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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.

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

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:

TABLE 1 TO § 180.920

Inert ingredients	Limits	Uses
Acetic acid, 2-ethylhexyl ester (CAS Reg. No. 103-09-3)	Not to exceed 50% by weight in pesticide formulation	Solvent/Co-solvent
Acetophenone (CAS Reg. No. 98-86-2)		Attractant, solvent, co-solvent
Adenosine (CAS Reg. No. 58-61-7)	Maximum of 0.5% of formulation	Synergist
Adipic acid (CAS Reg. No. 124-04-9)		Acidification or buffering agent; pH regulator
Alder bark		Seed germination stimulator
Alkyl (C ₁₂ -C ₁₆) dimethyl ammonio acetate (CAS Reg. Nos. 683-10-3, 2601-33-4 and 693-33-4)	20% by weight in pesticide formulation	Surfactant
α-Alkyl (minimum C ₆ linear, branched, saturated and/or	Not to exceed	Surfactants,

Inert ingredients	Limits	Uses
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. 9046-01-9, 37280-82-3, 39464-66-9, 42612-52-2, 50643-20-4, 52019-36-0, 58318-92-6, 60267-55-2, 61837-79-4, 67711-84-6, 68070-99-5, 68071-35-2, 68071-17-0, 68130-47-2, 68186-37-8, 68186-36-7, 68311-02-4, 68425-73-0, 68458-48-0, 68511-37-5, 68610-65-1, 68585-36-4, 68649-29-6, 68815-11-2, 68908-64-5, 68891-13-4, 73038-25-2, 78330-24-2, 108818-88-8, 154518-39-5, 317833-96-8, 873662-29-4, 936100-29-7, 936100-30-0)	30% of pesticide formulation	related adjuvants of surfactants
N-alkyl(C ₈ -C ₁₈) dimethylamidopropylamines where the alkyl group is linear and may be saturated and/or unsaturated (CAS Reg. Nos. 109-28-4, 3179-80-4, 7651-02-7, 22890-10-4, 22890-11-5, 39669-97-1, 45267-19-4, 68140-01-2, 1147459-12-8, 146987-98-6)	Not to exceed 20% by weight in herbicide formulations	Surfactants, related adjuvants of surfactants
N-alkyl (C ₈ -C ₁₈) 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
N,N-Bis- α -ethyl- ω -hydroxypoly(oxy-1,2-ethanediyl) C ₈ -C ₁₈ saturated and unsaturated alkylamines; the poly(oxy-1,2-ethanediyl) content is 2-60 moles (CAS Reg. Nos. 10213-78-2, 25307-17-9, 26635-92-7, 26635-93-8, 288259-52-9, 58253-49-9, 61790-82-7, 61791-14-8, 61791-24-0, 61791-26-2, 61791-31-9, 61791-44-4, 68155-33-9, 68155-39-5, 68155-40-8, 70955-14-5, 73246-96-5, 1266162-49-5)	Not to exceed 25% in herbicide formulations and 10% in insecticide and fungicide formulations	Surfactants, related adjuvants of surfactants
N,N-Bis- α -ethyl- ω -hydroxypoly(oxy-1,2-ethanediyl)/oxy(methyl-1,2-ethanediyl) C ₈ -C ₁₈ saturated and unsaturated alkylamines; the poly(oxy-1,2-ethanediyl)/oxy(methyl-1,2-ethanediyl) content is 2-60 moles (CAS Reg. Nos. 68213-26-3, 68153-97-9, 75601-76-2)	Not to exceed 25% in herbicide formulations and 10% in insecticide and fungicide	Surfactants, related adjuvants of surfactants

