-84-6, 67786-06-5, 67989-06-4, 68070-99-5, 68071-17-0, 68071-35-2, 68071-37-4, 68130-44-9, 68130-45-0, 68130-46-1, 68130-47-2, 68186-29-8, 68186-34-5, 68186-36-7, 68186-37-8, 68238-84-6, 68311-02-4, 68311-04-6, 68332-75-2, 68389-72-0, 68400-75-9, 68413-78-5, 68425-73-0, 68425-75-2, 68439-39-4, 68458-48-0, 68511-15-9, 68511-36-4, 68511-37-5, 68551-05-3, 68585-15-9, 68585-16-0, 68585-17-1, 68585-36-4, 68585-39-7, 68603-24-7, 68607-14-7, 68610-64-0, 68610-65-1, 68649-29-6, 68649-30-9, 68650-84-0, 68815-11-2, 68855-46-9, 68856-03-1, 68890-90-4, 68890-91-5, 68891-12-3, 68891-13-4, 68891-26-9, 68908-64-5, 68909-65-9, 68909-67-1, 68909-69-3, 68921-24-4, 68921-60-8, 68954-87-0, 68954-88-1, 68954-92-7, 68987-35-9, 69029-43-2, 69980-69-4, 70247-99-3, 70248-14-5, 70844-96-1, 70903-63-8, 71965-23-6, 71965-24-7, 72480-27-4, 72623-67-7, 72623-68-8, 72828-56-9, 72828-57-0, 73018-34-5, 73038-25-2, 73050-08-5, 73050-09-6, 73361-29-2, 73378-71-9, 73378-72-0, 73559-42-9, 73559-43-0, 73559-44-1, 73559-45-2, 74499-76-6, 76930-25-1, 78041-18-6, 78330-22-0, 78330-24-2, 82465-25-6, 84843-37-8, 91254-26-1, 93925-54-3, 95014-34-9, 96416-89-6, 99924-51-3, 103170-31-6, 103170-32-7, 106233-09-4, 106233-10-7, 108818-88-8, 110392-49-9, 111798-26-6, 111905-50-1, 116671-23-9, 117584-36-8, 119415-05-3, 120913-45-3, 121158-61-0, 121158-63-2, 123339-53-7, 125139-13-1, 125301-86-2, 125301-87-3, 126646-03-5, 129208-04-4, 129870-77-5, 129870-80-0, 130354-37-9, 136504-88-6, 143372-50-3, 143372-51-4, 144336-75-4, 146815-57-8, 151688-56-1, 154518-39-5, 154518-40-8, 155240-11-2, 157627-92-4, 159704-69-5, 160498-49-7, 160611-24-5, 171543-66-1, 172027-16-6, 172274-69-0, 176707-42-9, 181963-82-6, 188741-55-1, 191940-53-1, 210493-60-0, 210993-53-6, 2275654-37-8, 246159-55-7, 251298-11-0, 261627-68-3, 290348-69-5, 290348-70-8, 317833-96-8, 340681-28-9, 422563-19-7, 422563-26-6, 522613-09-8, 717140-06-2, 717140-09-5, 717827-29-7, 762245-80-7, 762245-81-8, 866538-89-8, 866538-90-1, 873662-29-4, 913068-96-9, 936100-29-7, 936100-30-0, 1072943-56-6, 1087209-87-7, 1174313-54-2, 1187742-89-7, 1187743-35-6, 1205632-03-6, 1233235-49-8, 1451002-50-8, 1456802-88-2, 1456802-89-3, 1456803-12-5)</p>	<p>Not to exceed 30% by weight in pesticide formulations</p>	<p>Surfactants, related adjuvants of surfactants.</p>

Inert ingredients	Limits	Uses
N-alkyl (C8-C18) primary amines and their acetate salts where the alkyl group is linear and may be saturated and/or unsaturated (CAS Reg. Nos. 61790-57-6, 61790-58-7, 61790-59-8, 61790-60-1, 61788-46-3, 61790-33-8, 68155-38-4)	Concentration in formulated end-use products not to exceed 10% by weight in herbicide products, 4% by weight in insecticide products, and 4% by weight in fungicide products	Surfactants, related adjuvants of surfactants
Alkyl (C ₈ -C ₁₈) sulfate and its ammonium, calcium, isopropylamine, magnesium, potassium, sodium, and zinc salts		Surfactants.
Aluminum hydroxide		Diluent, carrier
Aluminum oxide		Diluent
Aluminum stearate		Surfactant
Amides, C ₅ -C ₉ , N-[3-(dimethylamino) propyl] (CAS Reg. No. 1044764-00-2)		Surfactant
Amides, C ₆ -C ₁₂ , N-[3-(dimethylamino) propyl] (CAS Reg. No. 1044764-06-8)		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. Fire suppressant in aluminum phosphide and magnesium phosphide formulations

Inert ingredients	Limits	Uses
Ammonium hydroxide		Solvent, cosolvent, neutralizer, solubilizing agent
Ammonium persulfate (CAS Reg.No. 7727-54-0)	0.05%	Preservative
Ammonium salts of fatty acids (C ₈ -C ₁₈ saturated) (CAS Reg. No. 5972-76-9, 63718-65-0, 16530-70-4, 32582-95-9, 2437-23-2, 191799-95-8, 16530-71-5, 93917-76-1, 5297-93-8, 94266-36-1, 1002-89-7)		Surfactant
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
Ascorbyl palmitate		Preservative
Attapulgate-type clay		Solid diluent, carrier, thickener
<i>Bacillus simplex</i> strain BU288		Emulsifier
<i>Bacillus thuringiensis</i> fermentation solids and/or solubles		Diluent, carrier
Bentonite		Solid diluent, carrier
Benzoic acid		Preservative for formulation
Benzyl alcohol (CAS Reg. No. 100-51-6)	60% by weight in pesticide formulation	Adjuvant
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-, homopolymer (Alpha-pinene, homopolymer)(CAS Reg. No. 25766-18-1)		Surfactants, related adjuvants of surfactants
Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylene-, homopolymer (Beta-pinene, homopolymer) (CAS Reg. No. 25719-60-2)		Surfactants, related adjuvants of surfactants

