SAFE AND SUITABLE INGREDIENTS January 2021

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Acidifiers/Alkalizers	A combination of sulfuric acid, ammonium sulfate, copper sulfate, and water	To adjust the pH in meat and poultry processing water, including processing water used as a spray or dip	A combination of sulfuric acid, ammonium sulfate, copper sulfate, and water, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Ammonium hydroxide	pH control agent in brine solutions for meat products	Ammonium hydroxide, sufficient for purpose to achieve a brine solution with a pH of 11.6	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of acidic calcium sulfate	pH control agent in water used in meat and poultry processing	An aqueous solution of acidic calcium sulfate, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (3)
Acidifiers/Alkalizers	An aqueous solution of citric acid, calcium sulfate and water	pH control agent in water used in meat and poultry processing	An aqueous solution of citric acid, calcium sulfate and water, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (3)
Acidifiers/Alkalizers	An aqueous solution of citric acid, hydrochloric acid, and phosphoric acid	To adjust the pH in processing water in meat and poultry plants	An aqueous solution of citric acid, hydrochloric acid, and phosphoric acid, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of hydrochloric and acetic acid	pH control agent in water used in poultry processing	An aqueous solution of hydrochloric and acetic acid, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (3)
Acidifiers/Alkalizers	An aqueous solution of citric and hydrochloric acids	pH control agent in water used in poultry processing	An aqueous solution of citric and hydrochloric acids , sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of hydrochloric acid, phosphoric acid, and lactic acid	As a pH control agent on raw and ready- to-eat (RTE) meat products and in water used in poultry processing	Hydrochloric acid and phosphoric acid- sufficient for purpose; lactic acid not to exceed 5.0 percent	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of peroxyacetic acid, hydrogen peroxide, acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	As an acidifier in poultry scald tanks	The level of peroxyacetic acid will not exceed 220 ppm, hydrogen peroxide will not exceed 110 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 13 ppm	21 CFR 173.370	None under the accepted conditions of use (3)
Acidifiers/Alkalizers	An aqueous solution of sodium bisulfate and sulfuric acid	pH control agent in water used in poultry processing	An aqueous solution of sodium bisulfate and sulfuric acid, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of sulfuric acid, citric acid, and phosphoric acid	To adjust the pH of peroxyacetic acid (PAA) for use on poultry carcasses as a spray or dip.	A blend of sulfuric (35 percent), citric (1 percent) and phosphoric acid (1 percent) solution that is injected into a diluted water stream of peroxyacetic acid (PAA) [100 PPM or less], hydrogen peroxide , acetic acid, and 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP) (FCN 993) - to lower the pH of the PAA water stream from approximately 4.5 to under 2.5.	Sufficient for Purpose	None under the accepted conditions of use (1), (2), and (6)
Acidifiers/Alkalizers	An aqueous solution of hydrochloric, citric and phosphoric acid	To adjust the pH of peroxyacetic acid (PAA) for use on poultry carcasses as a spray or dip.	A blend of hydrochloric (13 percent), citric (14 percent) and phosphoric acid (1.6 percent) solution that is injected into a diluted water stream of peroxyacetic acid (PAA) [100 PPM or less], hydrogen peroxide , acetic acid, and 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP) (FCN 993) - to lower the pH of the PAA water stream from approximately 4.5 to under 2.5.	Sufficient for Purpose	None under the accepted conditions of use (1), (2), and (6)

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Acidifiers/Alkalizers	An aqueous solution of hydrochloric and citric acid	To adjust the pH of peroxyacetic acid (PAA) for use on poultry carcasses as a spray or dip.	A blend of hydrochloric (14.6 percent) and citric acid (5.5 percent) solution that is injected into a diluted water stream of peroxyacetic acid (PAA) [100 PPM or less], hydrogen peroxide , acetic acid, and 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP) (FCN 993) - to lower the pH of the PAA water stream from approximately 4.5 to under 2.5.	Sufficient for Purpose	None under the accepted conditions of use (1), (2), and (6)
Acidifiers/Alkalizers	An aqueous solution of sulfuric acid and sodium sulfate	As an acidifier agent on meat (beef and pork) and poultry products in the form of a spray, wash, or dip.	An aqueous solution of sulfuric acid and sodium sulfate, sufficient for purpose	GRAS Notice No. 000408	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of sulfuric acid, citric acid, and phosphoric acid	To adjust the pH in poultry chiller water and the processing water in meat and poultry plants	An aqueous solution of sulfuric acid, citric acid, and phosphoric acid, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	An aqueous solution of sulfuric acid and sodium sulfate	As an acidifier agent on meat and poultry products in the form of a spray, wash, or dip.	An aqueous solution of sulfuric acid and sodium sulfate, sufficient for purpose	21 CFR 170.36	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	A blend of citric acid, hydrochloric acid, and phosphoric acid	To adjust the acidity in various meat and poultry products	A blend of citric acid, hydrochloric acid, and phosphoric acid, sufficient for purpose	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Acidifiers/Alkalizers	Citric acid	To adjust pH in egg products	Citric acid, sufficient for purpose	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Acidifiers/Alkalizers	Encapsulated Sodium diacetate	pH control agent in fresh and ready-to-eat (RTE) comminuted and whole muscle meat and poultry added as a component in seasoning blends and meat sauces	Encapsulated Sodium diacetate at a level not to exceed 1.0 percent (total formula weight) in combination with other GRAS acids at a level sufficient to achieve a pH of 4.8 - 5.5	Acceptability determination	Listed by common or usual name in the ingredients statement. Comminuted product must be descriptively labeled. (2)
Acidifiers/Alkalizers	Magnesium hydroxide	pH control agent in poultry processing water	Magnesium hydroxide, sufficient for purpose	21 CFR 184.1428	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Potassium carbonate or potassium bicarbonate	pH control agents in egg products, meat and poultry products, processing meat and poultry products and processing fish of the order Siluriformes	Potassium carbonate or potassium bicarbonate, sufficient for purpose	21 CFR 184.1619 21 CFR 184.1613	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Potassium hydroxide	pH control agent in water used in poultry processing	Potassium hydroxide, sufficient for purpose	21CFR 184.1631	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Potassium hydroxide and sodium hydroxide	To adjust pH in egg products	Potassium hydroxide and sodium hydroxide, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Sodium carbonate or sodium bicarbonate	To adjust pH in egg products	Sodium carbonate or sodium bicarbonate, sufficient for purpose	21 CFR 184.1736	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Sodium carbonate or sodium bicarbonate	pH control agent in meat and poultry products and for processing meat and poultry products	Sodium carbonate or sodium bicarbonate, sufficient for purpose	21 CFR 184.1742 21 CFR 184.1736	None under the accepted conditions of use (1
Acidifiers/Alkalizers	Sodium hydroxide	pH control agent in water used in poultry processing and in red meat processing	Sodium hydroxide, sufficient for purpose	21 CFR 184.1763	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Sodium hydroxide and potassium hydroxide	pH control agent in water used in poultry processing and red meat processing	Sodium hydroxide and potassium hydroxide, sufficient for purpose	21 CFR 184.1763; 21CFR 184.1631	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Sodium bisulfate	pH control agent in water used in meat and poultry processing	Sodium bisulfate, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)

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Acidifiers/Alkalizers	Sodium bisulfate	pH control agent in meat and poultry soups	Sodium bisulfate not to exceed 0.8 percent of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Acidifiers/Alkalizers	Sodium bisulfate	Added to sauces used as separable components in the formulation of various meat products	Sodium bisulfate, sufficient for purpose	GRAS Notice No. 000003	Listed by common or usual name in the ingredients statement (2)
Acidifiers/Alkalizers	Sodium metasilicate	Poultry chiller water	Sodium metasilicate, sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Sulfuric acid	pH control agent in water used in poultry processing	Sulfuric acid at levels sufficient for purpose	Acceptability determination	None under the accepted conditions of use (3)
Acidifiers/Alkalizers	Sulfuric acid, phosphoric acid, citric acid, and hydrochloric acid	To adjust the pH in poultry chiller water	Sulfuric acid, phosphoric acid, citric acid, and hydrochloric acid, sufficient for purpose	Acceptability determination; 21 CFR 184.1095; 21 CFR 182.1073; 21 CFR 184.1033; 21 CFR 182.1057	None under the accepted conditions of use (1)
Acidifiers/Alkalizers	Sulfuric and Hydrochloric acid	pH control agent in poultry processing water	Sulfuric and Hydrochloric acid, sufficient for purpose	21 CFR 184.1095; 21CFR 182.1057	None under the accepted conditions of use (1)
Anticoagulants	Sodium tripolyphosphate	Sequestrant/anti-coagulant for use in recovered livestock blood which is subsequently used in food products	Sodium tripolyphospate not to exceed 0.5 percent of recovered blood	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Acetic acid	Dried and fermented sausage, prosciutto	Use of up to 4 percent acetic acid solution measured prior to application applied as a spray	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Acetic acid	As an antimicrobial agent in chicken livers	For use as an antimicrobial immersion dip at a concentration of up to 5 percent and not to exceed two minutes	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Aqueous mixture of dextrose, triphosphate, diphosphate fructose, ascorbic acid, citric acid, lactic acid	As an antimicrobial agent to treat poultry, beef, and pork, including whole or cut meat, including carcasses, parts, trim, and organs, as a wash, spray, rinse, dip, chiller water or scald water, pre and post chill.	1 percent to 5 percent aqueous mixture of dextrose, triphosphate, diphosphate fructose, ascorbic acid, citric acid, lactic acid by weight along with the equivalent amount of lactic acid	Acceptability determination	None under the accepted conditions of use
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and optionally sulfuric acid, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), or dipicolinic acid (DPA).	For use in process water used for washing, rinsing, or cooling whole or cut meat or poultry including carcasses, parts, trim, and organs.	(1) Final poultry process water not to exceed 1000 ppm PAA and 385 ppm HP. HEDP not to exceed 50 ppm or DPA not to exceed 4.00 ppm; (2) Meat applications as a spray not to exceed 400 ppm PAA and 155 ppm HP. HEDP not to exceed 20 ppm, or DPA not to exceed 1.64 ppm; (3) Hide wash applications as a spray not to exceed 400 ppm PAA and 155 ppm HP. HEDP not to exceed 20 ppm, or DPA not to exceed 1.64 ppm with a contact time of 5-30 seconds.	Food Contact Substance Notification No. FCN 1132	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1- hydroxyethylidene-1,1-diphosphonic acid (HEDP)	(1) In poultry process water for spraying, washing, rinsing, dipping, chill water, low-temperature (less than 40 degrees F) immersion baths, or scald water on poultry parts, organs, and carcasses; (2) In process water used for washing, rinsing, or cooling whole or cut meat including carcasses, parts, trim, and organs. (3) In process water or ice for washing, rinsing, storing or cooling of processed and pre-formed meat and poultry products.	(1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 750 ppm, and 1- hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 136 ppm; (2) Not to exceed 400 ppm PAA, not to exceed 350 ppm HP, and not to exceed 22.5 ppm HEDP; (3) Not to exceed 230 ppm PAA, not to exceed 165 ppm HP, and not to exceed 14 ppm HEDP.D10	Food Contact Substance Notification No. FCN 001247	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	As an antimicrobial agent to treat poultry process water or ice as a spray, wash, rinse, dip, chiller water, or scald water for whole or cut poultry including parts, trim, and organs.	Not to exceed use concentrations of 2000 ppm peroxyacetic acid (PAA), 728 ppm hydrogen peroxide (HP), and 13.3 ppm of 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP).	Food Contact Substance Notification No. FCN 1379	None under then accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and optionally sulfuric acid, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), or dipicolinic acid (DPA).	(1) Poultry post-main chiller (air or water) secondary processing of whole birds, parts, pieces, skin (on or off); organs, in the washing, rinsing, cooling and processing of poultry products; (2) poultry use in pre-air chiller dip tanks and post-main water chiller systems as finishing chillers.	Not to exceed 2000 ppm PAA and 770 ppm HP. HEDP not to exceed 100 ppm measured prior to application, or DPA not to exceed 4.00 ppm.	Food Contact Substance Notification No. FCN 1419	None under then accepted conditions of use (6)
Antimicrobials	Aqueous mixtures of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid and 1- hydroxyethylidine-1, 1-diphosphonic acid (HEDP)	(1) In poultry process water for spraying, washing, rinsing, dipping, chill water, low-temperature (less than 40 degrees F) immersion baths, or scald water on poultry parts, organs, and carcasses; (2) In process water used for washing, rinsing, or cooling whole or cut meat including carcasses, parts, trim, and organs; (3) In process water or ice for washing, rinsing, storing or cooling of processed and pre-formed meat and poultry products	1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 750 ppm, and 1- hydroxyethylidine-1, 1-diphosphonic acid (HEDP) not to exceed 136 ppm; (2) Not to exceed 400 ppm PAA, not to exceed 350 ppm HP, and not to exceed 22.5 ppm HEDP; (3) Not to exceed 230 ppm PAA, not to exceed 165 ppm HP, and not to exceed 14 ppm HEDP.	Food Contact Substance Notification No. FCN 1465	None under the accepted conditions of use (6)