Inert ingredients	Limits	Uses
	formulations	
Aluminum sulfate		Safener adjuvant
Ammonium acetate (CAS No. 631-61-8)	15%	Buffering Agent.
Ammonium chloride (CAS Reg. No. 12125-02-9)		Carrier/ nutrient
Ammonium formate (CAS Reg. No. 540-69-2)		Complexing or fixing agent
Ammonium nitrate (CAS Reg. No. 6484-52-2)		Adjuvant/ intensifier for herbicides
Ammonium polyphosphate (CAS Reg. No. 68333-79-9)		Sequestrant, buffer, or surfactant
Quaternary ammonium compounds, benzylbis(hydrogenated tallow alkyl)methyl, bis(hydrogenated tallow alkyl)dimethylammonium salts with saponite (CAS Reg. No. 1588523-05-0)	Not to exceed 1.0% by weight of pesticide formulation	Suspending or structuring agent
Quaternary ammonium compounds, benzylbis(hydrogenated tallow alkyl)methyl, bis(hydrogenated tallow alkyl)dimethylammonium salts with sepiolite (CAS Reg. No. 1574487-61-8)	Not to exceed 2.0% by weight of pesticide formulation, asbestos free and containing less than 1% crystalline silica	Suspending or structuring agent
Amylopectin, 2-hydroxypropyl ether, acid- (CAS Reg. No. 2756130-86-4)	For seed treatment use only	Binder, carrier, film- former.
<i>Trans</i> -anethole (CAS Reg. No. 4180-23-8)	Not to exceed 3% in pesticide formulations	Fragrance.
Baicalin anhydrous (CAS Reg. No. 21967-41-9)	10% by weight	Stabilizer.
Baicalin hydrate (CAS Reg. No. 206752-33-2)	10% by weight	Stabilizer.
Barium sulfate		Carrier
1,4-Benzenedicarboxylic acid, dimethyl ester, polymer with 1,4-butanediol, adipic acid, and hexamethylene diisocyanate, minimum number average molecular weight (in amu) 30,000 (CAS Reg. No. 55231-08-8)	For use in honeybee hive miticide formulations	Component of controlled release agent
1,2-Benzisothiazolin-3-one	Not more than	Preservative/

Inert ingredients	Limits	Uses
	0.1% of formulation. Not more than 0.02 lb to be applied per acre	stabilizer
Benzyl acetate (CAS Reg. No. 140-11-4)		Solvent
Beta Cyclodextrin, Methyl Ethers (CAS Reg. No. 128446-36-6)	40% by weight	Stabilizer and solvent
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
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 Red #112 (CAS Reg. No. 6535-46-2)	Seed treatment use only. Limited to 10% w/w of pesticide formulation	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
C.I. Pigment Yellow 1 (CAS Reg. No. 2512-29-0)	Not to exceed 10% (weight/weight) in pesticide formulation	Colorant
Calcium Pantothenate (CAS Reg. No. 137-08-6)	0.1% by weight in pesticide formulations	Enzyme cofactor
Calcium formate (CAS Reg. No. 544-17-2)		Carrier
Calcium gluconate (CAS Reg. No. 299-28-5)		Sequestrant
Camphor (CAS Reg. No. 76-22-2)	Not more than 5% weight to	Deodorant, melting point

Inert ingredients	Limits	Uses
	weight (w/w) of pesticide formulations	adjustment
Carbon Black (CAS Reg. No. 1333-86-4)	For seed treatment use only	Colorant
Carbonic acid, dipotassium salt (CAS Reg. No. 584-08-7)		Buffering agent
Carbonic acid, dipotassium salt, trihydrate (CAS Reg. No. 18662-52-7)		Buffering agent
Carboxymethyl guar gum sodium salt (CAS Reg. No. 39346-76-4)	Without limitation	Thicker/drift reduction agent
Carboxymethyl-hydroxypropyl guar (CAS Reg. No. 68130-15-4)	Without limitation	Thicker/drift reduction agent
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
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	Preservative

Inert ingredients	Limits	Uses
	final solution applied to growing crops	
Choline chloride (CAS Reg. No. 67-48-1)		As a solvent
Choline hydroxide (CAS Reg No. 123-41-1)	Without limitation	Neutralizer
Cis-isomer of 1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride (CAS Reg. No. 51229-78-8)	Maximum of 0.14% by weight of formulation	Preservative
Coco alkyl dimethyl amines (CAS Reg. No. 61788-93-0)	Not to exceed 0.5% in pesticide formulation	Emulsifier
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
Cumene sulfonic acid and its ammonium, calcium, magnesium, potassium, sodium and zinc salts (CAS Reg. Nos. 15763-76-5, 16066-35-6, 164524-02-1, 28085-69-0, 28348-53-0, 28631-63-2, 32073-22-6, 37475-88-0, 37953-05-2, and 90959-88-9)		Surfactant, related adjuvant of surfactant
Cyclohexane		Solvent, cosolvent
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
Decanamide, N,N-dimethyl (CAS Reg. No. 14433-76-2)		Emulsifier, solvent, cosolvent
Dextrin, hydrogen 1-octenylbutanedioate (CAS Reg. No.	For seed	Binder,