Inert ingredients	Limits	Uses
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-, polymer with 6,6-dimethyl-2-methylenebicyclo [3.1.1] heptane (Copolymer of alpha- and beta-pinene) (CAS Reg. No. 31393-98-3)		Surfactants, related adjuvants of surfactants
2-Bromo-2-nitro-1,3-propanediol (CAS Reg. No. 52-51-7)	0.04% or less by weight of the total pesticide formulation	In-can preservative
Butane Butanedioic acid, 2-sulfo-, C-C9-11-isoalkyl esters, C10-rich, disodium salts (CAS Reg. No. 815583-91-6)	Not to exceed 10% by weight in pesticide formulation for agricultural use	Propellant Surfactant
<i>n</i> -Butanol (CAS Reg. No. 71-36-3)		Solvent, cosolvent
Butoxypolypropylene glycol (CAS Reg. No. 9003-13-8) <i>n</i> -Butyl benzoate (CAS Reg. No.136-60-7) di- <i>n</i> -Butyl adipate (CAS Reg. No. 105-99-7)	Not to exceed 25% by weight of pesticide formulation	Solvent Plasticizer in pesticide formulations for varroa mite control around bee hives
<i>n</i> -Butyl-3-hydroxybutyrate (CAS Reg. No. 53605-94-0) Butylated hydroxyanisole Butylated hydroxytoluene Calcareous shale		Solvent Antioxidant Do. Solid diluent carrier
Calcite Calcium carbonate Calcium chloride Calcium phosphate		Do. Do. Stabilizer Solid diluent, carrier
Calcium hydroxide Calcium hypochlorite		Do. Sanitizing and bleaching agent
Calcium lactate pentahydrate (CAS Reg. No. 5743-47-5)		Nutrient, stabilizer

Inert ingredients	Limits	Uses
Calcium oxide		Solid diluent, carrier
Calcium salt of partially dimerized rosin, conforming to <u>21 CFR 172.210</u>		Coating agent
Calcium silicate		Solid diluent, carrier
Calcium stearate		Do.
Carbon Dioxide (CAS Reg. No. 124-38-9)	None	Propellant
Carrageenan, conforming to <u>21 CFR 172.620</u>	Minimum molecular weight (in amu): 100,000	Thickener
Cocamidopropylamine oxide (CAS Reg. No. 68155-09-9)	Not to exceed 6% by weight in the formulated product; only for use with glyphosate	Surfactant.
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
Coconut shells		Solid diluent and carrier
Cod liver oil		Solvent, cosolvent
Croscarmellose sodium (CAS Reg. No. 74811-65-7)		Disintegrant, solid diluent, carrier, and thickener
n-Decyl alcohol (CAS Reg. No. 112-30-1)		Solvent or co-solvent
5-decyne-4,7-diol, 2,4,7,9-tetramethyl- (CAS Reg. No. 126-86-3)		surfactant, related adjuvant of surfactants and carriers.
Deoxyribonucleic acid (DNA) sequences consisting solely of adenine, cytosine, guanine and thymine, of 300 or fewer base pairs, and which do not contain	No more than 1 ppm in	Product identifier.

Inert ingredients	Limits	Uses
start codons or regulatory sequences necessary for the initiation of transcription or translation	pesticide formulation	
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
Diethylaminoethanol, ethoxylated, propoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-75-4)		Surfactant
Diethylaminoethanol, ethoxylated, propoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-83-4)		Surfactant
Diethylaminethanol, ethoxylated, reaction product with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-72-1)		Surfactant
Diethylaminoethanol, ethoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-81-2)		Surfactant
Diethylene glycol abietate		Surfactants, related adjuvants of surfactants
1,1-Difluoroethane (CAS Reg. No. 75-37-6)	In pesticide formulations used for insect control in food- and feed-handling establishments and animals; in bird repellent pesticide formulations	Aerosol propellant
Diglycerol (CAS Reg. No. 59113-36-9)		Plasticizer.
1,2-Dihydro-6-ethoxy-2,2,4-trimethylquinolene	Not more than 0.02% of pesticide	Antioxidant

Inert ingredients	Limits	Uses
Diisopropanolamine (CAS Reg. No. 110-97-4)	formulation Not to exceed 10% by weight of pesticide formulation	Neutralizer or stabilizer
Diisopropyl adipate (CAS Reg. No. 6938-94-9)	40% in mosquito control formulations	Solvent, co-solvent
Dimethyl adipate (CAS no. 627-93-0)	None	Solvent/co-solvent
Dimethylaminoethanol, ethoxylated, propoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-42-5)		Surfactant
Dimethylaminoethanol, ethoxylated, propoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-67-4)		Surfactant
Dimethylaminoethanol, ethoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-38-9)		Surfactant
Dimethylaminoethanol, ethoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173188-49-2)		Surfactant
N,N-Dimethyl 9-decenamide (CAS Reg. No. 1356964-77-6)	Not to exceed 20% by weight of pesticide formulation	Surfactant, solvent
2,2-Dimethyl-1,3-dioxolane-4-methanol (CAS Reg. No.100-79-8)		Solvent/cosolvent
N,N-Dimethyldodecanamide (CAS Reg. No. 3007-53-2)	Not to exceed 20% by weight of pesticide formulation	Surfactant, solvent
Dimethyl ether (methane, oxybis-) (CAS Reg. No. 115-10-6)		Propellant
Dimethyl glutarate (CAS no. 1119-40-0)	None	Solvent/co-solvent
N,N-Dimethylnonanamide (CAS Reg. No. 6225-08-7)	Not to exceed 20% by weight of pesticide formulation	Solvent, co-solvent, and adjuvant
3,6-Dimethyl-4-octyn-3,6-diol	Not more than 2.5% of pesticide	Surfactants, related adjuvants of