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Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylid ene-1,1-diphosphonic acid (HEDP) and optionally, sulfuric acid	Water, brine, or ice used for washing, rinsing, or cooling whole or cut meat, including carcasses, parts, trim, organs.	The level of peroxyacetic acid (PAA) not to exceed 1800 ppm, hydrogen peroxide (HP) not to exceed 675 ppm and1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 51.4 ppm	Food Contact Substance Notification No.1810	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulfuric acid (optional) and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), catalyzed with sulfuric acid	(1) In process water used for washing, rinsing, or cooling whole or cut meat including carcasses, parts, trim, and organs; (2) In process water or ice for washing, rinsing, storing, or cooling of processed and pre-formed meat products.	(1) The level of peroxyacetic acid (PAA) not to exceed 1800 ppm, hydrogen peroxide (HP) not to exceed 600 ppm, and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 22.5 ppm; (2) Not to exceed 495 ppm PAA, 165 ppm HP, and 14 ppm HEDP.	Food Contact Substance Notification No. FCN 1664	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulfuric acid (optional) and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), catalyzed with sulfuric acid	(1) In spray, mist, wash, rinse, post chill dip (not to exceed 2 minutes), chiller water, and scald water for meat and poultry (including livestock and game) carcasses, parts, trim, and organs; (2) washing, rinsing, or cooling processed and pre-formed meat and poultry (including livestock and game) products.	(1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, 750 ppm hydrogen peroxide (HP), and 10 ppm 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP); (2) Not to exceed 495 ppm PAA, 186 ppm HP, and 2.5 ppm HEDP.	Food Contact Substance Notification No. 1666	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), and hydrogen peroxide (HP), acetic acid, 1- hydroxyethylidene- 1, 1-diphosphonic acid (HEDP), and optionally sulfuric acid	Process water or ice for washing, rinsing, storing, or cooling whole or cut meat, including carcasses, parts, trim, and organs	The level of peroxyacetic acid (PAA) will not exceed 400 ppm, hydrogen peroxide (HP) will not exceed 267 ppm, and 1- hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 27 ppm.	Food Contact Substance Notification No. FCN 1394	None under then accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP), water, and optionally sulfuric acid	(1) Process water or ice for washing, rinsing, or cooling whole or cut meat, including carcasses, parts, trim, and organs; (2) Process water, ice, or brine for washing, rinsing, storing, or cooling processed and preformed meat as defined in 21 CFR 170.3(n)(29) and poultry as defined in 21 CFR 170.3(n)(34); (3) Process water used as a spray, wash, rinse, dip, chiller water, low-temperature (e.g. less than 40 degrees F) immersion baths, or scald water for poultry parts, organs, and carcasses.	(1) The level of peroxyacetic acid (PAA) will not exceed 400 ppm, hydrogen peroxide (HP) will not exceed 280 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 20 ppm; (2) The level of PAA will not exceed 230 ppm, HP will not exceed 280 ppm, and HEDP will not exceed 14 ppm; (3) The level of PAA will not exceed 2000 ppm and HEDP will not exceed 136 ppm	Food Contact Substance Notification No. FCN 1284	None under then accepted conditions of use (6)

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Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1- hydroxyethylidene- 1, 1-diphosphonic acid (HEDP), water, and optionally sulfuric acid	(1) Process water or ice for washing, rinsing, or cooling whole or cut meat, including carcasses, parts, trim, and organs; (2) Process water, ice, or brine for washing, rinsing, storing, or cooling processed and preformed meat as defined in 21 CFR 170.3(n)(29) and poultry as defined in 21 CFR 170.3(n)(34); (3) Process water used as a spray, wash, rinse, dip, chiller water, low-temperature (e.g. less than 40 degrees F) immersion baths, or scald water for poultry parts, organs, and carcasses	(1) The level of peroxyacetic acid (PAA) will not exceed 388 ppm, hydrogen peroxide (HP) will not exceed 155 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 19 ppm; (2) The level of PAA will not exceed 230 ppm, HP will not exceed 92 ppm, and HEDP will not exceed 11 ppm; (3) The level of PAA will not exceed 2000 ppm, HP will not exceed 800 ppm, and HEDP will not exceed 96 ppm.	Food Contact Substance Notification No. FCN 1389	None under then accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), and sulfuric acid (optional)	(1) for washing, rinsing or cooling meat carcasses, parts, trim, and organs carcasses, hides, parts, trim and organs; (2) for use in process water applied as a spray, wash, rinse, dip, chiller water, post-main chiller, secondary processing, pre-air chiller dip tanks and post-main water chiller systems as finishing chillers, low-temperature (e.g. less than 40 degrees F) immersion baths, or scald water for poultry carcasses, parts and pieces, and skin on or off and organs; (3) for use in process water, ice, or brine used for washing, rinsing, or cooling of processed and pre-formed meat and poultry products.	(1) An aqueous mixture not exceeding 460 ppm peroxyacetic acid (PAA), 220 ppm hydrogen peroxide (HP), 30 ppm 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP); (2) An aqueous mixture not exceeding 2000 ppm PAA, 950 ppm HP, and 113 ppm HEDP; (3) An aqueous mixture not exceeding 230 ppm PAA, 110 ppm HP, 15 ppm HEDP.	Food Contact Substance Notification No. FCN 1638	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP) and dipicolinic acid (DPA); and optionally sulfuric acid.	(1) In poultry as a spray, wash, rinse, dip, chiller water, low-temperature (e.g., less than 40 degrees F) immersion baths, or scald water for whole or cut poultry carcasses, parts, trim, and organs; (2) In process water, ice, or brine used for washing, rinsing, or cooling of whole or cut meat, including carcasses, parts, trim, and organs; (3) In process water, ice, or brine used for washing, rinsing, or cooling of processed and pre-formed meat.	(1) The level not to exceed 2000 ppm peroxyacetic acid (PAA), 933 ppm hydrogen peroxide (HP), 120 ppm 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP) and 0.5 ppm dipicolinic acid (DPA);	Food Contact Substance Notification No. FCN 1639	None under the accepted conditions of use (6)

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Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), and sulfuric acid (optional)	Used in the process water used in the production of meat, carcasses, parts, trim and organs.	(1) An aqueous mixture not exceeding 1800 ppm peroxyacetic acid (PAA), 600 ppm hydrogen peroxide (HP), 12 ppm 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) for washing, rinsing or cooling meat carcasses, parts, trim, and organs; (2) An aqueous mixture not exceeding 495 ppm PAA, 165 ppm HP, 6 ppm HEDP for washing, rinsing, or cooling processed and pre-formed meat.	Food Contact Substances Notification No. FCN 1694	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and optionally sulfuric acid, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), or dipicolinic acid (DPA).	Process water and ice used in poultry applied as a spray, wash, rinse, dip, chiller water, low temperature (less than 40 degree) immersion baths or scald water for whole or cut poultry carcasses, parts, trim and organs	An aqueous mixture not to exceed 2000 ppm PAA and 770 ppm HP. HEDP not to exceed 100 ppm, or DPA not to exceed 4.00 ppm with poultry carcasses, parts, trim, and organs.	Food Contact Substance Notification No. FCN 1806	None under the accepted conditions of use (3)
Antimicrobials	An aqueous mixture of Peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	Used as a spray, wash, rinse, dip, chiller water or scald water for meat and poultry parts, organs, trim and carcasses; and in process water, ice, or brine for washing, rinsing, storing, or cooling processed and preformed meat and poultry.	An aqueous mixture not exceeding 2000 ppm peroxyacetic acid (PAA), 1474 ppm hydrogen peroxide (HP), and 118 ppm1-hydroxyethylidene-1, 1-disphosphonic acid (HEDP)	Food Contact Substance Notification No. 1745 (replaces FCN 1096, FCN 1236 and FCN 1495	None under the accepted conditions of use (1)
Antimicrobials	A mixture of peroxyacetic acid (PAA) and hydrogen peroxide (HP); includes optionally acetic acid or sulfuric acid, depending on the desired pH of the wash/chiller process water.	As an antimicrobial agent applied to meat (beef or pork) and poultry products for: (1) beef or pork carcasses, parts, trim, and organs; and (2) poultry parts, organs, and carcasses.	For: (1) beef or pork carcasses, parts, trim, and organs at a level not to exceed 400 ppm peroxyacetic acid and 280 ppm hydrogen peroxide; and (2) poultry parts, organs, and carcasses at a level not to exceed 1000 ppm peroxyacetic acid and 700 ppm hydrogen peroxide.	Food Contact Substances Notification No. FCN 1362	None under the accepted conditions of use (6)
Antimicrobials	A mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), and 1- hydroxyethylidine-1, 1-diphosphonic acid (HEDP) in process water for meat and poultry products	As an antimicrobial additive in water or ice for: 1) washing, rinsing, cooling, or processing whole or cut meat, including parts, trim and organs; and 2) application to whole or cut poultry, including parts, trim and organs, as a spray, wash, rinse dip and in chiller water or scald water.	220 ppm of peroxyacetic acid, 80 ppm of hydrogen peroxide, and 13 ppm of HEDP	Food Contact Substance Notification No. FCN 1363	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), dipicolinic acid (DPA), and sulfuric acid	Used in process water used in the production of meat carcasses, parts, trim and organs	Not to exceed 460 ppm peroxyacetic acid (PAA), 100 ppm hydrogen peroxide (HP), 2 ppm 1-hydroxyethylidene-1,1- diphosphonic acid (HEDP), 0.5 ppm dipicolinc acid (DPA), acetic acid and sulphuric acid.	Food Contact Substance Notification No. FCN 1477	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous solution of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulfuric acid and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP).	(1) In process water used for washing, rinsing or cooling whole or cut red meat including carcasses, parts, trim, and organs; (2) In process water or ice for washing, rinsing, storing or cooling of processed and pre-formed red meat.	(1) Not to exceed 1800 ppm peroxyacetic acid (PAA), 600 ppm hydrogen peroxide (HP), and 12 ppm 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) for use in process water or ice used for washing, rinsing, spraying, misting or cooling whole or cut meat including carcasses, parts, trim, and organs; (2) Not to exceed 495 ppm PAA, 165 ppm HP, and 6 ppm HEDP for use in process water, brine, or ice used for washing, rinsing, storing ,misting or cooling processed and pre-formed red meat.	Food Contact Substance Notification No. FCN 1490	None under the accepted conditions of use (6)
Antimicrobials	Aqueous mixtures of peroxyacetic acid (PAA), hydrogen peroxide (HP),1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), acetic acid and water	(1) Used as a spray, wash, rinse, dip, chiller water or scald water for poultry parts, organs, trim and carcasses; and in process water, ice, or brine for washing, rinsing, storing, or cooling processed and preformed poultry; (2) Used as a spray, rinse dip, chiller water or scald water for raw meat carcasses, parts, trim and organs; and in process water, ice, or brine for washing, rinsing, storing, or cooling processed and preformed meat.	(1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 1474 ppm, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP) not to exceed 118 ppm (2) Not to exceed 400 ppm PAA, not to exceed 295 ppm HP, not to exceed 23.7 ppm HEDP.	Food Contact Substance Notification No. FCN 1495	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulphuric acid and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	(1) Spray, wash, rinse, dip, chiller water, low-temperature immersion baths(e.g., less than 40 degrees F), scald water or other process water for poultry parts, organs and carcasses and; (2) Process water, brine, or ice used for washing, rinsing, storing, or cooling processed and pre-formed poultry products as defined in 21 CFR 170.3(n)(34).	(1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 666 ppm and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 130 ppm.; (2) The level of PAA not to exceed 230 ppm, HP not to exceed 77 ppm and HEDP not to exceed 15 ppm.	Food Contact Substance Notification No. FCN 1514	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulphuric acid, dipicolinic acid (DPA) and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP).	(1) Spray, wash, rinse, dip, chiller water, low-temperature immersion baths(e.g., less than 40 degrees F) or scald water for whole or cut poultry carcasses, parts, trim and organs; (2) Process water, ice or brine used for washing, rinsing, storing, or cooling of processed and pre-formed meat and poultry products as defined in 21 CFR 170.3(n)(29) and 21 CFR 170.3(n)(34)	(1) The level of peroxyacetic acid (PAA) not to exceed 1150 ppm, hydrogen peroxide (HP) not to exceed 235 ppm, 1- hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 2.5 ppm and dipicolinic acid (DPA) not to exceed 0.5 ppm.; (2) The level of PAA not to exceed 230 ppm, HP not to exceed 50 ppm, HEDP not to exceed 0.5 ppm and DPA not to exceed 0.1 ppm .	Food Contact Substance Notification No. FCN 1522	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	(1) Used as a spray, wash, rinse, dip, chiller water, low-temperature (e.g., less than 40 degrees F) immersion baths, or scald water for whole or cut poultry carcasses, parts, trim, and organs. (2) Used in process water or ice used for washing, rinsing, storing, or cooling whole or cut meat, including carcasses, parts, trim, and organs.	(1) Not to exceed 2000 ppm peroxyacetic acid (PAA), 730 ppm hydrogen peroxide (HP), and 14 ppm 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP); (2) Not to exceed 1800 ppm 655 ppm HP, and 12 ppm HEDP	Food Contact Substance Notification No. FCN 1580	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1- hydroxyethylidene-1, 1-dphosphonic acid (HEDP)	Used in water, brine or ice for washing, rinsing, storing, or cooling processed and performed meat/poultry and eggs.	1) An aqueous mixture not exceeding 495 ppm PAA, 180 ppm HP, and 14 ppm HEDP 2) An aqueous mixture not exceeding 230 ppm PAA, 84 ppm HP, and 14 ppm HEDP 3) An aqueous mixture not exceed ing 2000 ppm PAA, 730 ppm HP, and 120 ppm HEDP	Food Contact Substance Notification No. FCN 1622	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1- hydroxyethylidine-1,1-diphosphonic acid (HEDP), dipicolinic acid (DPA), and sulfuric acid	In process water and ice used in spray, wash, rinse, dip (minimum dwell time 1-15 seconds), chiller, or scald water for poultry carcasses, parts, and organs	The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 403 ppm, 1- hydroxyethylidine-1,1-diphosphonic acid (HEDP) not to exceed 5 ppm, dipicolinic acid (DPA) not to exceed 0.88 ppm.	Food Contact Substance Notification No. 1662	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1- hydroxyethylidene- 1,1-diphosphonic acid (HEDP) and optionally sulfuric acid	(1) Used in water or ice for washing, rinsing or cooling meat carcasses, parts, trim, and organs; (2) Used in process water, brine or ice for washing, rinsing, storing, or cooling of processed and pre- formed meat products as defined in 21 CFR 170.3 (n)(29).	(1) An aqueous mixture not exceeding 1800 ppm peroxyacetic acid (PAA), 1215 ppm hydrogen peroxide (HP), 121.5 ppm 1-hydroxyethylidene-1, 1-disphosphonic acid (HEDP); (2) An aqueous mixture not exceeding 495 ppm PAA, 335 ppm HP, and 33.5 ppm HEDP.	Food Contact Substance Notification No. 1688	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	(1) in spray, wash, rinse, dip, chiller water, low-temperature immersion baths, or scald water for whole or cut poultry including carcasses, parts, trim, and organs. (2) In process water or ice used for washing, rinsing, storing, or cooling whole or cut meat including carcasses, parts,	(1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 750 ppm, and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 136 ppm; (2) Not to exceed 1800 ppm PAA, 675 ppm HP, and 33 ppm HEDP.	