Inert ingredients	Limits	Uses
68070-94-0)	treatment use only	carrier, film-former.
Diammonium phosphate (CAS Reg. No. 7783-28-0)		Buffer, surfactant
dibenzylidene sorbitol (32647-67-9)		Thinning agent
Diethanolamine		Stabilizer, inhibitor for formulations used before crop emerges from soil
Diethanolamine salts of alkyl (C ₈ -C ₂₄) benzenesulfonic acid (CAS Reg. Nos. 26545-53-9, 67815-95-6, 67889-94-5, 67889-95-6, 68259-34-7, 68478-47-7, 68567-68-0, 68815-34-9, 68815-37-2, 68891-02-1, 68953-97-9, 84989-15-1, 85338-09-6, 90194-39-1, 90194-40-4, 90218-08-9)	Not to exceed 7% of pesticide formulation	Surfactants, related adjuvants of surfactants.
Diethylene glycol		Deactivator, adjuvant for formulations used before crop emerges from soil
Diethylene Glycol (CAS No. 111-46-6)	Without limitation	Solvent, stabilizer and/or antifreeze
Diethylene glycol and diethylene glycol monobutyl, monoethyl, and monomethyl ethers		Deactivator for formulations used before crop emerges from soil, stabilizer
Diethylene glycol mono butyl ether (CAS Reg. No. 112-34-5)	Without limitation	Pesticide inert ingredient as a solvent, stabilizer and/or

Inert ingredients	Limits	Uses
		antifreeze
Diethylene Glycol MonoEthyl Ether (CAS Reg. No. 111-90-0)	Without limitation	Solvent, stabilizer and/or antifreeze
Dimethylaminopropylamine, isopropylamine, ethanolamine, and triethanolamine salts of alkyl (C ₈ -C ₂₄) benzenesulfonic acid (CAS Reg. Nos. 3088-30-0, 12068-12-1, 26264-05-1, 26836-07-7, 27323-41-7, 55470-69-4, 58089-99-9, 61886-59-7, 61931-76-8, 67924-05-4, 68110-32-7, 68259-35-8, 68411-31-4, 68442-72-8, 68567-69-1, 68584-24-7, 68584-25-8, 68648-81-7, 68648-96-4, 68649-00-3, 68815-30-5, 68815-35-0, 68910-32-7, 68953-93-5, 68953-98-0, 70528-84-6, 72391-21-0, 84961-74-0, 85480-55-3, 85480-56-4, 85995-82-0, 90194-42-6, 90194-53-9, 90194-54-0, 90194-55-1, 90218-09-0, 90218-11-4, 90218-35-2, 96687-54-6, 99924-49-9, 121617-08-1, 157966-96-6, 193562-36-6, 319926-68-6, 877677-48-0, 1093628-27-3)		Surfactants, related adjuvants of surfactants.
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 (CAS Reg. No. 67-68-5)		Solvent/co-solvent.
Dipotassium hydrogen phosphate		Buffering agent
Dipropylene glycol monomethyl ether		Stabilizer
Douglas-fir bark, ground		Solid diluent, carrier
Dysprosium chloride	10 ppm in formulation	Tagging agent
1,2-ethanediamine, <i>N,N,N", N"</i> -tetramethyl-, polymer with 1,1'-oxybis[2-chloroethane] (CAS Reg. No. 31075-24-8)	For use in pesticide formulations applied to cotton or wheat only	Adjuvant or water conditioner
(S,S)-Ethylenediaminedisuccinic acid (CAS Reg. No. 20846-91-7)		Sequestrant or chelating agent
Ethylene glycol		Antifreeze,

Inert ingredients	Limits	Uses
		deactivator for all pesticides used before crop emerges from soil and in herbicides before or after crop emerges
Ethylene glycol (CAS Reg. No. 107-21-1)	Without limitation	Pesticide inert ingredient as a solvent, stabilizer and/or antifreeze.
Ethylene glycol monobutyl ether		
2-Ethylhexanol		Cosolvent, defoamer, solvent for all pesticides used before crop emerges from soil and in herbicides before or after crop emerges
Europic chloride	10 ppm in formulation	Tagging agent
FD&C Blue No. 1 (CAS Reg. No. 3844-45-9)	For seed treatment use only	Dye, coloring agent
FD&C Blue No. 1, methyl-polyethylene glycol derivative (CAS Reg. No. 9079-34-9)	For seed treatment use only; Number average molecular weight (in amu) is greater than	Dye, coloring agent