Inert ingredients	Limits	Uses
Dimethyl succinate (CAS no. 106-65-0)	formulation None	surfactants Solvent/co-solvent
N,N-Dimethyltetradecanamide (CAS Reg. No. 3015-65-4)	Not to exceed 20% by weight of pesticide formulation	Surfactant, solvent
Di-n-butyl carbonate (CAS Reg. No. 542-52-9)		Solvent
Dipropylene glycol		Solvent, cosolvent
Disodium phosphate		Anticaking agent, conditioning agent
Disodium zinc ethylenediaminetetraacetate dihydride		Sequestrant
Distillates, (Fischer-Tropsch), heavy, C ₁₈ -C ₅₀ , branched, cyclic and linear (CAS Reg. No. 848301-69-9)		Solvent, diluent and/or dust suppressant
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS Reg. No. 64742-65-0)		Carrier
6-dodecyne-5,8-diol, 2,5,8,11-tetramethyl- (CAS Reg. No. 68227-33-8)		surfactant, related
Dolomite		adjuvant of surfactants and carriers.
Epoxidized linseed oil		Solid diluent, carrier
Epoxidized soybean oil		Surfactants, related
Erucamide (CAS Reg. No. 112-84-5)		adjuvants of surfactants
		Do.
		Lubricant in pesticide formulations applied on the raw agricultural commodities honey and honeycomb.
Escherichia coli strain K-12 P678-54 micelles		Encapsulation of active

Inert ingredients	Limits	Uses
Ethanesulfonic acid, 2-hydroxy- (CAS Reg. No. 107-36-8)		ingredient. Chelator, sequestrant, or conditioning agent
Ethanesulfonic acid, 2-hydroxy-, ammonium salts (CAS Reg. No. 57267-78-4) Ethanesulfonic acid, 2-hydroxy-, calcium salts (CAS Reg. No. 10550-47-7) Ethanesulfonic acid, 2-hydroxy-, magnesium salts (CAS Reg. No. 17345-56-1) Ethanesulfonic acid, 2-hydroxy-, potassium salts (CAS Reg. No. 1561-99-5) Ethanesulfonic acid, 2-hydroxy-, sodium salts (CAS Reg. No. 1562-00-1) Ethanesulfonic acid, 2-hydroxy-, zinc salts (CAS Reg. No. 129756-32-7)		Do. Do. Do. Do. Do. Do.
Ethyl acetate		Solvent, cosolvent
Ethyl alcohol		Do.
Ethyl esters of fatty acids derived from edible fats and oils		Solvent, cosolvent
Ethyl maltol (CAS Reg. No.4940-11-8)	Not more than 0.2 % of the pesticide formulation	Odor masking agent
Ethylene glycol (CAS Reg. No. 107-21-1)	Without limitation	Encapsulating agent for pesticides being applied post-harvest as residual, and crack and crevice sprays in and around food and nonfood areas of residential and nonresidential structures, including food handling establishments
Ethylene oxide adducts of 2,4,7,9-tetramethyl-5-decynediol, the ethylene oxide content averages 3.5, 10 or 30 moles (CAS Reg. No. 9014-85-1)		Surfactants, related adjuvants of surfactants
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl) propionate]	1% by weight	Stabilizer

Inert ingredients	Limits	Uses
(CAS Reg. No. 36443-68-2) (S,S)-Ethylenediamine disuccinic acid trisodium salt (CAS Reg. No. 178949-82-1)		Sequestrant or chelating agent
Ethylenediaminetetraacetic acid	3% of pesticide formulation	Sequestrant
Ethylenediaminetetraacetic acid, tetrasodium salt	5% of pesticide formulation	Sequestrant
2-Ethyl-1-hexanol (CAS Reg. No. 104-76-7)	Not more than 10% of pesticide	Solvent, adjuvant of surfactants
Fatty acids, conforming to <u>21 CFR 172.860</u>		Binder, defoaming agent, lubricant
Fatty acids, tall-oil, esters with triethanolamine, ethoxylated (CAS Reg. No. 68605-38-9)	10	Surfactant.
Fatty acids, C ₈₋₁₈ and C ₁₈ -unsatd., esters with polyethylene glycol ether with triethanolamine (3:1) (CAS Reg. No. 2464873-19-4)	10	Surfactant.
Fatty acids, C ₁₆₋₁₈ and C ₁₈ -unsatd., esters with polyethylene glycol mono-Me ether (CAS Reg. No. 518299-31-5)	25% by weight	Surfactant and related adjuvant of surfactant.
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 <u>21 CFR 74.340</u>	Not to exceed 0.002% by weight of pesticide formulation	Dye, coloring agent
Ferric Citrate (CAS Reg. No. 2338-05-8) Ferric sulfate		Stabilizer Solid diluent, carrier
Formic Acid (CAS Reg. No. 64-18-6)	25%	adjuvant, pH buffering agent, pH adjuster
Fulvic acid (CAS Reg. No. 479-66-3) Furcelleran		Carrier Thickener
D-Glucitol, 1-deoxy-1-(methyl-amino)-, N-C ₈₋₁₀ acyl derivatives (CAS Reg. No.	Not more than	Surfactant