Food Contact Substance Notification No. 1713	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	(1) Used in spray, wash , rinse, dip (less than or equal to 45 seconds), chiller water (main chiller less than or equal to 120 minutes, pre/post chill less than or equal to 20 seconds), low temperature (e.g. less than 40 degrees F) immersion baths (3-30 seconds), or scald water for whole or cut poultry carcasses, parts, trim, and organs or in water for washing shell eggs; (2) Used in spray, wash, rinse, dip (less than or equal to 45 seconds), chiller water (main chiller less than or equal to 120 minutes, pre/post chill less than or equal to 20 seconds), or scald water for meat carcasses, parts, trim, and organs; (3) Used in process water or ice for washing, rinsing, or cooling of processed and preformed meat products; (4) In water or ice used for washing, rinsing, or cooling processed and preformed poultry products	(1) An aqueous mixture not exceeding 2000 ppm peroxyacetic acid (PAA), 773 ppm hydrogen peroxide (HP), 118 ppm 1-hydroxyethylidene-1, 1-disphosphonic acid (HEDP); (2) An aqueous mixture not exceeding 460 ppm PAA, 177 ppm HP, and 27 ppm HEDP; (3) An aqueous mixture not exceeding 495 ppm PAA, 190 ppm HP, 29 ppm HEDP; (4) 230 ppm PAA, 88 ppm HP, and 14 ppm HEDP.	Food Contact Substance Notification No. FCN 1715	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), and sulfuric acid (optional)	(1) For use as an antimicrobial agent in: brines, sauces, and marinades applied either on the surface or inject into processed or unprocessed, cooked or uncooked, whole or cut, poultry or parts and pieces; (2) surface sauces and marinades applied on processed and preformed meat and poultry products as described in 21 CFR 170.3(n)(29) and (34).	An aqueous mixture not exceeding 50 ppm peroxyacetic acid (PAA), 33 ppm hydrogen peroxide (HP), 3.3 ppm 1- hydroxyethylidene-1,1-diphosphonic acid (HEDP).	Food Contact Substance Notification No. 1726	Non under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture containing peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1- hydroxyethylid ene-1,1-diphosphonic acid (HEDP), and optionally sulfuric acid.	1) in process water and ice used to spray, wash, rinse, or dip meat carcasses, parts, trim, and organs, and in chiller water or scald water for meat carcasses, parts, trim, and organs. (2) in water, brine, and ice for washing, rinsing, or cooling of processed or pre-formed meat products. (3) In water for washing shell eggs. (4) In brines, sauces, and marinades applied either on the surface or injected into processed or unprocessed, raw or ready-to-eat (RTE), whole or cut poultry parts or pieces; and in in surface sauces and in marinades applied on processed and preformed meat and poultry products.	(1) The level not to exceed 1800 ppm peroxyacetic acid (PAA), 409 hydrogen peroxide (HP), and 49 ppm HEDP (2) The level not to exceed 495 ppm PAA, 113 ppm HP, and 14 ppm HEDP. The pH range for the above applications is 2.0 – 8.0; spray contact time: 5 – 60 seconds; spray pressure: 5 – 150 psi; wash and rinse contact time: 5 – 60 seconds; dip dwell time: 5 – 30 seconds. (3) The level not to exceed 2000 ppm PAA, 455 pm HP, and 55 ppm HEDP. (4) The level not to exceed 50 ppm PAA, 11 pm HP, and 1 ppm HEDP.	FCN 1897	None under the accepted conditions of use (1)
Antimicrobials	A mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP), and dipicolinic acid (DPA)	(1) Used in spray, wash, rinse, dip, chiller water, low temperature (e.g., less than 40 ºF) immersion baths, or scald water for whole or cut poultry carcasses, parts, trim, and organs (2) Used in process water or ice used for washing, rinsing, or cooling whole or cut meat, including carcasses, parts, trim, and organs (3) Used in water, brine, or ice used for washing, rinsing, or cooling processed and pre-formed poultry as defined in 21 CFR 170.3(n)(34) (4) Used in water, brine, or ice used for washing, rinsing, or cooling processed and pre-formed meat as defined in 21 CFR 170.3(n)(34)	(1) An aqueous mixture not exceeding 2000 ppm peroxyacetic acid (PAA), 1474 ppm hydrogen peroxide (HP), 14 ppm 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP), and 0.88 ppm dipicolinic acid (DPA); (2) An aqueous mixture not exceeding 1800 ppm PAA, 1215 ppm HP, 12 ppm HEDP, and 0.5 ppm DPA; (3) An aqueous mixture not exceeding 230 ppm PAA, 186 ppm HP, 14 ppm HEDP, and 0.1 ppm DPA; (4) A mixture not exceeding 495 ppm PAA, 335 ppm HP, 14 ppm HEDP, and 0.1 ppm DPA	Food Contact Substance Notification (FCN 1823)	None under the accepted conditions of use (6)
Antimicrobials	An aqueous potassium hydroxide-based solution with proprietary salts	Hide-on carcass wash in spray cabinet	Potassium hydroxide-based wash solution with proprietary salts used at a final concentration of 1.0 - 3.0 oz. of wash solution per gallon of water	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (H_2O_2), acetic acid, optional sulfuric acid and 1-hydroxyethylidene-1,1- diphosphonic acid (HEDP)	1) process water or ice, used for washing, rinsing, or cooling whole or cut meat, including carcasses, parts, trim and organs (2) process water applied as spray, wash, rinse, dip, chiller water, low- temperature (e.g. less than 40°F) immersion baths, or scald water for whole or cut poultry carcasses, parts, trim and organs (3) process water or ice used for washing, rinsing, or cooling of processed and preformed meat and poultry as defined in 21 CFR 170.3(n)(29) and 21 CFR 170.3(n)(34).	(1) The level not to exceed 400 ppm peroxyacetic acid (PAA), 100 ppm hydrogen peroxide, and 5 ppm HEDP; (2) The level not to exceed 2000 ppm PAA, 500 ppm hydrogen peroxide, and 27 ppm HEDP; (3) The level not to exceed 230 ppm PAA, 57 ppm hydrogen peroxide, and 3 ppm HEDP; (4) The level not to exceed 230 ppm PAA, 57 ppm hydrogen peroxide, and 3 ppm HEDP; All applications pH: 1.0-7.0; spray, rinse, wash, dip contact/dwell time: 1-120 seconds; spray pressure: 5-100 psi; chiller water dwell time: 10 seconds-120 minutes.	FCN 1693	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous sodium hydroxide-based solution with proprietary blends of adjuvants	Hide-on carcass wash for cattle and swine	1) sodium hydroxide-based wash solution used at a final concentration of .5-2.0 oz. of wash per gallon of water, alkalinity levels from .2-.7 percent, flow rate of 100-400 gallons per minute, temperature of the wash solution between 40-180°F, contact time of 8-15 seconds, optional post water rinse for 5-10 seconds at a flow rate of 50-100 gallons per minute at a temperature of 50-60°F. 2) Sodium hydroxide-based wash solution used at a final concentration of .5-4 oz. of wash solution per gallon of water, alkalinity levels between .1-1 percent, cabinet pressure rates between 20-100 psi, temperature of the solution between 80-130°F, and a contact time of 8-20 seconds. For edible skin, a fresh water rinse is required. at 50-80°F at 20-100 psi for 5-10 seconds post application.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and optionally sulfuric acid, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), or dipicolinic acid (DPA).	As an antimicrobial agent in: brines, sauces, and marinades to be applied on the surface or injected into processed or unprocessed, cooked or uncooked whole or cut poultry or parts and pieces; (2) surface sauces and marinades applied on processed and preformed meat and poultry products as described in 21 CFR 170.3(n) (29) and (34).	Not to exceed 50 ppm PAA and 18 ppm HP. HEDP not to exceed 6 ppm, or DPA not to exceed 0.44 ppm with processed and preformed meat and poultry; and 0.10 ppm with sauces, and marinades.	Food Contact Substance Notification No. FCN 1654	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and optionally sulfuric acid, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), or dipicolinic acid (DPA)	For use in process water or ice used for washing, rinsing or cooling whole or cut meat, including carcasses, hides, parts, trim and organs.	An aqueous mixture not to exceed 1200 ppm PAA and 275 ppm HP. HEDP not to exceed 33 ppm, or DPA not to exceed 4.00 ppm with poultry carcasses, parts, trim, and organs.	Food Contact Substance Notification No. 1738	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of potassium hydroxide	Hide-on carcass wash in spray cabinet	Solution of potassium hydroxide wash solution used at final concentration 1.5 - 4.0 oz. of wash solution per gallon of water	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous potassium hydroxide solution	Hide-on carcass wash in spray cabinet	Solution of potassium hydroxide solution wash solution used at a final concentration of 0.01 - 0.40 percent (weight per weight)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of sodium diacetate (4 percent), lactic acid (4 percent), pectin (2 percent), and acetic acid (0.5 percent)	Cooked meat products	Aqueous solution of sodium diacetate (4 percent), lactic acid (4 percent), pectin (2 percent), and acetic acid (0.5 percent) not to exceed 0.5 percent of finished product formulation.	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	An aqueous solution of acidic calcium sulfate and lactic acid	Applied as a continuous spray or a dip on raw poultry carcasses, parts, giblets, and ground poultry	Acidic calcium sulfate sufficient for purpose; lactic acid not to exceed 5.0 percent and 55ºC.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of hydrochloric acid, phosphoric acid, and lactic acid	Raw and ready-to- eat (RTE) meat products and in water used in poultry processing	Hydrochloric acid and phosphoric acid-sufficient for purpose; lactic acid not to exceed 5.0 percent	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous solution of citric acid and hydrochloric acid	Permeable and impermeable casings of meat and poultry products applied as a spray, dip, or immersion to casings prior to opening, removal, or slicing operations.	Solution of citric acid and hydrochloric acid adjusted to a pH less than 2.5.	Acceptability determination	None under then accepted conditions of use (1)
Antimicrobials	An aqueous solution of citric acid and hydrochloric acid	Applied to processed and comminuted red meat products in an enclosed mixing, grinding, and/or blending system.	Solution of citric acid and hydrochloric acid adjusted to a pH of 0.5 to 2.0.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A solution of silver dihydrogen citrate stabilized with sodium lauryl sulfate and citric acid.	As an antimicrobial solution applied by spray or dip to reduce the pathogen populations on poultry carcasses, parts, and organs. Not for use in combination with any other silver containing antimicrobial and is not intended to be used in chiller baths.	For use at levels up to 160 ppm silver dihydrogen citrate (as silver) in the spray or dip, stabilized with sodium lauryl sulfate and citric acid, applied to poultry carcasses parts and organs.	Food Contact Substance Notification No. FCN 1768	None under the accepted conditions of use (6)
Antimicrobials	An aqueous solution of hypochlorous acid	(1) in process water or ice which comes into contact with food as a spray, wash, rinse, dip, chiller water, and scalding water for whole or cut meat and poultry, including carcasses, parts, trim, and organs; (2) in process water, ice, or brine used for washing, rinsing, or cooling of processed and preformed meat and poultry products as defined in 21 CFR 170.3(n)(29) and 21 CFR 170.3(n)(34), respectively; (3) in process water for washing or rinsing shell eggs.	(1), (2) Free chlorine not to exceed 50 ppm. pH range is 4.0 – 9.0; spray, rinse, wash, dip contact/dwell time: 1-120 seconds; spray pressure: 5-100 psi; chiller water dwell time: 10 seconds-120 minutes. (3) Free chlorine not to exceed 60 ppm. pH range 4.0 – 9.0; contact time for spray, rinse, wash, dip: 1-120 seconds; spray pressure: 5-100 psi	Food Contact Substance Notification (FCN 1811)	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of silver dihydrogen citrate stabilized with sodium lauryl sulfate and citric acid	As an antimicrobial solution applied by spray or dip to reduce the pathogen populations on poultry carcasses, parts and organs. The FCS is not for use in combination with any other silver containing antimicrobial and is not intended to be used in chiller baths.	For use at levels up to 30 ppm silver dihydrogen citrate in the spray or dip, stabilized with sodium lauryl sulfate and citric acid, applied to poultry carcasses parts and organs.	Food Contact Substance Notification No. FCN 1569	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous solution of sodium octanoate or octanoic acid and either glycerin and/or propylene glycol and/or a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of octanoic acid emulsification) adjusted to a final solution pH of 1.5 to 4.0 using sodium hydroxide, potassium hydroxide, or an acceptable GRAS acid	Various non-standardized RTE meat and poultry products and standardized meat and poultry products that permit the use of any safe and suitable antimicrobial agent	Solution of sodium octanoate or octanoic acid and either glycerin and/or propylene glycol and/or a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of octanoic acid emulsification) adjusted to a final solution pH of 1.5 to 4.0 using sodium hydroxide, potassium hydroxide, or an acceptable GRAS acid applied to the surface of the product at a rate not to exceed 400 ppm octanoic acid by weight of the finished food product	Acceptability determination	None under the accepted conditions of use (3)
Antimicrobials	An aqueous solution of sodium octanoate, potassium octanoate, or octanoic acid and either glycerin and/or propylene glycol and/or a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of octanoic acid emulsification) adjusted to a final solution pH of 1.5 to 6.0 using sodium hydroxide, potassium hydroxide, or an acceptable GRAS acid	Fresh meat primals and subprimals and cuts	Solution of sodium octanoate, potassium octanoate, or octanoic acid and either glycerin and/or propylene glycol and/or a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of octanoic acid emulsification) adjusted to a final solution pH of 1.5 to 6.0 using sodium hydroxide, potassium hydroxide, or an acceptable GRAS acid applied to the surface of the product at a rate not to exceed 400 ppm octanoic acid by weight of the final product	Acceptability determination	None under the accepted conditions of use (3)
Antimicrobials	An aqueous solution of sulfuric acid and sodium sulfate	In the form of a spray, wash, or dip on the surface of meat (beef and pork) and poultry products processing.	Solution of sulfuric acid and sodium sulfate at concentrations sufficient to achieve a targeted pH range of 1.0 - 2.2 on the surface of meat and poultry	GRAS Notice No. 000408	None under the accepted conditions of use (2)