Inert ingredients	Limits	Uses
	1,000; Not to exceed 5% of the formulated pesticide product	
FD&C Blue No. 1, polyethylene glycol derivative (CAS Reg. No. 9079-33-8)	For seed treatment use only; Number average molecular weight (in amu) is greater than 1,000; Not to exceed 5% of the formulated pesticide product	Dye, coloring 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
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
Gluconic acid (and sodium salt)		Sequestrant
<i>l</i> -Glutamic acid (C ₅ H ₉ NO ₄ ; CAS Reg. No. 56-86-0)	Seed treatment use only	Plant nutrient
[alpha]-D-glucopyranoside, 2-ethylhexyl 6-O-[alpha]-D-glucopyranosyl- (CAS Reg. No. 330980-61-5)		Surfactant
[alpha]-D-glucopyranoside, 2-ethylhexyl (CAS Reg. No. 125590-73-0)		Surfactant

Inert ingredients	Limits	Uses
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
Glycine betaine (CAS Reg. No. 107-43-7)		Plant nutrient
Graphite		Treatment aid for seeds
Guar hydroxypropyltrimethylammonium chloride (CAS Reg. No. 71329-50-5)		Thickener/drift reduction agent
Hexamethylenetetramine		Stabilizer for carriers in solid pesticide formulations
Hydrolyzed vegetable proteins from soy	Not to exceed 25% of pesticide formulation	pH adjusting agent, surfactant, adhesive.
2-(2'-hydroxy-3',5'-di-tert-amylphenyl) benzotriazole (CAS Reg. No. 25973-55-1)	Maximum concentration of 0.6% in insecticide formulations applied to adzuki beans, canola, chickpeas, cotton, faba beans, field peas, lentils, linola, linseed, lucerne, lupins, mung beans, navy beans, pigeon peas, safflower,	Ultraviolet (UV) stabilizer

Inert ingredients	Limits	Uses
	sunflower, and vetch	
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 guar gum		Thickener
2-Hydroxypropyl starch (CAS Reg. No. 9049-76-7)		Adjuvant
Isobornyl acetate		Solvent
Isobutyl alcohol		Do.
Isobutylene-butene copolymers	For soil application only	Binder
Isooctadecanol	Not more than 2% of pesticide formulation	Defoaming agent
Konjac glucomannan (CAS Reg. No. 37220-17-0)	Not to exceed 1.0% by weight in pesticide formulation	Thickener
Lanthanum chloride	10 ppm in formulation	Tagging agent.
Magnesium nitrate (in combination with 2-methyl-4-isothiazolin-3-one and 5-chloro-2-methyl-4-isothiazolin-3-one)	None	Preservation
Maleic acid	For pesticide formulations applied to apples with a minimum preharvest interval of 21 days	Stabilizer
Maleic anhydride (CAS Reg. No. 108-31-6)	Not to exceed 3.5% in pesticide formulations; or for pesticide formulations applied to apples with a minimum preharvest interval of 21	Stabilizer

Inert ingredients	Limits	Uses
	days	
Malic acid (CAS Reg. No. 6915-15-7)		Buffering and stabilizing agent
Manganese carbonate		Plant nutrient
D-mannose (CAS Reg. No. 3458-28-4)		Sequestrant, binder, filler
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 ethyl ketone		Surfactant
Methyl <i>p</i> -hydroxybenzoate		Preservative for formulations
Methyl isobutyl ketone		Solvent, cosolvent
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
Mono-, di-, and trimethylnaphthalenesulfonic acids and naphthalenesulfonic acids formaldehyde condensates, ammonium and sodium 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)		Surfactants, related adjuvants of surfactants
Methyl oleate		Surfactant

Inert ingredients	Limits	Uses
2-Methyl-2,4-pentanediol		Solvent for formulations used before crop emerges from soil
Methyl poly(oxyethylene) C_8-C_{18} alkylammonium chlorides where the poly(oxyethylene) content is $n = 2-15$ and where C_8-C_{18} alkyl is linear and may be saturated or unsaturated (CAS Reg. Nos. 3010-24-0, 18448-65-2, 70750-47-9, 22340-01-8, 67784-77-4, 64755-05-1, 61791-10-4, 28724-32-5, 28880-55-9, 68187-69-9, 68607-27-2, 60687-90-3)	Concentration in formulated end use products not to exceed 10% by weight in herbicide products and 5% by weight in all other pesticide products	Surfactants, related adjuvants of surfactants
N-Methylpyrrolidone (CAS Reg. No. 872-504)		Solvent, cosolvent
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. Expires February 9, 2008	Surfactant, related adjuvants of surfactants
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
Morpholine 4- C_{6-12} Acyl Derivatives (CAS Reg. No. 887947-29-7)		As a solvent
Nicotinamide (CAS Reg. No. 98-92-0)	Not to exceed 0.5% by weight of pesticide formulation as synergist; not to exceed 5% by weight of pesticide formulation as corrosion inhibitor	Synergist, corrosion inhibitor