Inert ingredients	Limits	Uses
<p>1591782-62-5)</p> <p>D-glucitol, 1,4:3,6-dianhydro-2,5-di-O-methyl- (CAS Reg. No. 5306-85-4); D-glucitol, 1,4:3,6-dianhydro-2,5-di-O-ethyl- (CAS Reg. No. 30915-81-2); D-glucitol, 1,4:3,6-dianhydro-2,5-di-O-propyl) (CAS Reg. No.107644-13-3); D-glucitol, 1,4:3,6-dianhydro-2,5-bis-O-(1-methylethyl)-,(iso-propyl diether) (CAS Reg. No. 103594-41-8); D-glucitol, 1,4:3,6-dianhydro-2,5-di-O-butyl- (CAS Reg. No. 103594-42-9); D-glucitol, 1,4:3,6-dianhydro-2,5-di-O-(1-methylpropyl)-, (CAS Reg. No. not assigned); and D-glucitol, 1,4:3,6-dianhydro-2,5-di-O-(2-methylpropyl)-, (CAS Reg. No. not assigned)</p> <p>D-glucopyranose, oligomeric, C₁₀₋₁₆-alkyl glycosides (CAS Reg. No. 110615-47-9)</p> <p>D-glucopyranose, oligomeric, 6-(dihydrogen citrates), C₈₋₂₀ branched and linear alkyl glycosides, sodium salts (CAS Reg. No. 1079993-97-7)</p> <p>D-glucopyranose, oligomeric, 6-(hydrogen sulfosuccinates), C₈₋₂₀ branched and linear alkyl glycosides, sodium salts (CAS Reg. No. 1079993-92-2)</p> <p>D-glucopyranose, oligomeric, lactates, C₈₋₂₀ branched and linear alkyl glycosides (CAS Reg. No. 1079993-94-4)</p> <p>D-glucopyranose, oligomeric, maleates, C₁₀₋₁₆-alkyl glycosides, sulfonated, potassium salts (CAS Reg. No. 2587364-77-8)</p> <p>D-glucopyranose, oligomeric, maleates, C₉₋₁₁-branched and linear alkyl glycosides, sulfonated, potassium salts (CAS Reg. No. 1228577-37-4)</p> <p>D-glucopyranose, oligomeric, maleates, decyl octyl glycosides, sulfonated, potassium salts (CAS Reg. No. 2585031-35-0)</p> <p>D-glucurono-6-deoxy-L-manno-D-glucan, acetate, calcium magnesium potassium sodium salt (diutan gum) (CAS Reg. No. 595585-15-2)</p> <p>Glycerides, edible fats and oils derived from plants and animals, reaction products with sucrose (CAS Reg. Nos. 100403-38-1, 100403-41-6, 100403-39-2, 100403-40-5)</p> <p>Glycerol mono-, di-, and triacetate</p> <p>Glyceryl monostearate</p> <p>Granite</p> <p>Graphite</p> <p>Gum arabic (acacia)</p>	<p>40% by weight in pesticide formulation</p>	<p>solvent, co-solvent, viscosity modifier, and adjuvant</p> <p>Surfactant</p> <p>Surfactant</p> <p>Surfactant</p> <p>Surfactant</p> <p>Surfactant.</p> <p>Surfactant.</p> <p>Surfactant.</p> <p>Stabilizer/suspension agent.</p> <p>Emulsifier, dispersing agent</p> <p>Solvent, cosolvent</p> <p>Emulsifier</p> <p>Do.</p> <p>Solid diluent, carrier</p> <p>Surfactant, suspending agent, dispersing agent</p>

Inert ingredients	Limits	Uses
Gypsum		Solid diluent, carrier
Hexamethylenetetramine	For use in citrus washing solutions only at not more than 1%	Preservative
3-hexen-1-ol, (3Z)- (CAS Reg. No. 928-96-1)	Not more than 0.4% of the pesticide formulation	Odorant, alerting agent
<i>n</i> -Hexyl alcohol (CAS Reg. No. 111-27-3)		Solvent, cosolvent
C ₉ rich aromatic hydrocarbons (CAS Reg. No. 64742-95-6)		Solvent
C ₁₀₋₁₁ rich aromatic hydrocarbons (CAS Reg. No. 64742-94-5)		Solvent
C ₁₁₋₁₂ rich aromatic hydrocarbons (CAS Reg. No. 64742-94-5)		Solvent
Hydrochloric acid		Solvent, neutralizer
1,4-Bis[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-9,10-anthracenedione (CAS Reg. No. 123944-63-8)	0.5% by weight	Dye, coloring agent
Hydroxyethylmorpholine, ethoxylated, propoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-06-4)		Surfactant
Hydroxyethylmorpholine, ethoxylated, propoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-17-7)		Surfactant
Hydroxyethylmorpholine, ethoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-00-8)		Surfactant
Hydroxyethylmorpholine, ethoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-09-7)		Surfactant
Hydroxyethylpiperidine, ethoxylated, propoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-22-4)	Surfactant	
Hydroxyethylpiperidine, ethoxylated, propoxylated, reaction products with fatty acid trimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-28-0)		Surfactant
Hydroxyethylpiperidine, ethoxylated, reaction products with fatty acid dimers, minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-20-2)		Surfactant
Hydroxyethylpiperidine, ethoxylated, reaction products with fatty acid trimers,		Surfactant

Inert ingredients	Limits	Uses
minimum number average molecular weight (in amu), 1,200 (CAS Reg. No. 1173189-25-7)		
Hydroxyethylidene diphosphonic acid (HEDP) (CAS Reg. No. 2809-21-4)	For use in antimicrobial pesticide formulations at not more than 1 percent	Stabilizer, chelator
Iron oxide		Solid diluent, carrier
Iron oxide yellow (CAS Reg. No. 20344-49-4)	Not to exceed 0.15% by weight of pesticide formulation	Colorant in pesticide formulations for varroa mite control around bee hives
Isoamyl acetate (CAS Reg. No. 123-92-2)		Buffering agent
Isobutane (CAS Reg. No. 75-28-5)	None	Propellant
Isobutyl Acetate (CAS Reg. No. 110-19-0)		Solvent
Isobutyl isobutyrate (CAS Reg. No. 97-85-8)	None	Solvent
2-Isobutyl-2-methyl-1,3-dioxolane-4-methanol (CAS Reg. No. 5660-53-7)		Solvent/Co-solvent
Isobutyric Acid (CAS Reg. No. 79-31-2)		Solvent
Isopropyl-3-hydroxybutyrate (CAS Reg. No. 54074-94-1)		Solvent
Isopropyl myristate (CAS Reg. No. 110-27-0)		Solvent
Kaolinite-type clay		Solid diluent, carrier
Lactic acid		Solvent
Lactic acid, 2-ethylhexyl ester (CAS Reg. No. 6283-86-9)		Solvent
Lactic acid, 2-ethylhexyl ester, (2S)- (CAS Reg. No. 186817-80-1)		Solvent
Lactic acid, n-propyl ester, (S); (CAS Reg. No. 53651-69-7)		Solvent
Lauryl alcohol		Surfactant
Lignin (CAS Reg. No. 9005-53-2)		Surfactant, related
Lignin, alkali (CAS Reg. No. 8068-05-1)		adjuvants of surfactants
Lignin, alkali, oxidized, sodium salt (CAS Reg. No. 68201-23-0)		Do.
Lignin alkali reaction products with disodium sulfite and formaldehyde (CAS Reg. No. 105859-97-0)		Do.
Lignin alkali reaction products with formaldehyde and sodium bisulfite (CAS		Do.