Antimicrobials	An aqueous solution of sulfuric acid, citric acid, and phosphoric acid	Process water applied to poultry parts, trim, organs, and carcasses as a spray, wash, rinse, dip, chiller water, or scald water.	Solution of sulfuric acid, citric acid, and phosphoric acid sufficient for purposes.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of citric and hydrochloric acids adjusted to a pH of 1.0 to 2.0	Poultry carcasses, parts, trim, and organs	An aqueous solution of citric and hydrochloric acids adjusted to a pH of 1.0 to 2.0 applied as a spray or dip with a minimum contact time of 2 to 5 seconds pH measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous solution of citric and hydrochloric acids adjusted to a pH of 0.5 to 2.0	Meat carcasses, parts, trim, and organs	An aqueous solution of citric and hydrochloric acids adjusted to a pH of 1.0 to 2.0 applied as a spray or dip for a contact time of 2 to 5 seconds ph measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A blend of citric acid (1.8 percent), phosphoric acid (1.72 percent), and hydrochloric acid (0.8 percent)	Poultry carcasses	A blend of citric acid (1.87 percent), phosphoric acid (1.72 percent), and hydrochloric acid (0.8 percent) applied as a spray with a minimum contact time of 1 to 2 seconds and allowed to drip from the carcasses for 30 seconds	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A blend of citric acid and sorbic acid in a 2:1 ratio	To reduce the microbial load of purge trapped inside soaker pads in packages of raw whole muscle cuts of meat and poultry	Blend of citric acid and sorbic acid in a 2:1 ratio incorporated into soaker pads at a level not to exceed 1 to 3 grams per pad.	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	A blend of lactic acid (45-60 percent), citric acid (20-35 percent), and potassium hydroxide (greater than 1 percent)	Poultry, beef, pork, and lamb carcasses, heads, and organs including unskinned livers (outer membrane intact); skinned livers (outer membrane removed) tongues, tails, primal cuts, sub-primal cuts, cuts, and trimmings. Skinned livers must be drained for a minimum of 1-2 minutes after application and before packaging.	Blend of lactic acid (45-60 percent), citric acid (20-35 percent), and potassium hydroxide (greater than 1 percent)applied as a spray or dip at a level not to exceed 2.5 percent solution by weight.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A blend of lactic acid, polysorbate 80, and xanthan gum	As an antimicrobial agent in the processing of beef heads and carcasses	Not to exceed 5 percent lactic acid solution, not to exceed 0.07 percent polysorbate 80, and not to exceed 0.05 percent xanthan gum; applied as a spray; exposure time 5-30 seconds, pressure 20- 60 psi, temperature 18-55 degrees C.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A blend of salt, sodium acetate, lemon extract, and grapefruit extract	Ground beef, cooked, cured, comminuted sausages (e.g., bologna), and RTE whole muscle meat products	Blend of salt, sodium acetate, lemon extract, and grapefruit extract not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement for the RTE whole muscle meat products, and cooked, cured, comminuted sausages. Ground beef must be descriptively labeled (4)
Antimicrobials	A blend of salt, sodium acetate, lemon extract, and grapefruit extract	Beef steaks	Blend of salt, sodium acetate, lemon extract, and grapefruit extract dipped in a solution containing 2. percent of the blend	Acceptability determination	Product must be descriptively labeled (4)
Antimicrobials	A blend of salt, lemon extract, and grapefruit extract	Ground beef	Blend of salt, lemon extract, and grapefruit extract not to exceed 0.5 percent of the product formulation	Acceptability determination	Product must be descriptively labeled (4)
Antimicrobials	A blend of salt, lactic acid, sodium diacetate, and mono- and diglycerides	Various non-standardized RTE meat and poultry products and standardized meat and poultry products that permit the use of any safe and suitable antimicrobial agent	Blend of salt, lactic acid, sodium diacetate, and mono- and diglycerides not to exceed 0.2 percent of product formulation	Acceptability determination	All ingredients, except for the mono- and diglycerides, must be listed by common or usual name in the ingredients statement (4)
Antimicrobials	A mixture of hops beta acids, egg white lysozyme, and cultured skim milk	In a salad dressing used in refrigerated meat and poultry deli salads	Mixture of hops beta acids, egg white lysozyme, and cultured skim milk not to exceed 1.5 percent of the finished salad	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	A natural source of nitrate	As an antimicrobial agent in any meat or poultry product that is fermented, immersion cured or dry cured.	For use as a component in the product formulation based upon the support on file for minimum amount of nitrate and minimum times for fermentation, aging, and/or curing. **NOTE: Maximum limits for cured products in 9 CFR 424.22 and 9 CFR 424.21(c) should be used for natural sources of nitrate.**	Acceptability determination	Listed by common or usual name in the ingredients statement (1). **Products required to contain curing agents and sometimes cure accelerators approved for use in 9 CFR 424.21 (c) as part of a standard of identity in 9 CFR 319 or 317.17 (b) but instead are formulated with natural sources of these ingredients** must be labeled as uncured under 9 CFR 317.17 and 319.2. The statement “no nitrates or nitrites added” needs to be qualified with the statement * except for those naturally occurring in [insert name of
Antimicrobials	A combination of natural source of nitrite and natural source of ascorbate	As an antimicrobial agent in any meat or poultry product (including ground, formed, or whole muscle meat) that will be heat-treated and processed to be NRTE or RTE.	For use as a component in the product formulation at 1) a rate of a minimum 75 ppm of nitrite from natural sources and minimum 500 ppm of ascorbate from natural sources or 2) a rate of a minimum 100 ppm of nitrite from natural sources and minimum 250 ppm of ascorbate from natural sources by weight of the finished food product. NOTE: Maximum limits for nitrite in bacon and other cured products in 9 CFR 424.22 and 9 CFR 424.21(c) apply to natural sources used instead of pure sodium nitrite. Maximum limits for ascorbate in 9 CFR 424.21(c) also apply to this use.	Acceptability determination	Listed by common or usual name in the ingredients statement (1). The products must be labeled as uncured under 9 CFR 317.17. The statement 'no nitrates or nitrites added' needs to be qualified with the statement * except for those naturally occurring in [insert name natural source of nitrate]
Antimicrobials	A combination of sulfuric acid, ammonium sulfate, and water	Used as an acidifier in poultry processing water	Combination of sulfuric acid, ammonium sulfate, and water sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture containing peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1- hydroxyethylidene- 1,1-diphosphonic acid (HEDP), dipicolinic acid (DPA), and optionally sulfuric acid	1) in process water applied as a spray, wash, rinse, dip, chiller water, low-temperature immersion baths or scald water for whole or cut poultry and meat carcasses, parts and trim (2) in process water, ice, or brine used for washing, rinsing, or cooling of processed and preformed meat and poultry	(1) The level not to exceed 2000 ppm PAA, 1474 HP, 118 ppm HEDP and 0.5 ppm DPA (2) The level not to exceed 495 ppm PAA, 365 ppm HP, 29 ppm HEDP and 0.1 DPA For (1) and (2): pH range: 2.0-8.0; Spray contact time: 5 – 120 seconds; Spray pressure: 10 – 90 psi; Wash, rinse and dip contact time: 5 – 30 seconds	Food Contact Substance Notification No. FCN 1936	None under the accepted conditions of use (1)
Antimicrobials	A mixture of maltodextrin (DE of 5 or greater), cultured dextrose, sodium diacetate, egg white lysozyme, and nisin preparation	In salads, sauces, and dressings to which fully cooked meat or poultry will be added	Mixture of maltodextrin (DE of 5 or greater), cultured dextrose, sodium diacetate, egg white lysozyme, and nisin preparation not to exceed 1.5 percent by weight of the finished product	Acceptability determination	Listed by common or usual name in the ingredients statement (4)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1- hydroxyethylidene-1,1-diphosphonic acid (HEDP)	(1) Spray, wash, rinse, dip, chiller water, low-temperature (e.g., less than 40 degrees F) immersion baths, scald water for whole or cut poultry carcasses, parts, trim, skin on or off, organs, and egg shell washes; (2) Water or ice used for washing, rinsing, storing, or cooling whole or cut meat, including carcasses, parts, trim, organs and; (3) Water, ice, or brine used for washing, rinsing, storing, or cooling of processed and pre-formed meat as defined in 21 CFR 170.3(n)(29) and poultry as defined in 21 CFR 170.3(n)(34).	(1) The level of peroxyacetic acid (PAA) not to exceed 2000 ppm, hydrogen peroxide (HP) not to exceed 933 ppm and1- hydroxyethylidene-1,1-diphosphonic acid (HEDP) not to exceed 120 ppm; (2) The level of PAA not to exceed 400 ppm, HP not to exceed 187 ppm and HEDP not to exceed 24 ppm; (3) The level of PAA not to exceed 230 ppm, HP not to exceed 107 ppm and HEDP not to exceed 14 ppm.	Food Contact Substance Notification No. FCN 1501	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), water, and optionally sulfuric acid	(1) Process water used for wash, rinse, dip, chill, scald, spray, and mist in meat and poultry carcasses, parts, trim, and organ; (2) Use in brine and ice in contact with poultry and meat carcasses, parts, trim, and organs; and process water, ice, or brine for washing, rinsing, or cooling processed and preformed meat and poultry products	(1) The level of peroxyacetic acid (PAA) will not exceed 2000 ppm, hydrogen peroxide (HP) will not exceed 892 ppm, and 1-hydroxyethylidene-1, 1-disphosphonic acid (HEDP) will not exceed 7 ppm; (2) The level of PAA will not exceed 495 ppm, HP will not exceed 221 ppm, and HEDP will not exceed 1.7 ppm.	Food Contact Substance Notification No. 1844	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid (AA), 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), and optionally sulfuric acid (SA).	1) In process water applied as a wash, spray, dip, rinse, chiller water, low-temperature (less than 40°F) immersion bath, or scald water for whole or cut poultry carcasses, parts, trim, and organs; 2) in process water or ice used in washing, rinsing, or cooling whole or cut meat carcasses, parts, trim, and organs; 3) in process water, ice, or brine used in washing, rinsing, or cooling processed and pre-formed meat products; 4) in process water, ice, or brine used in washing, rinsing, or cooling processed and pre-formed poultry products; 5) in brines, marinades, and sauces applied to the surface or injected into processed or unprocessed, cooked or uncooked whole or cut poultry; in sauces and marinades applied to the surface of processed and preformed meat and poultry products; 6) in process water used in washing shell eggs.	1) 2000 ppm PAA, 800 ppm HP, and 133 ppm HEDP 2) 1800 ppm PAA, 700 ppm HP, and 120 ppm HEDP 3) 495 ppm PAA, 193 ppm HP, and 33 ppm HEDP 4) 230 ppm PAA, 90 ppm HP, and 15 ppm HEDP pH range for the above applications: 2.0 – 12.0; spray contact time: 0.5 – 15 seconds; wash and rinse contact time: 0.5-120 seconds; spray pressure: 5 – 120 psi; dip dwell time: 0.5-60 seconds 5) 50 ppm PAA, 17 ppm HP, and 4 ppm HEDP 6) 2000 ppm PAA, 800 ppm HP, and 120 ppm HEDP	FCN 1986 (previously FCN 1867)	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulfuric acid (optional) and 1- hydroxyethylidene-1,1-diphosphonic acid (HEDP)	(1) process water and ice used to spray, wash, rinse, or dip meat carcasses, parts, trim, and organs, and in chiller water or scald water for meat carcasses, parts, trim, and organs; (2) process water and ice used to spray, wash, rinse, or dip poultry carcasses, parts, trim, and organs and in chiller water, immersion baths (e.g., less than 40° F), or scald water for poultry carcasses, parts, trim, and organs (3) in water, brine, and ice for washing, rinsing, or cooling of processed or pre-formed meat products; (4) water, brine, and ice for washing, rinsing, or cooling of processed or pre-formed poultry products; (5) in brines, sauces, and marinades applied either on the surface or injected into processed or unprocessed, raw and ready- to-eat (RTE) poultry parts and pieces; and in surface sauces and in marinades applied on processed and preformed meat and poultry products; (6) in water for washing shell eggs.	(1) The level not to exceed 1200 ppm PAA, 862 HP, and 60 ppm HEDP; (2) The level not to exceed 2000 ppm PAA, 1436 ppm HP, and 100 ppm HEDP; (3) The level not to exceed 466 ppm PAA, 335 ppm HP, and 23 ppm HEDP; (4) The level not to exceed 230 ppm PAA, 165 ppm HP, and 12 ppm HEDP; pH range for above applications is 2.0 – 8.0; spray contact time: 5 – 60 seconds; spray pressure: 5 – 150 psi; wash and rinse contact time: 5-60 seconds; dip dwell time: 5-30 seconds. (5) The level not to exceed 46 ppm PAA, 33 pm HP, and 2 ppm HEDP and; (6) The level not to exceed 1200 ppm PAA, 862 pm HP, and 60 ppm HEDP	Food Contact Notification (FCN 1872)	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidine-1,1-diphosphonic acid (HEDP), and optionally sulfuric acid and/or dipicolinic acid (DPA)	1) in process water and ice used to spray, wash, rinse, or dip meat carcasses, parts, trim, and organs; in chiller water or scald water for meat carcasses, parts, trim, and organs; process water and ice used to spray, wash, rinse or dip poultry carcasses, parts, trim, and organs and in chiller water, immersion baths (e.g., less than 40 °F), or scald water for poultry carcasses, parts, trim, and organs; 2) in water, brine, and ice for washing, rinsing, or cooling of processed and pre-formed meat products 3) in water, brine, and ice for washing, rinsing, or cooling of processed and pre-formed poultry products; 4) in water for washing shell eggs; 5) in brines, sauces, and marinades applied either on the surface or injected into processed or unprocessed, cooked, or uncooked, whole or cut poultry parts and pieces and surface sauces and marinades applied on processed and pre-formed meat and poultry products.	1) At levels not to exceed 2000 ppm PAA, 947 ppm HP, 116 ppm HEDP and 0.5 ppm DPA; 2) At levels not to exceed 495 ppm PAA, 234 ppm HP, 29 ppm HEDP, and 0.1 ppm DPA; 3) At levels not to exceed 230 ppm PAA, 109 ppm HP, 13 ppm HEDP, and 0.1 ppm DPA;pH range for the above applications: 1.0 –9.0; spray, wash and rinse contact time: 1 – 60 seconds; spray pressure: 5 – 60 psi; dip dwell time: 2-60 seconds; chiller water dwell time: 10-180 minutes. 4) At levels not to exceed 2000 ppm PAA, 947 ppm HP, and 116 ppm HEDP; pH: 1.0-9.0. 5) At levels not to exceed 50 ppm PAA, 24 ppm HP, and 3 ppm HEDP.	Food Contact Notification (FCN) 1960	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobial	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxethylidine-1,1-disphonic acid (HEDP) and/or dipicolinic acid (DPA), and optionally, sulfuric acid.	(1) In process water, ice or brine applied as a wash, spray, dip, rinse, chiller water, low-temperature (less than 40 ◦F) immersion bath, or scald water for whole or cut poultry, including carcasses, parts, trim and organs (2) In process water, ice or brine for washing, rinsing, storing or cooling processed and pre-formed (RTE) poultry as defined in 21 CFR 170.3 (n)(34) (3) In process water, ice or brine applied as a wash, spray, dip, rinse, chiller water, low-temperature (less than 40 ◦F) immersion bath, or scald water for whole or cut meat, including carcasses, parts, trim and organs (4) In process water, ice or brine for washing, rinsing, storing or cooling processed and pre-formed (RTE) meat as defined in 21 CFR 170.3(n)(29)	(1) Not to exceed 2000 ppm PAA, 1474 ppm HP, 136 ppm HEDP and 6.7 ppm DPA; (2) Not to exceed 495 ppm PAA, 1180 ppm HP, 29 ppm HEDP and 0.44 ppm DPA; (3) Not to exceed 2000 ppm PAA, 1474 ppm HP, 121.5 ppm HEDP and 6.7 ppm DPA; (4) Not to exceed 495 ppm PAA, 1180 ppm HP, 33.5 ppm HEDP and 0.44 ppm DPA. All applications pH range: 1 – 11; spray/rinse/wash/dip wet time: 2–60 seconds; spray pressure: 5-170 psi; raw meat and poultry brine or chiller tank dwell time: 5 seconds–180 minutes; RTE meat and poultry brine tank dwell time: 5 seconds– 7 hours. Use a PAA test kit or in-line monitor to verify the PAA concentration in the water or brine.	Food Contact Substance Notification No. FCN 2046 (replaces FCN 1745, FCN 1495, FCN 1236, FCN 1096, and FCN 140)	None under the accepted conditions of use (1).