Inert ingredients	Limits	Uses
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
Octanamide, N,N-dimethyl (CAS Reg. No. 1118-92-9)		Emulsifier, solvent, cosolvent
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
Phenol		Solvent, cosolvent
Phenol, 2-(2H-benzotriazol-2-yl)-6-dodecyl-4-methyl-, (CAS Reg. No. 23328-53-2)	Not more than 10% by weight of pesticide formulations	UV stabilizer.
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
Poly(oxy-1,2-ethanediyl), α -isotridecyl- ω -methoxy (CAS Reg. No. 345642-79-7)	At a maximum of 10% in formulation	Surfactant

Inert ingredients	Limits	Uses
Poly(oxy-1,2-ethanediyl), α -(3-carboxy-1-oxosulfopropyl)- ω -hydroxy-, (C ₁₀ -C ₁₂)-alkyl ethers, disodium salts, polyoxylyene content averages 4-5 moles (CAS Reg. No. 68815-56-5)	Not to exceed 0.125% for seed treatment use only	Surfactant.
Poly(oxy-1,2-ethanediyl), α -(3-carboxy-1-oxosulfopropyl)- ω -hydroxy-, (C ₁₀ -C ₁₆)-alkyl ethers, disodium salts, polyoxyethylene content averages 5 moles (CAS Reg. No. 68954-91-6)	Not to exceed 0.125% for seed treatment use only	Surfactant
Poly(oxy-1,2-ethanediyl), α , α' -{[[4-(3-sulfophenyl)azo]phenyl]imino}di-2,1-ethanediyl}bis[ω -hydroxy-, monosodium salt	Not to exceed 20% by weight of pesticide formulation	Colorant.
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
Polyoxyethylene polyoxypropylene mono(di-sec-butylphenyl) ether (CAS Reg. No. 69029-39-6)	Limited to herbicide formulations only, and to no more than 30% by weight in herbicide formulations intended for application to turf	Surfactants, related adjuvants of surfactants
Poly(oxyethylene) (5) sorbitan monooleate		Surfactants, related adjuvants of surfactants
Polysorbate 60, conforming to 21 CFR 172.836		Surfactant
Potassium acetate (CAS Reg. No. 127-08-2)		Nutrient
Potassium dihydrogen phosphate		Buffering agent
2-Propanamine, compound with α -phosphono- ω -butoxypoly (oxy-1,2-ethanediyl) (2:1) (CAS Reg. No. 431040-31-2)	Not more than 15% in the formulated product	Surfactant
2-Propanamine, compounds with polyethylene glycol dihydrogen phosphate C ₈₋₁₀ - alkyl ether (2:1) (CAS Reg. No. 431062-72-5)	Not more than 15% in the formulated	Surfactant

Inert ingredients	Limits	Uses
	product	
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivatives, hydroxides, inner salts (CAS Reg. No. 61789-40-0)	10% w/w in pesticide formulation	Surfactant.
1,2-Propanediol, 3-[3-[1, 3, 3, 3-tetramethyl-1-[(trimethylsilyl)oxy]-1-disiloxyanyl] propoxy]- (CAS Reg. No. 70280-68-1)	Not to exceed 5% by weight of pesticide formulation	Antifoaming agent
Propylene glycol monomethyl ether		Solvent
Pyridoxine (CAS Reg. No. 65-23-6)	Maximum of 0.5% of formulation	Synergist
2-Pyrrolidinone, 1-butyl- (CAS Reg. No. 3470-98-2)	Not to exceed 30% by weight of pesticide formulation	Solvent/ cosolvent
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.
Cell Walls of <i>Saccharomyces cerevisiae</i>		Carrier.
Scandium chloride	10 ppm in formulation	Tagging agent
Sodium bisulfate (CAS Reg. No. 7681-38-1)		Acidifying/ buffering agent
Sodium 1,4-dicyclohexyl sulfosuccinate		Surfactants, related adjuvants of surfactants
Sodium 1,4-dihexyl sulfosuccinate (CAS Reg. No. 3006-15-3)		Surfactants, related adjuvants of surfactants
Sodium dihydrogen phosphate (CAS Reg. No. 7558-80-7) conforming to 21 CFR 182.6778		Buffering agent
Sodium 1,4-diisobutyl sulfosuccinate (CAS Reg. No. 127-39-9)		Surfactants, related adjuvants of surfactants