Inert ingredients	Limits	Uses
Reg. No. 68512-35-6)		
Lignosulfonic acid (CAS Reg. No. 8062-15-5)		Do.
Lignosulfonic acid, ammonium calcium salt (CAS Reg. No. 12710-04-2)		Do.
Lignosulfonic acid, ammonium magnesium salt (CAS Reg. No. 123175-37-1)		Do.
Lignosulfonic acid, ammonium salt (CAS Reg. No. 8061-53-8)		Do.
Lignosulfonic acid, ammonium sodium salt (CAS Reg. No. 166798-73-8)		Do.
Lignosulfonic acid, calcium magnesium salt (CAS Reg. No. 55598-86-2)		Do.
Lignosulfonic acid, calcium salt (CAS Reg. No. 8061-52-7)		Do.
Lignosulfonic acid, calcium sodium salt (CAS Reg. No. 37325-33-0)		Do.
Lignosulfonic acid, ethoxylated, sodium salt (CAS Reg. No. 68611-14-3)		Do.
Lignosulfonic acid, magnesium salt (CAS Reg. No. 8061-54-9)		Do.
Lignosulfonic acid, potassium salt (CAS Reg. No. 37314-65-1)		Do.
Lignosulfonic acid, sodium salt (CAS Reg. No. 8061-51-6)		Do.
Lignosulfonic acid, sodium salt, oxidized (CAS Reg. No. 68855-41-4)		Do.
Lignosulfonic acid, sodium salt, polymer with formaldehyde and phenol (CAS Reg. No. 37207-89-9)		Do.
Lignosulfonic acid, sodium salt, sulfomethylated (CAS Reg. No. 68512-34-5)		Do.
Lignosulfonic acid, zinc salt (CAS Reg. No. 57866-49-6)		Do.
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
Methyl alcohol		Solvent
Methyl <i>n</i> -amyl ketone (CAS Reg. No. 110-43-0)		Solvent,
		cosolvent
Methyl 5-(dimethylamino)-2-methyl-5-oxopentanoate (1174627-68-9)		Solvent
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

Inert ingredients	Limits	Uses
Methyl isobutyl ketone 2-methyl-2,4-pentanediol (CAS Reg. No. 107-41-5)	Without limitation	Solvent Growing crops and food animals
Methyl isobutyrate (CAS Reg. No. 547-63-7) 2-methyl-1,3-propanediol (CAS Reg. No. 2163-42-0)	None	Solvent Solvent, surfactant
Methylated silicones		Antifoaming agent
Mono-, di-, and trimethylnaphthalenesulfonic acids and naphthalenesulfonic acids formaldehyde condensates, ammonium, sodium and potassium salts (CAS Reg. Nos. 9008-63-3, 9069-80-1, 9084-06-4, 36290-04-7, 91078-68-1, 141959-43-5, 68425-94-5, 67828-14-2)		Surfactants, related adjuvants of surfactants
Mica		Solid diluent, carrier
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
Monoammonium phosphate	No more than 3.75% by weight in formulation	Postharvest fumigation in formulation with aluminum phosphide
Monoethanolamine (CAS Reg. No. 141-43-5)	Not to exceed 3.35% by weight in pesticide formulation	Solvent
Mono- and diglycerides of C ₈ -C ₁₈ fatty acids		Surfactants, related adjuvants of surfactants
Montmorillonite-type clay		Solid diluent, carrier
Nitric acid (CAS Reg. No. 7697-37-2)	10% by weight in pesticide formulation	pH adjuster.
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-(p-Nonylphenol)-ω-hydroxypoly(oxyethylene) mixture of dihydrogen	Not to exceed	Surfactants,

Inert ingredients	Limits	Uses
phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, magnesium, 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 or 30 moles (CAS Reg. Nos. 51811-79-1, 59139-23-0, 67922-57-0, 68412-53-3, 68553-97-9, 68954-84-7, 99821-14-4, 152143-22-1, 51609-41-7, 37340-60-6, 106151-63-7, 68584-47-4, 52503-15-8, 68458-49-1)	7% of pesticide formulation	related adjuvants of surfactants
α-(p-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		Surfactants, related adjuvants of surfactants
α-(p-Nonylphenol)-ω-hydroxypoly(oxyethylene) sulfate, ammonium, calcium, magnesium, potassium, sodium, and zinc salts the nonyl group is propylene trimer isomer and the poly(oxyethylene) content averages 4 moles (CAS Reg. Nos. 9014-90-8, 9051-57-4, 9081-17-8, 68649-55-8, 68891-33-8	Not to exceed 7% of pesticide formulation	Surfactants, related adjuvants of surfactants
1-Octanal (CAS Reg. No. 124-13-0)	Not more than 0.2% of the pesticide formulation	Odor masking agent
1-Octanamine, N,N-dimethyl-, N-oxide (CAS Reg. No. 2605-78-9)	Not to exceed 15% of pesticide formulation	Surfactant
n-Octyl alcohol (CAS Reg. No. 111-87-5)		Solvent or co-solvent
Octyl and decyl glucosides mixture with a mixture of octyl and decyloligosaccharides and related reaction products (primarily n-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		Surfactants, related adjuvants of surfactants
Oleic acid		Diluent
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
Oxalic acid	No more oxalic acid should be used than is necessary to chelate	Calcium chelating hard water inhibitor