Antimicrobials	A mixture of sodium acetate, sodium diacetate, and Carnobacterium maltaromaticum strain CB1 (viable and heat-treated)	Meat and poultry product	Mixture of sodium acetate, sodium diacetate, and Carnobacterium maltaromaticum strain CB1 (viable and heat-treated) not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	Acidified sodium chlorite	Poultry carcasses and parts; meat carcasses, parts, and organs; processed, comminuted, or formed meat food products (including RTE)	500 to 1200 ppm of sodium chlorite in combination with any GRAS acid at a level sufficient to achieve a pH of 2.3 to 2.9 in accordance with 21 CFR 173.325 (Note: The pH depends on the type of meat or poultry product.)	21 CFR 173.325	None under the accepted conditions of use (3)
Antimicrobials	Acidified sodium chlorite	Processed, comminuted or formed poultry products (including RTE)	500 to 1200 ppm of sodium chlorite in combination with any GRAS acid at a level sufficient to achieve a pH of 2.3 to 2.9 in accordance with 21 CFR 173.325 *(Note: The pH depends on the type of meat or poultry product.)*	Acceptability determination	None under the accepted conditions of use (3)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Acidified sodium chlorite	Poultry carcasses, parts, trim, and organs	Mixing an aqueous solution of sodium chlorite with any GRAS acid to achieve a pH of 2.2 to 3.0 then further diluting this solution with a pH elevating agent (i.e., sodium bicarbonate, sodium carbonate, or an un-acidified sodium chlorite solution) to a final pH of 3.5 to 7.5. When used in a spray or dip the final sodium chlorite concentration does not exceed 1200 mg/kg and the chlorine dioxide concentration does not exceed 30 mg/kg. When used in a pre-chiller or chiller solution on poultry carcasses and parts the additive is used at a level that results in sodium chlorite concentrations between 50 and 150 ppm. Contact times may be up to several minutes at temperatures between 0 and 15 degrees C.	Food Contact Substance Notification No. FCN 739	None under the accepted conditions of use (6)
Antimicrobials	Acidified sodium chlorite	Red meat, red meat parts and organs, and on processed, comminuted, formed meat products (including RTE)	Applied as a spray or dip, the additive is produced by mixing an aqueous solution of sodium chlorite with any GRAS acid to achieve a pH in the range of 2.2 to 3.0, then further diluting this solution with a pH elevating agent such that the resultant sodium chlorite concentration does not exceed 1200 ppm, and the chlorine dioxide concentration does not exceed 30 ppm. The pH of the use solution is between 3.5 and 7.5	Food Contact Substance Notification No. FCN 450	None under the accepted conditions of use (6)
Antimicrobials	Ammonium hydroxide	Beef carcasses (in hot boxes and holding coolers)and boneless beef trimmings	Ammonium hydroxide used in accordance with current industry standards of good manufacturing practice	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Anhydrous ammonia	Lean finely textured beef which is subsequently quick chilled to 28 degrees Fahrenheit and mechanically 'stressed'	Anhydrous ammonia used in accordance with current industry standards of good manufacturing practice	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Anhydrous ammonia	Ground beef which is subsequently quick chilled to 28 degrees Fahrenheit and mechanically 'stressed'	Anhydrous ammonia used in accordance with current industry standards of good manufacturing practice	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Anhydrous ammonia	Ground beef	Anhydrous ammonia followed with carbon dioxide treatment in accordance with current industry standards of good manufacturing practice	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A blend of salt, vinegar, lemon extract, and grapefruit extract	Antimicrobial agent in ground beef	Not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed as “Salt, vinegar, lemon extract, grapefruit extract” in the ingredients statement. Ground beef must be descriptively labeled, for example, ‘ground beef with vinegar salt and natural flavoring (2).
Antimicrobials	A blend of dextrose, vinegar, salt, flavorings, and olive oil	RTE meat products	Not to exceed 1.0 percent of the product formulation	Acceptability determination	Listed as “dextrose, vinegar, salt, flavorings, and olive oil” in the ingredients statement (4)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	A proprietary blend of sodium acetate, salt, nisin preparation, and malic acid	Cooked meat and poultry products	Not to exceed 4.4 grams/kg for cooked meat or poultry products, with nisin preparation not to exceed 220 ppm of the product formulation.	21 CFR 184.1721, 9 CFR 424.21, GRN 000065, 21 CFR 184.1069	Listed by common or usual name (i.e. sodium acetate, salt, nisin preparation, and malic acid) in the ingredient statement (2)
Antimicrobials	A proprietary blend of sodium acetate, malic acid and nisin preparation.	Cooked meat and poultry products	Not to exceed 2 grams/kg for cooked meat or poultry products, with nisin preparation not to exceed 60 ppm of the product formulation.	21 CFR 184.1721 9 CFR 424.21 GRN 000065 21 CFR 184.1069	Listed by common or usual name (i.e. sodium acetate, malic acid and nisin preparation) in the ingredient
Antimicrobials	A proprietary vinegar, spice extractive and natural flavor	A proprietary blend of vinegar, spice extractives and natural flavor to be applied as an antimicrobial for raw meat and poultry products.	A proprietary vinegar, spice extractive and natural flavor less than or equal to 2.1 percent on the surface of raw meat and poultry parts in liquid form; 1percent of product formulation in liquid form to raw meat and poultry products as an inject, vacuum- tumble, spray or dip; less than or equal to 1.0 percent of ground product formulation in spray-dried form	Acceptability determination	Listed as “vinegar with natural flavoring' in the ingredients statement for various non- standardized meat and products and on standardized meat and poultry products where antimicrobial agents are permitted. Meat and poultry standardized products that do not permit the use of any safe and suitable antimicrobial agents, for example, ground beef, must be descriptively labeled, for example 'ground beef (ground pork or ground turkey) with vinegar and natural flavoring.' (4)
Antimicrobials	A tablet composed of calcium hypochlorite, sodium chloride, calcium hydroxide, calcium chlorate, calcium carbonate, pentasodium triphosphate, and calcium chloride adjusted to a final solution pH of 6.2 -7.0 using citric acid, sodium bisulfate or other approved acidifier	Poultry carcasses in scald tanks.	An aqueous mixture not exceeding 400 ppm total chlorine at a controlled pH of 6.2 to 7.0 in scalder make-up water to achieve 0.5 ppm free chlorine residual in the scalder tank	Acceptability determination Sodium bisulfate; GRAS No. 000003 Citric acid; 9 CFR 424.21	None under the accepted conditions of use (1)(2)
Antimicrobials	Bacteriocin preparations specific to Salmonella	An antimicrobial treatment of intact meat, intact poultry, and egg products	0.1-3 mg per kg of treated food.	GRAS Notice No. 824	None under the accepted conditions of use (1)
Antimicrobials	Bacteriophage preparation (Salmonella targeted)	On the hides of live animals in the holding pens prior to slaughter	Bacteriophage preparation (Salmonella targeted) applied as a spray mist or wash	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Bacteriophage preparation (containing five bacterial monophages specific to Shigella spp.)	RTE meat and poultry products	Bacteriophage preparation (containing five bacterial monophages specific to Shigella spp.) applied as a spray at levels up to 1 x 10^8 PFU/g of food.	GRASNotice No. 000672	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Bacteriophage preparation (E. coli O157:H7 targeted)	On the hides of live animals (cattle) in the holding pens prior to slaughter and hide removal	Bacteriophage preparation (E. coli O157:H7 targeted) applied as a spray, mist, rinse or wash to the hides of live animals (cattle) within lairage, restraining areas, stunning areas, and other stations immediately prior to hide removal.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Bacteriophage preparation (Salmonella targeted)	On the feathers of live poultry prior to slaughter	Bacteriophage preparation (Salmonella targeted) applied as a spray mist or wash	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Bacteriophage preparation (Salmonella targeted)	Ready-to-eat (RTE) poultry products prior to slicing and on raw poultry prior to grinding, including carcasses and parts applied as a spray; ready-to-eat (RTE) and raw red meat prior to grinding, including carcasses, subprimals, and trimmings.	Bacteriophage preparation (Salmonella targeted) applied as a spray up to 10^7 plaque forming units (pfu) per gram of food product	GRAS Notice No. 000435	None under the conditions of use (1)
Antimicrobials	Bacteriophage preparation (a mixture of equal proportions of six different individually purified lytic-type bacteriophages specific against Listeria monocytogenes)	Various RTE meat and poultry products	Bacteriophage preparation (a mixture of equal proportions of six different individually purified lytic-type bacteriophages specific against Listeria monocytogenes) applied as a spray at a level not to exceed 1 ml of the additive per 500 cm^2 product surface area	21 CFR 172.785	None under the conditions of use (1). Standardized meat and poultry products that do not permit the use of any safe and suitable antimicrobial agent must be descriptively labeled. (4)
Antimicrobials	Bacteriophage P100 preparation containing potassium lactate	Various RTE meat and poultry products as an antimicrobial agent against Listeria monocytogenes	Bacteriophage P100 preparation applied to the surface of the product to achieve a level of 1 x 10^7 to 1 x 10^9 plaque forming units (pfu) per gram of product. Potassium lactate not to exceed 50 ppm	GRAS Notice No. 000218	None under the accepted conditions of use (1)
Antimicrobials	Bacteriophage preparation (containing two E. Coli O157-specific phage preparations)	Beef carcasses, primals, subprimal cuts, and trimmings	Spray, mist, or wash application (or a mix of these application methods)	GRAS Notice No. 00757	None under the accepted conditions of use (1)
Antimicrobials	Bacteriophage preparation	Red meat parts and trim prior to grinding	at levels up to 1x10^9 PFU/g of food	Food Contact Substance Notification No. FCN 1018	None under the accepted conditions of use. (1)
Antimicrobials	Blend of cultured dextrose, vinegar, and maltodextrin	For use as an antimicrobial in cured and uncured meat and poultry products, raw meat and poultry and RTE formulated products	Blend of cultured dextrose, vinegar, and maltodextrin, not to exceed 1.5 percent of the product formulation	Acceptability determination	The mixture will require labeling as 'cultured dextrose(s), vinegar' in the ingredients statement.