Inert ingredients	Limits	Uses
Sodium 1,4-dipentyl sulfosuccinate (CAS Reg. No. 922-80-5)		Surfactants, related adjuvants of surfactants
Sodium metaborate		Sequestrant
Sodium molybdate		Plant nutrient
Sodium nitrate		Solid diluent
Sodium nitrite	Not more than 3% of pesticide formulation	Stabilizer, inhibitor.
Sodium o-phenylphenate	Not more than 0.1% of pesticide formulation	Preservative for formulation
Sodium salt of the insoluble fraction of rosin		Surfactants, related adjuvants of surfactants
Sodium salts of N-alkyl (C8-C18)-beta-iminodipropionic acid where the C8-C18 is linear and may be saturated and/or unsaturated (CAS Reg. Nos. 3655-00-3, 61791-56-8, 14960-06-6, 26256-79-1, 90170-43-7, 91696-17-2, 97862-48-1)	Concentration in formulated end-use products not to exceed 30% by weight in pesticide formulations	Surfactants, related adjuvants of surfactants
Sodium tetraborate	Not more than 2% of pesticide formulation	Buffering agent; corrosion inhibitor
Starch, 1-octenylbutanedioate, aluminum salt (CAS Reg. No. 9087-61-0)	For seed treatment use only	Flow aid, flow enhancer, anti-caking agent
Sulfonic acids, C ₁₃₋₁₇ -sec-alkane, sodium salts (CAS Reg. No. 85711-69-9)	Not to exceed 40% by weight in non-residential use pesticide formulation only	Surfactant
Sulfonic acids, C ₁₄₋₁₇ -sec-alkane, sodium salts (CAS Reg. No. 97489-15-1)	Not to exceed 40% by weight in	Surfactant

Inert ingredients	Limits	Uses
	non-residential pesticide formulation only	
Tallowamine, ethoxylated, mixture of dihydrogen phosphate and monohydrogen phosphate esters and the corresponding ammonium, calcium, potassium, and sodium salts of the phosphate esters, where the poly(oxyethylene) content averages 2-20 moles (CAS Reg. No. 68308-48-5)	Not to exceed 20% of pesticide formulation	Surfactants, related adjuvants of surfactants
Tannin		Dispersing agent
α -terpineol (CAS Reg. No. 98-55-5)	Not to exceed 5% in pesticide formulations	Solvent
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
Tetraethylene glycol (CAS Reg. No. 112-60-7)		Solvent
<i>N,N,N',N'</i> -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 formulations
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	Surfactants, related adjuvants of surfactants
Tetrapotassium pyrophosphate (CAS Reg. No. 7320-345)	Not to exceed 10% of formulation	Sequestrant, anticaking agent, conditioning agent
Thiamine Mononitrate (CAS Reg. No. 532-43-4)	0.1% by weight in pesticide formulations	Enzyme cofactor
Tin oxide (CAS Reg. No. 18282-10-5)	Not to exceed	Colorant

Inert ingredients	Limits	Uses
	40% by weight for use in seed treatment pesticide formulations only	
Titanium dioxide (CAS Reg. No. 13463-67-7)		Pigment, colorant, carrier
Toluenesulfonic acid and its ammonium, calcium, magnesium, potassium, sodium, and zinc salts		Solvent, cosolvent
Triethanolamine		Stabilizer, inhibitor for formulations used before crop emerges from soil
Triethanolamine (CAS Reg. No. 102-71-6)		Stabilizer, inhibitor
Triethylene glycol		Deactivator
Triethyl phosphate		Stabilizer for formulations used before crop emerges from soil
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.
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) 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.

Inert ingredients	Limits	Uses
Tryptophan (CAS Reg. No. 73-22-3)	Maximum of 0.5% of formulation	Synergist
Valeric acid, normal	Not more than 2% in pesticide formulations	Stenching agent or odorant
Xylene		Solvent, cosolvent
Xylenesulfonic acid its ammonium calcium, magnesium, potassium, sodium, and zinc salts		Surfactants, related adjuvants of surfactants
Yucca extract from Yucca schidigera		Wetting agent
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

[69 FR 23124, Apr. 28, 2004]

Editorial Note: For FEDERAL REGISTER citations affecting § 180.920, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.govinfo.gov.