Inert ingredients	Limits	Uses
	calcium and in no case should more than 2 lb oxalic acid per acre be used	
Oxirane, 2-methyl-, polymer with oxirane, mono-2-propen-1-yl ether (CAS Reg. No. 9041-33-2)		
Palmitic acid		Diluent
Paraffin waxes and hydrocarbon waxes (CAS Reg. No. 8002-74-2); carboxypolymethylene resin (CAS Reg. No. 68153-22-0); and paraffin waxes and hydrocarbon, oxidized, lithium salts (CAS Reg. No. 68649-48-9)		Flow aid, surface protectant, binder, carrier, coating agent or adjuvant.
Pentaerythritol ester of maleic anhydride modified wood rosin		Plasticizer
Pentaerythritol tetrakis (3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate) (CAS Reg. No. 6683-19-8)	Not to exceed 5% by weight of the pesticide formulation	Antioxidant, stabilizer
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
2-Phenoxyethanol (CAS Reg. No. 122-99-6)	0.2% by weight in pesticide formulation	Solvent or co-solvent
Phenylethyl acetate (CAS Reg. No. 103-45-7)	Not to exceed 0.015% in pesticide formulation	Solvent
Phosphoric acid		Buffer
Polyammonium bisulfate (CAS Reg. No. 10043-02-4)	Not to exceed 40% in non-residential formulations. Not to exceed 5% in outdoor and indoor	Carrier, adjuvant, buffer, and stabilizer

Inert ingredients	Limits	Uses
	formulations for residential use	
Polyethylene, conforming to 21 CFR 177.1520(c)		Binder, carrier, and 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
Polyethyleneimine (CAS Reg. No. 9002-98-6)	Minimum number average molecular weight 1,300 amu	Emulsifier, surfactant, adjuvant, dispersant and/or coating
Polyglycerol esters of fatty acids conforming to 21 CFR 172.854		Surfactants, related adjuvants of surfactants
Polyglyceryl phthalate ester of coconut oil fatty acids, including fatty acid coco polymers with glyceryl and phthalic anhydride (CAS No. 67746-02-5) and coconut oil polymer with glyceryl and phthalic anhydride (CAS No. 66070-87-9)	None	Surfactants, related adjuvants of surfactants
Poly(oxy-1,2-ethanediyl), α -acetyl- ν -(2-propen-1-yloxy)- (CAS Reg. No. 27252-87-5)		
Poly (oxy-1,2-ethanediyl), α,α' -[[[4-[2-(4-methyl-2-benzothiazolyl)diazenyl]phenyl]imino]di-2,1-ethanediyl]bis[ω -hydroxy- (CAS Reg. No. 158172-12-4)		Colorant.
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
Poly(oxy-1,2-ethanediyl), α -methyl- ν -(2-propen-1-yloxy)- (CAS Reg. No. 27252-80-8)		
Poly(oxy-1,2-ethanediyl), α -(1-oxoalkyl)- ω -methoxy-, where the alkyl chain contains a minimum of 6 and a maximum of 18 carbons and the oxyethylene content is 3-13 moles (CAS Reg. No. 53100-65-5, 194289-64-0, 34398-00-0, 9006-27-3, 32761-35-6, 53467-81-5, 518299-31-5, and 34397-99-4)	Not to exceed 25% by weight in pesticide formulation	Stabilizer, solubilizing agent
Poly(oxy-1,2-ethanediyl), α -[tris(1-phenylethyl)phenyl]- ω -hydroxy-, (CAS Reg. No. 99734-09-5)	For use in post-harvest applications; not to exceed	Surfactants

Inert ingredients	Limits	Uses
Poly(oxy-1,2-ethanediyl), α -(3-carboxy-1-oxosulfopropyl)- ω -hydroxy-, C ₁₀₋₁₂ -alkyl ethers, disodium salts, the poly(oxyethylene) content averages 5-15 moles (CAS Reg. No. 68954-91-6)	15% by weight in pesticide formulations Not to exceed 10% by weight of pesticide formulation	Surfactant
Poly(oxy-1,2-ethanediyl), α -(3-carboxy-1-oxosulfopropyl)- ω -hydroxy-, C ₁₀₋₁₆ -alkyl ethers, disodium salts, the poly(oxyethylene) content averages 5-15 moles (CAS Reg, No. 68815-56-5)	Not to exceed 10% by weight of pesticide formulation	Surfactant
Poly(oxy-1,2-ethanediyl), α -(3-carboxy-1-oxosulfopropyl)- ω -hydroxy-, C ₁₂₋₁₄ -alkyl ethers, disodium salts, the poly(oxyethylene) content averages 5-15 moles (CAS Reg. No. 1024612-24-5)	Not to exceed 10% by weight of pesticide formulation	Surfactant
Poly(oxy-1,2-ethanediyl), α -(3-carboxy-1-oxosulfopropyl)- ω -(isotridecyloxy)-, sodium salt (1:2), the poly(oxyethylene) content averages 5-15 moles (CAS Reg. No. 1013906-64-3)	Not to exceed 10% by weight of pesticide formulation	Surfactant
Polyoxyethylene (20) sorbitan monostearate		Surfactants, related adjuvants of surfactants
[Poly[oxy(methyl-1,2-ethanediyl)], α -[2-bis(2-hydroxyethyl)amino]propyl]- ω -hydroxy,-ether with α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) (1:2), mono-C ₁₂₋₁₆ alkyl ethers, (CAS Reg. No. 176022-82-5)	Not to exceed 15% in the formulated product; only for use with glyphosate	Surfactant
Polysorbate 65, conforming to 21 CFR 172.838 Potassium aluminum silicate		Emulsifier Solid diluent, carrier
Potassium benzoate (Cas No. 582-25-2) Potassium hydroxide Potassium phosphate Potassium sulfate	None	Preservative Neutralizer Buffer Solid diluent
Propanamide, 2-hydroxy-N, N-dimethyl- (CAS Reg. No. 35123-06-9)	Not to exceed 50% by weight in pesticide formulation	Solvent/co-solvent
1-Propanaminium, 3-amino-N-(2-carboxyethyl)-N,N-dimethyl-, N-coco acyl derivatives, inner salts (CAS Reg. No. 499781-63-4)	25% w/w in pesticide formulation	Adjuvant or surfactant