Antimicrobials	Calcium hypochlorite	Red meat carcasses down to a quarter of a carcass	Calcium hypochlorite applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	On whole or eviscerated poultry carcasses	Calcium hypochlorite applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	In water used in meat processing	Calcium hypochlorite not to exceed 5 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	In water used in poultry processing (except for product formulation)	Calcium hypochlorite not to exceed 50 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	Poultry chiller water	Calcium hypochlorite not to exceed 50 ppm calculated as free available chlorine (measured in the incoming potable water)	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Calcium hypochlorite	Poultry chiller red water (i.e., poultry chiller water re-circulated, usually through heat exchangers, and reused back in the chiller)	Calcium hypochlorite not to exceed 5 ppm calculated as free available chlorine (measured at influent to chiller)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	Reprocessing contaminated poultry carcasses	Calcium hypochlorite 20 ppm calculated as free available chlorine Note: Agency guidance has allowed the use of up to 50 ppm calculated as free available chlorine	9 CFR 381.91	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	On giblets (e.g., livers, hearts, gizzards, and necks) and salvage parts	Calcium hypochlorite not to exceed 50 ppm calculated as free available chlorine in the influent to a container for chilling.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Calcium hypochlorite	Beef primals	Calcium hypochlorite 20 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Carbon Monoxide, Carbon Dioxide and Nitrogen gas as part of a modified atmosphere packaging (MAP)	To extend the shelf life and stabilize the color of red meat sausages, poultry sausages and sausages made with red meat / poultry blend.	The use of carbon monoxide (up to 0.4 percent), carbon dioxide (20 percent) and remaining balance of nitrogen as part of the modified atmosphere packaging system.	Acceptability determination	Packages will be lot coded with a manufacturing date during initial production. Before shipping to retailers, product must be labeled with the “Use or Freeze By” date. None under the accepted conditions of use (2)
Antimicrobials	*Carnobacterium maltaromaticum* strain CB1	Ready-to-eat comminuted meat products (e.g., hot dogs)	*Carnobacterium maltaromaticum* strain CB1applied as a spray to meat products at a maximum concentration of inoculation of $1X10^4$ colony forming units per gram (cfu/g)	GRAS Notice No. 000159	Listed as “*Carnobacterium maltaromaticum”* or “bacterial culture” in the ingredients statement (2)
Antimicrobials	*Carnobacterium maltaromaticum* strain CB1 (viable and heat-treated)	Ready-to-eat meat products; meat and poultry products	Viable *Carnobacterium maltaromaticum* strain CB1 applied at levels up to 1 X 10^9 colony forming units per gram (cfu/g). Heat-treated CB1 applied at levels up to 5000 (typically between 1000-5000) parts per million (ppm)	GRAS Notice No. 000305	Listed as “*Carnobacterium maltaromaticum”* or “bacterial culture” in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Cetylpyridinium chloride (The solution shall also contain propylene glycol complying with 21 CFR 184.1666 at a concentration of 1.5 times that of cetylpyridinium chloride)	To treat the surface of raw poultry carcasses or giblets, or raw poultry parts (skin-on or skinless)	Cetylpyridinium chloride as a fine mist spray of an ambient temperature aqueous solution applied to raw poultry carcasses/parts prior to immersion in a chiller, at a level not to exceed 0.3 gram cetylpyridinium chloride per pound of raw poultry carcass/parts, provided that the additive is used in systems that collect and recycle solution that is not carried out of the system with the treated poultry carcasses/parts, or Except when used as an immersion such as a dip tank, a liquid aqueous solution applied to raw poultry carcasses/parts either prior to or after chilling at an amount not to exceed 5 gallons of solution per carcass, provided that the additive is used in systems that recapture at least 99 percent of the solution that is applied to the poultry carcasses/parts. The concentration of cetylpyridinium chloride in the solution applied to the carcasses/parts shall not exceed 0.8 percent by weight. When application of the additive is not followed by immersion in a chiller, the treatment will be followed by a potable water rinse of the carcass/parts. The potable water may contain up to 50 ppm free available chlorine.	21 CFR 173.375	None under the accepted conditions of use (3)
Antimicrobials	Cetylpyridinium chloride (The solution shall also contain propylene glycol complying with 21 CFR 184.1666 at a concentration of 1.5 times that of cetylpyridinium chloride)	To treat the surface of raw poultry carcasses or parts (skin-on or skinless)	Immersion such as a dip tank application to treat poultry carcasses/parts not to exceed a 10-second dwell time in aqueous solution of cetylpyridinium chloride. The concentration shall not exceed 0.8 percent by weight. When application of the additive is not followed by immersion in a chiller, the treatment will be followed by a potable water rinse. The potable water may contain up to 50 ppm free available chlorine.	Acceptability determination	None under the accepted conditions of use (3)
Antimicrobials	Chlorine dioxide	An antimicrobial agent to be applied to red meat (including meat parts and organs), processed, comminuted, or formed meat products.	Applied as a spray or dip at a level not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500- Cl02 E in the 'Standard Methods for the Examination of Water and Wastewater,' 18th ed., 1992, or an equivalent method. The application of chlorine dioxide on red meat (including meat parts and organs), processed, comminuted, or formed meat products shall be followed by a potable water rinse or by blanching, cooking, or canning.	Food Contact Substance Notification No. FCN 1578	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Chlorine dioxide	In water used in poultry processing	At levels not to exceed 3 ppm residual chlorine dioxide (FCN 001123), and in accordance with 21 CFR 173.300	Food Contact Substance Notification No. FCN 001123	None under the accepted conditions of use (6)
Antimicrobials	Chlorine dioxide	In water used in poultry processing	Not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-ClO_2 E in the 'Standard Methods for the Examination of Water and Wastewater,' 18th ed., 1992, or an equivalent method	21 CFR 173.300	None under the accepted conditions of use (3)
Antimicrobials	Chlorine dioxide	In water used in poultry processing	Not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-ClO2-D, modified for use with the Hach Spectrophotometer, or UV absorbance at 360 nm. (2) Chlorine dioxide produced through the “CLOSURE” process produces a concentrated solution that contains at least 600 ppm chlorine dioxide, and no greater than 10 ppm chlorite and 90 ppm chlorate	Food Contact Substance Notification No. FCN 644	None under the accepted conditions of use (6)
Antimicrobials	Chlorine dioxide	In water used in poultry processing	Not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-ClO_2 E in the “Standard Methods for the Examination of Water and Wastewater,” 20th ed., 1998, or an equivalent method	Food Contact Substance Notification No. FCN 1011	None under the accepted conditions of use (6)
Antimicrobials	Chlorine dioxide	Red meat, red meat parts and organs; processed, comminuted, or formed meat food products	Applied as a spray or dip at a level not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-ClO_2 E in the “Standard Methods for the Examination of Water and Wastewater,' 18th ed., 1992, or an equivalent method	Food Contact Substance Notification No. FCN 668	None under the accepted conditions of use (6)
Antimicrobials	Chlorine dioxide	Red meat, red meat parts and organs; processed, comminuted, or formed meat food products	Applied as a spray or dip at a level not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-ClO_2 E in the 'Standard Methods for the Examination of Water and Wastewater,' 20th ed., 1998, or an equivalent method	Food Contact Substance Notification No. FCN 1052	None under the accepted conditions of use (6)
Antimicrobials	Chlorine dioxide	Ready-to-eat meats	The FCS will be applied as a spray or dip, unless precluded by standards of identity in 9 CFR 319, prior to the packaging of food for commercial purposes in accordance with current industry good manufacturing practice. The FCS will be applied in an amount not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-C102-E in the “Standard Methods for the Examination of Water and Wastewater; 20th ed.., 1998”, or an equivalent method.	Food Contact Substance Notification No. FCN 1158	None under accepted conditions of use.
antimicrobials	Chlorine gas	Red meat carcasses down to a quarter of a carcass	Chlorine gas applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
antimicrobials	Chlorine gas	On whole or eviscerated poultry carcasses	Chlorine gas applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Chlorine gas	In water used in meat processing	Chlorine gas not to exceed 5 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Chlorine gas	In water used in poultry processing (except for product formulation)	Chlorine gas not to exceed 50 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Chlorine gas	Poultry chiller water	Chlorine gas not to exceed 50 ppm calculated as free available chlorine (measured in the incoming potable water)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Chlorine gas	Poultry chiller red water (i.e., poultry chiller water re-circulated, usually through heat exchangers, and reused back in the chiller)	Chlorine gas not to exceed 5 ppm calculated as free available chlorine (measured at influent to chiller)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Chlorine gas	Reprocessing contaminated poultry carcasses	20 ppm Chlorine gas calculated as free available chlorine Note: Agency guidance has allowed the use of up to 50 ppm calculated as free available chlorine	9 CFR 381.91	None under the accepted conditions of use (1)
Antimicrobials	Chlorine gas	On giblets (e.g., livers, hearts, gizzards, and necks) and salvage parts	Chlorine gas not to exceed 50 ppm calculated as free available chlorine in the influent to a container for chilling.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Chlorine gas	Beef primals	20 ppm chlorine gas calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Citric acid	Beef trimmings prior to grinding and beef subprimals	Up to 5 percent of a citric acid solution applied as a spray	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Citric acid	Bologna in an edible casing	Up to a 10 percent citric acid solution applied prior to slicing	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	Citric acid	Bologna in an inedible casing	Up to a 10 percent citric acid solution applied prior to slicing	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Citric acid	Fully cooked meat and poultry products in impermeable and permeable pre-stuck casings.	Up to a 3 percent citric acid solution is applied to the casing just prior to removal.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Citric acid	Separated beef heads and associated offal products (e.g., hearts, livers, tails, tongues)	A 2.5 percent citric acid solution applied as a spray prior to chilling	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Citric acid	In brine to cool fully-cooked RTE meat products (a) sausages and similar products in natural casings (including permeable casings), (b) hams in permeable casings/netting prior to the removal of the casing/netting	Citric acid not to exceed 3 percent of the brine solution	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Colicin protein preparation	Nine recombinant proteins intended for use singly or in combination as an antimicrobial spray on meat products	Colicin protein preparation applied as a spray at a rate of 1-10 mg/kg	GRAS Notice No. 000676	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Cultured substrates that are produced by the fermentation of natural food sources (such as caramel, dairy sources (lactose, whey, and whey permeate, milk, milk solids, yogurt), fruit and vegetable based sources (including juices, pastes, and peels), honey, maple syrup, molasses, starch (from barley, corn, malt, potato, rice, tapioca, and wheat), sugars, (from corn, beet, palm or sugar cane), and wheat. The substrate is fermented to organic acids by individual microorganisms including Streptococcus thermophilus, Bacillus coagulans, Lactobacillus acidophilus, Lactobacillus paracasei subsp. Paracasei, Lactobacillus plantarum, Lactobacillus sakei, Lactobacillus bulgaricus, and Propionibacterium freudenreichii subsp. Shermanii, or mixtures of these strains.	In meat and poultry products (e.g., beef or chicken injected with cultured substrates and ready-to-eat meat and poultry products (e.g., hot dogs and luncheon meat) that provide for the use of ingredients of this type. Cultured substrates are not intended for use in infant formula or foods.	Cultured substrates that are produced by the fermentation of natural food sources at up to 4.5 percent of the product formula Components of the cultured substrates in the final product are not to exceed: 0.16 percent for sodium and calcium, 0.75 percent for potassium, 2.1 percent for lactate, 0.6percent for acetate and propionate, 0.9 percent for protein, 0.25 percent for sugar and 0.1 percent for succinic acid.	GRAS Notice No. 000378	Cultured-------" where the blank is replaced by the name of the natural substrate, listed by common or usual name, (dairy sources identified by common or usual name, sugars, wheat, malt, and fruit and vegetable based sources all identified by common or usual name) used in fermentation
Antimicrobials	Cultured Sugar (derived from corn, cane, or beets)	In enhanced meat and poultry products (e.g., beef or pork injected with a solution) and RTE meat and poultry products (e.g., hot dogs and cooked turkey breast)	Cultured Sugar at up to 4.8 percent of the product formula	GRAS Notice No. 000240	Cultured cane and beet sugar listed by common or usual name (e.g., "cultured cane sugar) Cultured corn sugar listed as "cultured corn sugar or "cultured dextrose."
Antimicrobials	Cultured Sugar and Vinegar (derived from corn, cane, or beets)	In enhanced meat and poultry products (e.g., beef or pork injected with a solution) and RTE meat and poultry products (e.g., hot dogs and cooked turkey breast)	Cultured Sugar and Vinegar at up to 4.8 percent of the product formula	Acceptability determination	Cultured cane and beet sugar listed by common or usual name and vinegar (e.g., "cultured cane sugar, vinegar" or "cultured sugar, vinegar" Cultured corn sugar listed as "cultured corn sugar, vinegar" or "cultured dextrose, vinegar."
Antimicrobials	DBDMH (1,3-dibromo-5,5-dimethylhydantoin)	For use in poultry chiller water and in water applied to poultry via an Inside-Outside Bird Washer (IOBW) and in water used in poultry processing for poultry carcasses, parts, and organs	1,3-dibromo-5,5-dimethylhydantoin (DBDMH) at a level not to exceed that needed to provide the equivalent of 100 ppm active bromine	Food Contact Substance Notification No. FCN 334 and FCN 453	None under the accepted conditions of use (6)
Antimicrobials	DBDMH (1,3-dibromo-5,5-dimethylhydantoin)	For use in water supplied to ice machines to make ice intended for general use in poultry processing	1,3-dibromo-5,5-dimethylhydantoin (DBDMH) at a level not to exceed that needed to provide the equivalent of 100 ppm of available bromine (corresponding to a maximum level of 90 mg DBDMH/kg water)	Food Contact Substance Notification No. FCN 775	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	DBDMH (1,3-dibromo-5,5-dimethylhydantoin)	For use in water applied to beef hides, carcasses, heads, trim, parts, and organs.	1,3-dibromo-5,5-dimethylhydantoin (DBDMH) at a level not to exceed that needed to provide the equivalent of 300 ppm active bromine.	Food Contact Substance Notification No. FCN 792	None under the accepted conditions of use (6)
Antimicrobials	DBDMH (1,3-dibromo-5,5-dimethylhydantoin)	For use in water applied to swine, goat, and sheep carcasses and their parts and organs	1,3-dibromo-5,5-dimethylhydantoin (DBDMH) at a level not to exceed that needed to provide the equivalent of 500 ppm of available bromine	Food Contact Substance Notification No. FCN 1102	None under the accepted conditions of use (6)
Antimicrobials	DBDMH (1,3- dibromo-5,5-dimethylhydantoin)	For use in water and ice for meat and poultry products	1,3-dibromo-5,5-dimethylhydantoin (DBDMH) at levels not to exceed 900 ppm available bromine in water or ice applied to meat products and 450 ppm available bromine in water or ice applied to poultry products.	Food Contact Substance Notification No. FCN 1190	None under the accepted conditions of use (6)
Antimicrobials	Dried Vinegar	Added to trace lean pork trimmings for use in sausage and pork patties.	Up to 0.4 percent dried vinegar to be added to trace lean pork trimmings where the trace lean pork trimmings comprise no more than 15 percent of the total product formulation.	Suitability Determination	None under the accepted conditions of use (1)
Antimicrobials	Phage preparation containing three to eight bacteriophages specific to Shiga toxin-producing Escherichia coli (STEC)	Antimicrobial for intact meat, intact poultry and fish of the order Siluriformes	1 x 10^8 plaque forming units (PFU)/gram of treated food	GRAS Notice No. 000834	None under the accepted conditions of use (1).