Inert ingredients	Limits	Uses	
Propane 1,3-Propanediol (CAS Reg. No. 504-63-2)		Propellant Solvent, co-solvent, diluent, or freeze-point depressant	
Propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentanediol (CAS Reg. No. 25265-77-4)		Solvent, co-solvent	
2-Propanol, 1,1,1"-nitrilotris- (CAS No. 122-20-3)		Without limitation	Neutralizer
n-Propanol		Solvent, cosolvent	
2-Propenoic acid, 2-methyl-, polymer with ethyl 2-propenoate and methyl 2-methyl-2-propenoate, ammonium salt (CAS Registration No. 55989-05-4), minimum number average molecular weight (in amu), 18,900.		Encapsulating agent, dispensers, resins, fibers and beads	
Propyl gallate		Antioxidant	
Propyl <i>p</i> -hydroxybenzoate		Preservative for formulations	
Propylene glycol		Solvent, cosolvent	
Propylene glycol alginate (as defined in 21 CFR 172.858)		Defoaming agent	
Propylene glycol monomethyl ether (CAS No. 107-98-2)		none	solvent
2,6-Pyridinedicarboxylic acid (CAS Reg. No. 499-83-2)		Not to exceed 2 ppm	Stabilizer.
Pyrophyllite		Solid diluent, carrier	
Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4-chlorophenyl)-2,5-dihydro- (CAS Reg. No. 84632-65-5)		Dye, coloring agent.	
<i>Rhizobium</i> inoculants (e.g. <i>Sinorhizobium</i> , <i>Bradyrhizobium</i> & <i>Rhizobium</i>)		All leguminous food commodities	
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.		
Salicylaldehyde (CAS Reg. No. 90-02-8)	Not to exceed	Penetration aid	

Inert ingredients	Limits	Uses
Salts of fatty acids, conforming to <u>21 CFR 172.863</u>	14% by weight of pesticide formulation	Binder, emulsifier, anticaking agent
Sand		Solid diluent, carrier
Shellac, bleached; refined, food grade, arsenic and rosin-free		Coating agent
Silane, hexadecyltrimethoxy-, hydrolysis products with silica (CAS Reg. No. 199876-45-4)	No more than 0.6% by weight of the pesticide formulation	Stabilizing emulsion (Pickering emulsion)
Silver nitrate (Cas Reg. No. 7761-88-8)	For use on potatoes as post-harvest treatment to control sprouting at no more than 0.06% by weight in pesticide formulations	Stabilizer
Soapstone		Solid diluent
Sodium acid pyrophosphate		Surfactant, suspending agent, dispersing agent, buffer
Sodium alkyl naphthalenesulfonates (CAS Reg. Nos. 68909-83-1, 68909-84-2, 68909-82-0, 27213-90-7, 26264-58-4, 27178-87-6, 111163-74-7, 908356-16-1, 25417-20-3, 25638-17-9, 145578-88-7, 1322-93-6, 1323-19-9, 7403-47-6, 68442-09-1, 127646-44-0, 908356-18-3)	Limited to no more than 30% by weight in pesticide end-use products	Surfactants, related adjuvants of surfactants
Sodium aluminum silicate		Solid diluent, carrier
Sodium dioctylsulfosuccinate		Surfactants, related adjuvants of surfactants

Inert ingredients	Limits	Uses
Sodium 1,4-dihexyl sulfosuccinate (CAS Reg. No. 3006-15-3)		Surfactants, related
		adjuvants of surfactants
Sodium 1,4-diisobutyl sulfosuccinate (CAS Reg. No. 127-39-9)		Surfactants, related
		adjuvants of surfactants
Sodium 1,4-dipentyl sulfosuccinate (CAS Reg. No. 922-80-5)		Surfactants, related
		adjuvants of surfactants
Sodium Formate (CAS Reg. No. 141-53-7)		adjuvant, pH buffering agent
Sodium DL-lactate (CAS Reg. No. 72-17-3)		Surfactant
Sodium hexametaphosphate		Surfactant, emulsifier, wetting agent, suspending agent, dispersing agent, buffer
Sodium hydroxide		Neutralizer
Sodium L-lactate (CAS Reg. No. 867-56-1)		Surfactant
Sodium metasilicate		Surfactants, emulsifiers, wetting agents, dispersing agents, buffer
Sodium monoalkyl and dialkyl (C6-C16) phenoxy benzenedisulfonates and related acids (CAS Reg. Nos. 147732-59-0, 147732-60-3, 169662-22-0, 70191-75-2, 36445-71-3, 39354-74-0, 70146-13-3, 119345-03-8, 149119-20-0, 149119-19-7, 119345-04-9, 28519-02-0, 25167-32-2, 30260-73-2, 65143-89-7, 70191-76-3)	Not to exceed 20% in pesticide formulations	Surfactants, related adjuvants of surfactants
Sodium α -olefinsulfonate (sodium C ₁₄ -C ₁₆) (Olefin sulfonate)		Surfactants, related adjuvants of surfactants
Sodium <i>N</i> -oleoyl- <i>N</i> -methyl taurine (CAS Reg. No. 137-20-2)		Surfactants, related adjuvants of surfactants
Sodium and potassium salts of N-alkyl (C ₈ -C ₁₈)-beta-iminodipropionic acid	Concentration	Surfactants,