Antimicrobials	Egg white lysozyme	In casings and on cooked (RTE) meat and poultry products	Egg white lysozyme at 2.5 mg per pound in the finished product when used in casings; 2.0 mg per pound on cooked meat and poultry products	GRAS Notice No. 000064	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Electrolytically generated hypochlorous acid	Red meat carcasses down to a quarter of a carcass	Electrolytically generated hypochlorous acid applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	On whole or eviscerated poultry carcasses	Electrolytically generated hypochlorous acid applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	In water used in meat processing	Electrolytically generated hypochlorous acid not to exceed 5 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	In water used in poultry processing (except for product formulation)	Electrolytically generated hypochlorous acid not to exceed 50 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	Poultry chiller water	Electrolytically generated hypochlorous acid not to exceed 50 ppm calculated as free available chlorine (measured in the incoming potable water)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	Poultry chiller red water (i.e., poultry chiller water re-circulated, usually through heat exchangers, and reused back in the chiller)	Electrolytically generated hypochlorous acid not to exceed 5 ppm calculated as free available chlorine (measured at influent to chiller)	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Electrolytically generated hypochlorous acid	Reprocessing contaminated poultry carcasses	Electrolytically generated hypochlorous acid at 20 ppm calculated as free available chlorine Note: Agency guidance has allowed the use of up to 50 ppm calculated as free available chlorine	9 CFR 381.91	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	On giblets (e.g., livers, hearts, gizzards, and necks) and salvage parts	Electrolytically generated hypochlorous acid not to exceed 50 ppm calculated as free available chlorine in the influent to a container for chilling.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Electrolytically generated hypochlorous acid	Beef primals	Electrolytically generated hypochlorous acid at 20 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Hops beta acids	In casings and on cooked (RTE) meat and poultry products	Hops beta acids 2.5 mg per pound in the finished product when used in casings; 2.0 mg per pound on cooked meat and poultry products	GRAS Notice No. 000063	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Hypobromous acid	In water or ice used for processing meat and poultry products	Hypobromous acid generated on-site from an aqueous mixture of hydrogen bromide and sodium, potassium, or calcium hypochlorite for use at a level not to exceed that needed to provide 300 ppm available bromine (or 133 ppm available chlorine*) in water or ice applied to meat products, and 200 ppm available bromine (or 89 ppm available chlorine*) in water or ice applied to poultry products. *(NOTE: Because there are a limited number of commercial test kits specific for bromine, chlorine kits may be used. The ppm levels between available bromine and chlorine is due to the difference in their molecular weight.)	Food Contact Substance Notification No. FCN 944	None under the accepted conditions of use (6)
Antimicrobials	Hypobromous acid	In water or ice used for processing meat products	Hypobromous acid generated on-site from an aqueous mixture of sodium bromide and sodium, potassium, or calcium hypochlorite for use at a level not to exceed that needed to provide 900 ppm available bromine (or 400 ppm available chlorine*) in water or ice applied to meat products, and 200 ppm available bromine (or 89 ppm available chlorine*) in water or ice applied to poultry products. *(NOTE: Because there are a limited number of commercial test kits specific for bromine, chlorine kits may be used. The ppm levels between available bromine and chlorine is due to the difference in their molecular weight.)	Food Contact Substance Notification No. FCN 1122	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Hypobromous acid	In water or ice used for processing meat products	Hypobromous acid generated on-site from an aqueous mixture of hydrogen bromide and sodium, potassium, or calcium hypochlorite for use at a level not to exceed that needed to provide 900 ppm available bromine (or 400 ppm available chlorine*) in water or ice applied to meat products. *(NOTE: Because there are a limited number of commercial test kits specific for bromine, chlorine kits may be used. The ppm levels between available bromine and chlorine is due to the difference in their molecular weight.)	Food Contact Substance Notification No. FCN 1036	None under the accepted conditions of use (6)
Antimicrobials	Hypobromous acid	In water or ice used for processing poultry products	Hypobromous acid generated on-site from an aqueous mixture of hydrogen bromide and sodium, potassium, or calcium hypochlorite for use at a level not to exceed that needed to provide 450 ppm available bromine or 200 ppm available chlorine	Food Contact Substance Notification No. FCN 1098	None under the accepted conditions of use (6)
Antimicrobials	Hypobromous acid	In water or ice, used as either a spray or a dip, for meat (hides on or off) or poultry processing	Hypobromous acid generated on-site from an aqueous mixture of hydrogen bromide and sodium, potassium, or calcium hypochlorite for use at a level not to exceed that needed to provide 300 ppm total bromine (182 ppm HOBr) (or 133 ppm total chlorine*) in water or ice applied to meat products. At a level not to exceed 200 ppm total bromine (121 ppm HOBr) (or 90 ppm total chlorine*) in water or ice applied to poultry products. *(NOTE: Because there are a limited number of commercial test kits specific for bromine, chlorine kits may be used. The ppm levels between available bromine and chlorine is due to the difference in their molecular weight.)	Food Contact Substance Notification No. FCN 1106	None under the accepted conditions of use (6)
Antimicrobials	Hypobromous acid	For use in water or ice used for processing poultry products, generated on-site from an aqueous mixture of sodium bromide and sodium, potassium or calcium hypochlorite	Hypobromous acid at levels not to exceed 450 ppm available bromine or 200 ppm available chlorine.	Food Contact Substance Notification No. FCN 1197	None under the accepted conditions of use (6)
Antimicrobials	Lactic Acid	Livestock carcasses prior to fabrication (i.e., pre- and post-chill), offal, and variety meats	Up to a 5 percent lactic acid solution	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lactic Acid	Beef and pork sub-primals and trimmings	2 percent to 5 percent solution of lactic acid not to exceed 55^0C	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lactic Acid	Beef heads and tongues	Lactic Acid at 2.0 to 2.8 percent solution applied to brushes in a washer cabinet system used to clean beef heads and tongues	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lactic Acid	Poultry carcasses, meat, parts, trim and giblets	Up to 5 percent lactic acid solution on post chill poultry carcasses, meat, parts, trim and giblet.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lactic Acid	To reduce bacterial contamination of beef carcasses and heads	Concentration not to exceed 10 percent (w/w)	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Lactic acid bacteria mixture consisting of *Lactobacillus acidophilus* (NP35, NP51), *Lactobacillus lactis* (NP7), and *Pediococcus acidilactici* (NP3)	RTE cooked sausages (e.g., frankfurters, bologna, etc.) and cooked, cured whole muscle products (e.g., ham)	Lactic acid bacteria mixture consisting of Lactobacillus acidophilus (NP35, NP51), Lactobacillus lactis (NP7), and Pediococcus acidilactici (NP3) applied by dipping product into a solution containing 10^7 colony forming units lactobacilli per ml	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Lactic acid bacteria mixture consisting of *Lactobacillus acidophilus* (NP35, NP51), *Lactobacillus lactis* (NP7), and *Pediococcus acidilactici* (NP3)	Poultry carcasses and fresh whole muscle cuts and chopped/ground poultry	Lactic acid bacteria mixture consisting of Lactobacillus acidophilus (NP35, NP51), Lactobacillus lactis (NP7), and Pediococcus acidilactici (NP3) at 10^5 to 10^6 colony forming units of lactobacilli per gram of product	Acceptability determination	Listed by common or usual name in the ingredients statement of non-standardized products. Single ingredient raw products must be descriptively labeled (2)
Antimicrobials	Lactic acid bacteria mixture consisting of *Lactobacillus acidophilus* (NP35, NP51), *Lactobacillus lactis* (NP7), and *Pediococcus acidilactici* (NP3)	Non-standardized comminuted meat products (e.g., beef patties), ground beef, and raw whole muscle beef cuts	Lactic acid bacteria mixture consisting of Lactobacillus acidophilus (NP35, NP51), Lactobacillus lactis (NP7), and Pediococcus acidilactici (NP3) at 10^6 to 10^8 colony forming units of lactobacilli per gram of product	GRAS Notice No. 000171	Listed by common or usual name in the ingredients statement of non-standardized comminuted meat products. Ground beef and raw whole muscle beef cuts must be descriptively labeled (2)
Antimicrobials	Lactoferrin	Beef carcasses and parts	Lactoferrin at up to 2 percent of a water-based antimicrobial spray	GRAS Notice No. 000067	Listed by common or usual name in ingredients statement (2)
Antimicrobials	Lactoferrin	Beef carcasses	Lactoferrin as part of an antimicrobial spray that would deliver 1 gram of lactoferrin per dressed beef carcass, followed by a wash with tempered water and rinse with lactic acid	GRAS Notice No. 000130	None under the accepted conditions of use (1)
Antimicrobials	Lauramide arginine ethyl ester (LAE), silicon dioxide, and refined sea salt	Non-standardized RTE comminuted meat products and standardized RTE comminuted meat products that permit the use of any safe and suitable antimicrobial agent	Not to exceed 200 ppm Lauramide arginine ethyl ester (LAE), silicon dioxide, and refined sea salt LAE by weight of the finished product	Acceptability determination	Listed by common or usual name (i.e., lauric arginate, refined sea salt) in the ingredients statement (2)
Antimicrobials	Lauramide arginine ethyl ester (LAE), silicon dioxide, and refined sea salt	Fresh cuts of meat and poultry; and, non-standardized, non-comminuted RTE meat and poultry products and standardized, non-comminuted RTE meat and poultry products that permit the use of any safe and suitable antimicrobial agent	Not to exceed 200 ppm Lauramide arginine ethyl ester (LAE), 67 ppm silicon dioxide, and 1640 ppm refined sea salt by weight of the finished product	Acceptability determination	Listed by common or usual name (i.e., lauric arginate, silicon dioxide, refined sea salt) in the ingredients statement (2) When applied to the surface of fresh cuts of meat and poultry none under the accepted conditions of use (1)
Antimicrobials	Lauramide arginine ethyl ester (LAE) dissolved at specified concentrations in either propylene glycol, glycerin, or water to which may be added a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of LAE emulsification)	Non-standardized RTE comminuted meat products and standardized RTE comminuted meat products that permit the use of any safe and suitable antimicrobial agent	Not to exceed 200 ppm Lauramide arginine ethyl ester (LAE) by weight of the finished product	Acceptability determination	Listed by common or usual name (i.e., lauric arginate) in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Lauramide arginine ethyl ester (LAE) dissolved at specified concentrations in either propylene glycol, glycerin, or water to which may be added a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of LAE emulsification)	Fresh cuts of meat and poultry and various non-standardized RTE meat and poultry products and standardized RTE meat and poultry products that permit the use of any safe and suitable antimicrobial agent	Applied to the surface of the product at a rate not to exceed 200 ppm Lauramide arginine ethyl ester (LAE) by weight of the finished food product	GRAS Notice No. 000164	When applied to the surface of RTE products listed by common or usual name (i.e., lauric arginate) in the ingredients statement (2) When applied to the surface of fresh cuts of meat and poultry none under the accepted conditions of use (1)
Antimicrobials	Lauramide arginine ethyl ester (LAE) dissolved in either ethanol or water	Fresh cuts of beef and pork	Applied and dried to the inside of packaging at a concentration not to exceed 105 ppm LAE by weight of finished food product	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lauramide arginine ethyl ester (LAE) dissolved at specified concentrations in water	RTE meat and poultry products; raw pork sausage; RTE ground poultry sausage	Applied to the inside of the package or to product surfaces at up to 44 ppm (with a process tolerance of 20 percent, allowing for a Lauramide arginine ethyl ester (LAE) concentration not to exceed 53 ppm) by weight of the finished food product	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lauramide arginine ethyl ester (LAE) dissolved at specified concentrations in either propylene glycol, glycerin, or water to which may be added a Polysorbate surface active agent (quantity sufficient to achieve the intended technical effect of LAE emulsification)	Ground poultry; ground poultry sausage	Applied in a mixer, blender, or tumbler designed to mix and/or blend other ingredients into ground poultry at a level not to exceed 200 ppm by weight in the finished product. The Lauramide arginine ethyl ester (LAE) is sprayed with a metered dose into the mixer, blender, or tumbler as the product is being mixed, blended, or tumbled	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Lauramide arginine ethyl ester (LAE)	Ground beef	Lauramide arginine ethyl ester (LAE) applied at a level not to exceed 200 ppm by weight in the finished product	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Maltodextrin, vegetable juice color, citric acid, and ascorbic acid	As a coloring agent for a solid acid tablet to be used in meat and poultry product processing water	Maltodextrin, vegetable juice color, citric acid, and ascorbic acid up to 0.5 percent (by weight of total formulation of the tablet)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Methanol	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of methyl cellulose and sorbitan tristearate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 182.1480 and acceptability determination	None under the accepted conditions for use
Antimicrobials	Monochloramine generated by the reaction between ammonia and sodium hypochlorite carried out at a pH above 10	Poultry process water as a spray, wash, rinse, chiller water, or scald water for whole or cut poultry including parts, trim, and organs	Level of Monochloramine not to exceed 50 ppm	Food Contact Substance Notification No. 1700	None under the accepted conditions of use (1)
Antimicrobials	Nisin preparation	Cooked, RTE meat and poultry products containing sauces	Nisin preparation not to exceed 600 ppm nisin preparation in the finished product	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Nisin preparation	Meat and poultry soups	Nisin preparation not to exceed 200 ppm of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Nisin preparation	In casings and on cooked (RTE) meat and poultry products	Nisin preparation not to exceed 276 ppm in the finished product when used in casings; not to exceed 220 ppm on cooked meat and poultry products	GRAS Notice No. 000065	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Nisin preparation	Egg products	Nisin preparation not to exceed 250 ppm in formulated product	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	A blend of encapsulated nisin preparation (90.9 percent), rosemary extract (8.2 percent) and salt (0.9 percent)	Frankfurters and other similar cooked meat and poultry sausages	A blend of encapsulated nisin preparation (90.9 percent), rosemary extract (8.2 percent) and salt (0.9 percent) not to exceed 550 ppm of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	A blend of nisin preparation, rosemary extract, salt, maltodextrin, and cultured dextrose	Cooked (RTE) meat and poultry sausages and cured meat products	A blend of nisin preparation, rosemary extract, salt, maltodextrin, and cultured dextrose not to exceed 0.55 percent of product formulation in cooked (RTE) meat and poultry sausages and 0.7 percent of product formulation in cured meat products (where the nisin preparation will not exceed 250 ppm)	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	A blend of nisin preparation, rosemary extract, salt, and sodium diacetate	Cooked (RTE) meat and poultry sausages and cured meat products	A blend of nisin preparation, rosemary extract, salt, and sodium diacetate not to exceed 0.25 percent of product formulation (where the nisin preparation will not exceed 250 ppm)	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	Organic Acids (i.e., lactic, acetic, and citric acid)	As part of a carcass wash applied pre-chill	Organic Acids (i.e., lactic, acetic, and citric acid) as an aqueous solution of up to 2.5 percent concentration. May be applied as a mist, fog or small droplet rinse	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Ozone	All meat and poultry products	Ozone to be used in accordance with current industry standards of good manufacturing practice	21 CFR 173.368	None under the accepted conditions of use (3)