Inert ingredients	Limits	Uses
where the C ₈ -C ₁₈ is linear and may be saturated and/or unsaturated (CAS Reg. Nos. 110676-19-2, 3655-00-3, 61791-56-8, 14960-06-6, 26256-79-1, 90170-43-7, 91696-17-2, 97862-48-1)	in formulated end-use products not to exceed 30% by weight in pesticide formulations	related adjuvants of surfactants
Sodium salt of sulfated oleic acid		Surfactants, related adjuvants of surfactants
Sodium silicate		Surfactant, emulsifier, wetting agent, stabilizer, inhibitor
Sodium starch glycolate (CAS Reg. No. 9063-38-1)	Granular and tableted products only; not to exceed 8% of the formulated product	Disintegrant
Sodium sulfate		Solid diluent, carrier
Sodium tripolyphosphate		Buffer, surfactant, suspending agent, dispersing agent, anticaking agent, conditioning agent
Sorbic acid (CAS Reg. No. 110-44-1)		Preservative for formulations
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.
Soybean flour	Expires May 24, 2005.	Surfactant

Inert ingredients	Limits	Uses
Soybean oil-derived fatty acids		Solvent, cosolvent
Stearic acid		Diluent
α-Stearoyl-ω-hydroxypoly(oxyethylene), average molecular weight (in amu) of 600		Emulsifier
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
Sucrose octaacetate		Adhesive
Sulfite liquors and cooking liquors, spent, oxidized (CAS Reg. No. 68514-09-0)		Surfactant, related adjuvants of surfactants
Sulfuric acid (CAS Reg. No. 7664-93-9)	Not to exceed 10% of the pesticide formulation; non-aerosol formulations only	pH Control agent
Sweet orange peel tincture (CAS Reg. No. 8028-48-6)	Not to exceed 10% (weight/ weight) in pesticide formulation	Surfactant, fragrance, related adjuvants of surfactants
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
Tall oil fatty acids (CAS Reg. No. 61790-12-3)		Solvent/carrier
Tartrazine		Dye
Terpenes and terpenoids, turpentine oil, alpha-pinene fraction, polymd. (CAS Reg. No. 70750-57-1)		Surfactants, related adjuvants of

Inert ingredients	Limits	Uses
Tetraethyl orthosilicate (CAS Reg. No. 78-10-4)	Not to exceed 2% by weight of pesticide formulations	surfactants Binder.
1,1,1,2-Tetrafluoroethane, (CAS Reg. No. 811-97-2)		Aerosol propellant
Trans-1,3,3,3-tetrafluoroprop-1-ene (CAS Reg. No. 29118-24-9)		Propellant
Tetrahydrofurfuryl alcohol (THFA) (CAS Reg. No 97-99-4)	Expires February 9, 2008	Solvent/ cosolvent
N,N,N',N''-tetrakis-(2-hydroxypropyl) ethylenediamine (CAS Reg. No. 102-60-3)	Concentration in formulated end-use products not to exceed 20% by weight in pesticide formulations	Stabilizer for formulation.
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 (CAS Reg. Nos. 9036-19-5, 9002-93-1)	Not to exceed 7% of pesticide formulation	Surfactants related adjuvants of surfactants
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
Thiosulfuric acid, disodium salt, anhydrous. (CAS Reg. No 7772-98-7)		Dechlorinator, reducing agent
Thiosulfuric acid, disodium salt, pentahydrate. (CAS Reg. No. 10102-17-7)		Do.
d-Alpha tocopherol (CAS Reg. No. 9-02-9)	None	Safener
d-Alpha tocopheryl acetate (CAS Reg. No. 58-95-7)	None	Do.
dl-Alpha tocopherol (CAS Reg. No.10191-41-0)	None	Do.
dl-Alpha tocopheryl acetate (CAS Reg. No. 7695-91-2)	None	Do.
Tricalcium phosphate		Surfactant, suspending agent,

Inert ingredients	Limits	Uses
Trisodium phosphate 1-undecanol (CAS Reg. No. 112-42-5), 1-tetradecanol (CAS Reg. No. 112-72-1), 1-octadecanol (CAS Reg. No. 112-92-5), 1-eicosanol (CAS Reg. No. 629-96-9), 1-docosanol (CAS Reg. No. 661-19-8), alcohols, C ₁₆₋₁₈ , distn. residues (CAS Reg. No. 68603-17-8 & CAS Reg. No. 1190630-03-5), alkenes, C ₁₈₋₂₂ , mixed with polyethylene, oxidized, hydrolyzed, distn. residues from C ₁₆₋₁₈ alcs. manif. (CAS Reg. No. 1430895-61-6), alkenes, C ₁₈₋₂₂ , mixed with polyethylene, oxidized, hydrolyzed, distn. residues from C ₂₀₋₂₂ alcs. manif. (CAS Reg. No. 1430895-62-7) Vermiculite		dispersing agent, anticaking agent, conditioning agent Surfactant, emulsifier, wetting agent Carrier/ Adjuvant and Coating Agent/ Binder.
Vitamin E (CAS Reg. No. 1406-18-4) Walnut shells	None	Solid diluent, carrier. Safener Leaching inhibitor, binder for water-dispersible aggregates, sticker and suspension stabilizer
Waxes and waxy substances, rice bran, oxidized (CAS Reg. No. 1883583-80-9)		Flow aid, surface protectant, film-forming agent, carrier, coating agent, or adjuvant
Wintergreen oil Wood flour	Derived from wood free of chemical preservatives	Attractant Solid diluent and carrier
Xanthan gum-modified, produced by the reaction of xanthan gum and glyoxal (maximum 0.3% by weight)	Not more than 0.5% of pesticide	Surfactant

Inert ingredients	Limits	Uses
Xylene meeting the specifications listed in 21 CFR 172.884(b)(4)	formulation In pesticide formulations for grain storage only	Solvent, cosolvent
Zeolite (hydrated alkali aluminum silicate)		Solid diluent, carrier
Zinc oxide (CAS Reg. No. 1314-13-2)	Not more than 15% by weight in pesticide formulations when used as stabilizer	Coating agent, stabilizer
Zinc stearate (CAS Reg No. 557-05-1)	Not to exceed 6 percent by weight of fumigant pesticide formulation	Lubricant
Zinc sulfate (basic and monohydrate)		Do.
Zinc sulfate (basic and monohydrate)		Solid diluent, carrier

[69 FR 23117, Apr. 28, 2004]

Editorial Note: For FEDERAL REGISTER citations affecting § 180.910, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.govinfo.gov.