Antimicrobials	An aqueous solution of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	In poultry processing water, scalder, ice, spray applications, and as an acidifier in scald tanks as a scald additive	The level of peroxyacetic acid (PAA) will not exceed 220 ppm, hydrogen peroxide (HP) will not exceed 110 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 13 ppm	Acceptability determination	None under the accepted conditions of use (3)
Antimicrobials	Peroxyacetic acid (PAA), octanoic acid, acetic acid, hydrogen peroxide (HP), peroxyoctanoic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	Meat and poultry carcasses, parts, trim and organs	Maximum concentrations for meat carcasses, parts, and organs: Peroxyacetic acids (PAA) 220 ppm, hydrogen peroxide (HP) 75 ppm; Maximum concentrations for poultry carcasses, parts, and organs: PAA 220 ppm, HP 110 ppm, 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) 13 ppm	21 CFR 173.370	None under the accepted conditions of use (3)
Antimicrobials	A mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	(1) Process water for washing, rinsing, cooling, or otherwise for processing meat carcasses, parts, trim, and organs; and (2) process water applied to poultry parts, organs, and carcasses as a spray, wash, rinse, dip, chiller water, or scald water	In either application, the level of peroxyacetic acid (PAA) will not exceed 230 ppm, hydrogen peroxide (HP) will not exceed 165 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 14 ppm	Food Contact Substance Notification No. FCN 323	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of sulfuric acid and sodium sulfate.	For use in process water, ice, or brine used in the production, processing and preparation of poultry and meat products.	Concentration sufficient to achieve a targeted pH range of 1-2.2; delivered at a minimum system pressure of 0.5 psi; and spray, drench and dip minimum contact time of 2 seconds.	Acceptability Determination	None under the accepted conditions of use (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	Added to process water applied to poultry parts, organs, and carcasses as a spray, wash, rinse, dip, chiller water, immersion baths, or scald water	At a level not to exceed 2,000 ppm peroxyacetic acid (PAA) and 136 ppm 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	Food Contact Substance Notification No. FCN 880	None under the accepted conditions of use (6)
Antimicrobials	A combination of two aqueous mixtures (FCN 323 and FCN 880) of Peroxyacetic (peracetic) acid (PAA), hydrogen peroxide (HP), acetic acid, and stabilizer 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	(1) Process water for washing, rinsing, cooling, or otherwise for processing meat carcasses, parts, trim, and organs; and (2) process water applied to poultry carcasses as a spray, wash, rinse, dip, chiller water, or scald water	An equilibrium solution of peracetic acid (PAA) (15 percent), hydrogen peroxide (HP) (10 percent), and stabilizer 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) (<1percent) using a combination of FCN 323 and FCN 880	Acceptability determination	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and optionally sulfuric acid, 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP), or dipicolinic acid (DPA).	(1) Water or ice for washing, rinsing, cooling, or otherwise processing whole or cut meat, including parts, trim, and organs; and, (2) water or ice applied to whole or cut poultry including parts, trim, and organs as a spray, wash, rinse, dip, chiller water or scalder water	In either application, not to exceed 220 ppm PAA and 85 ppm HP. HEDP not to exceed 11 ppm or DPA not to exceed 1.64 ppm with meat carcasses, parts, trim, and organs, and 4.00 ppm with poultry carcasses, parts, trim, and organs.	Food Contact Substance Notification No. FCN 887	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) and sulfuric acid	Red meat carcasses, parts, and trim	The level of peroxyacetic acid (PAA) will not exceed 230 ppm, hydrogen peroxide (HP) will not exceed 75 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 13 ppm.	Food Contact Substance Notification No. FCN 951	None under the accepted conditions of use (6)
Antimicrobials	A mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	(1) Water or ice for washing, rinsing, cooling, or processing whole or cut meat including carcasses, parts, trim, and organs; and (2) water or ice applied to whole or cut poultry including parts, trim, and organs as a spray, wash, rinse, dip, chiller water, or scald water	The level of peroxyacetic acid (PAA) not to exceed 220 ppm, hydrogen peroxide (HP) will not exceed 80 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 1.5 ppm measured prior to application	Food Contact Substance Notification No. FCN 993	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	In process water or ice for washing, rinsing, storing, or cooling of processed and preformed meat and poultry products	The level of peroxyacetic acid (PAA) will not exceed 220 ppm, hydrogen peroxide (HP) will not exceed 85 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 11 ppm.	Food Contact Substance Notification No. FCN 1082	None under the accepted conditions of use (6)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	In process water used for washing, rinsing, cooling or otherwise for processing meat carcasses, parts, trim, and organs; and in process water applied to poultry parts, organs, and carcasses as a spray, wash, rinse, dip, chiller water, or scald water	The level of peroxyacetic acid (PAA) will not exceed 220 ppm, hydrogen peroxide (HP) will not exceed 160 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 11 ppm, measured prior to application	Food Contact Substance Notification No. FCN 1089	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP), and optionally sulfuric acid	In process water or ice used for washing, rinsing, cooling or processing whole or cut meat including parts, trim, and organs; and in process water or ice applied to whole or cut poultry including parts, trim and organs, and carcasses as a spray, wash, rinse, dip, chiller water, or scald water	The level of peroxyacetic acid (PAA) will not exceed 220 ppm, hydrogen peroxide (HP) will not exceed 80 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 13 ppm measured prior to application	Food Contact Substance Notification No. FCN 1093	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP), dipicolinic acid, and sulfuric acid	Red meat carcasses, parts, trim, and organs	The level of peroxyacetic acid (PAA) will not exceed 230 ppm, hydrogen peroxide (HP) will not exceed 75 ppm, and 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) will not exceed 1 ppm, and dipicolinic acid will not exceed 0.5 ppm.	Food Contact Substance Notification No. FCN 1094	None under the accepted conditions of use (6)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, and 1-hydroxyethylidine-1, 1-diphosphonic acid (HEDP).	Process water or ice for washing, rinsing, storing or cooling processed and preformed meat and poultry products.	Not to exceed 230 ppm PAA, 165 ppm HP, and 14 ppm HEDP.	Food Contact Substance Notification No. FCN 1144	None under the accepted conditions of use (1)
Antimicrobials	An aqueous preparation containing three bacterial monophages (MLF4, OLB35, and OLB145) as an antimicrobial specific to shiga toxin-producing *Escherichia coli* (STEC), including serogroups O26, O45, O103, O111, O121, and O145.	Red meat carcasses, parts, and trim (prior to grinding)	Up to 1 x 10^8 PFU/g	GRN 827	None under the accepted conditions (1)
Antimicrobials	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, sulfuric acid (optional) and 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	In process water and ice that contacts whole or cut meat carcasses, parts, trim, and organs	Levels not to exceed 2000 ppm PAA, 950 ppm HP, and 57 ppm HEDP; pH range is 2.0 – 10.0; spray contact time: 2 – 60 seconds; spray pressure: 5 – 170 psi; wash and rinse contact time: 2-120 seconds; dip dwell time: 2-60 seconds.	Food Contact Notification (FCN 1911)	None under the accepted conditions of use (1)
Antimicrobials	A mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid and hydroxyethylidene-1,1-diphosphonic acid (HEDP) and water	Use as a spray, rinse, dip, chiller water or scald water for poultry carcasses, parts, and organs.	Not to exceed 220 ppm peroxyacetic acid (PAA), 162 ppm hydrogen peroxide (HP), and 13 ppm 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	Food Contact Substance Notification No. FCN 1096	None under the accepted conditions of use (3)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	A mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid and hydroxyethylidene-1,1-diphosphonic acid (HEDP) and water	Use as a spray, rinse, dip, chiller water or scald water for raw meat carcasses, parts, trim and organs.	Not to exceed 220 ppm peroxyacetic acid (PAA), 162 ppm hydrogen peroxide (HP), and 13 ppm 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP)	Food Contact Substance Notification No. FCN 1236	None under the accepted conditions of use (3)
Antimicrobials	A mixture of sodium bicarbonate and sodium carbonate with a GRAS approved activator	As an antimicrobial agent when used in packaged meat or poultry products. Moxiyo packets absorbs oxygen and releases carbon dioxide to maintain a low oxygen atmosphere in packaged meat or poultry products when packets are placed next to meat or poultry products. (Note - When Moxiyo packets are placed next to packaged beef jerky, the aw of the beef jerky must be no higher than 0.88).	A mixture of sodium bicarbonate and sodium carbonate with a GRAS approved activator at levels sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	A solution of water, lactic acid, propionic acid, and acidic calcium sulfate (solution with a pH range of 1.0-2.0)*	Various RTE meat products, e.g., hot dogs.	A solution of water, lactic acid, propionic acid, and acidic calcium sulfate (solution with a pH range of 1.0-2.0)* applied as a spray for 20-30 seconds of continual application just prior to packaging *Propionic acid may be removed from the solution; sodium phosphate may be added to the solution as a buffering agent (the amount of sodium phosphate on the finished product must not exceed 5000 ppm measured prior to application.	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	A solution of water, acidic calcium sulfate and 85-95,000 ppm of lactic acid (solution with a pH range of 0.35 to 0.55)	Raw comminuted beef.	A solution of water, acidic calcium sulfate and 85-95,000 ppm of lactic acid (solution with a pH range of 0.35 to 0.55)	Acceptability determination	Product must be descriptively labeled (2)
Antimicrobials	A solution of water, acidic calcium sulfate, lactic acid, and sodium phosphate (solution with a pH range of 1.45 to 1.55)	Raw whole muscle beef cuts and cooked roast beef and similar cooked beef products (e.g., corned beef, pastrami, etc.).	A solution of water, acidic calcium sulfate, lactic acid, and sodium phosphate (solution with a pH range of 1.45 to 1.55) spray applied for up to 30 seconds of continual application *sodium phosphate on the finished product must not exceed 5000 ppm.	Acceptability determination	Listed by common or usual name in the ingredients statement of multi-ingredient products. Single ingredient roast beef products and raw whole muscle beef cuts must be descriptively labeled (2)
Antimicrobials	A solution of water, acidic calcium sulfate, lactic acid, and sodium phosphate (solution with a pH of 1.45 to 1.6)	Cooked poultry carcasses and parts.	A solution of water, acidic calcium sulfate, lactic acid, and sodium phosphate (solution with a pH of 1.45 to 1.6) spray applied for 20 to 40 seconds of continual application * sodium phosphate on the finished product must not exceed 5000 ppm.	Acceptability determination	Listed by common or usual name in the ingredients statement of multi-ingredient products. Single ingredient whole muscle cuts of poultry must be descriptively labeled (2)
Antimicrobials	A solution of water, acidic calcium sulfate, lactic acid, and disodium phosphate (solution with a pH of 1.0 to 2.0)	Beef jerky	A solution of water, acidic calcium sulfate, lactic acid, and disodium phosphate (solution with a pH of 1.0 to 2.0) applied to the surface of the product with a contact time not to exceed 30 seconds	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Phage preparation containing six bacterial phages specific to shiga toxin producing Escherichia coli.	On the surface of beef carcasses.	Levels not to exceed 1.5 x 10^11 phage particles per carcass.	GRAS Notice No. 724	None under the accepted conditions of use (1)
Antimicrobials	Potassium diacetate	Various meat and poultry products which permit the addition of antimicrobial agents, e.g., hot dogs	Potassium diacetate not to exceed 0.25 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antimicrobials	Potassium propionate/Propionic acid	Ready-to-eat meat and poultry, where antimicrobials are permitted	Potassium propionate/Propio-nic acid up to 0.5 percent (by weight of total formulation)	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	Potassium sorbate	Added to raw boneless beef in the production of dry beef snacks and beef jerky as a mold inhibitor.	Potassium sorbate 0.0703 percent by weight of total formulation of raw meat.	Acceptability determination	Listed by common or usual name in the ingredients statement with a qualifying statement disclosing the treatment and purpose, such as 'potassium sorbate added to retard mold growth' (2)
Antimicrobials	Potassium sorbate	Dry sausage, imitation dry sausage, dry beef snacks and beef jerky as an external mold inhibitor (applied by dipping or spraying).	Potassium sorbate at 10 percent in water solution applied to: (1) the external surface of product, (2) casings after stuffing or (3) casings dipped in solution prior to stuffing.	Acceptability determination	Listed by common or usual name in the ingredients statement, with a qualifying statement disclosing the treatment and purpose, such as 'dipped in potassium sorbate to retard mold growth.' ((2)
Antimicrobials	Propylene glycol (PG) and lactic acid (FDA, PNC 1537) or phosphoric acid (FDA PNC 836) as an adjuvant to sodium hypochlorite in process water for poultry products	(1) Poultry water pre- chiller spray applications; whole bird chillers and post chiller wash and/or spray applications. (2) Poultry chiller red water (i.e., poultry chiller water recirculated, usually through heat exchangers, and reused back in the chiller)	Propylene glycol (PG) and lactic acid (FDA, PNC 1537) or phosphoric acid (FDA PNC 836) (1) Not to exceed 50 ppm calculated as free available chlorine (measured in the incoming potable water) (2) Not to exceed 5 ppm calculated as free available chlorine (measured at influent to chiller)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Phosphoric Acid	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 182.1073	None under the accepted conditions for use
Antimicrobials	A solution of potassium hydroxide and sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1293 and acceptability determination	None under the accepted conditions for use

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Potassium hydroxide	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1293	None under the accepted conditions for use
Antimicrobials	Propylene glycol	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1666	None under the accepted conditions for use
Antimicrobial	Salmonella bacteriophage preparation containing three bacteriophages (phage) specific to Salmonella enterica serovars.	Intact red meat and intact poultry products.	At levels of up to 2x10^8 plaque-forming units (PFU)/g of food.	GRAS Notice No. 000917	None under the accepted conditions of use (1)
Antimicrobials	Salmonella bacteriophage preparation consisting of two monophages (BP-63 and BP-12 Triumvirate)	Poultry	Salmonella bacteriophage preparation consisting of two monophages (BP-63 and BP-12 Triumvirate) applied at 1 x 10^8 PFU/g	GRAS Notice No. 000603	None under the accepted conditions of use (2).
Antimicrobials	Salmonella bacteriophage preparation containing the bacterial monophages FO1a and S16	Red meat (pork and beef) carcasses, parts, trim or ground applies via dip, spray or blend. Prechill and postchill on raw poultry carcasses and parts	Salmonella bacteriophage preparation containing the bacterial monophages FO1a and S16. At levels up to 10^8 PFU/g.	GRAS Notice No. 000468	None under the accepted conditions of use (1)
Antimicrobials	Salmonella bacteriophage preparation containing bacterial monophages BP-63 and LVR 16-A	Applied to egg products and the surfaces of ready to eat meat and poultry products, and meat and poultry carcasses and parts	Salmonella bacteriophage preparation containing the bacterial monophages BP-63 and LVR 16-A at up to 10^8PFU/g	GRAS Notice No. 000752	None under the accepted conditions of use (1)
Antimicrobials	Skim milk or dextrose cultured with propionibacterium freudenreichii subsp. Shermanii	Meat and poultry sausages including those with standards of identity which permit the use of antimicrobial agents	Skim milk or dextrose cultured with propionibacterium freudenreichii subsp. Shermanii not to exceed 2 percent by weight of the finished product	GRAS Notice No. 000128	Listed by common or usual name in the ingredients statement -2
Antimicrobials	Sodium Benzoate and benzoic acid	Ready-to-eat meat and poultry products that permit the use of any safe and suitable antimicrobial agent	Sodium Benzoate and benzoic acid up to 0.1 percent (by weight of total formulation)	21 CFR 184.1733	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	Sodium citrate buffered with citric acid to a pH of 5.6	Non-standardized and standardized comminuted meat and poultry products which permit ingredients of this type	Sodium citrate buffered with citric acid to a pH of 5.6 not to exceed 1.3 percent of the product formulation in accordance with 21 CFR 184.1751	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	Sodium diacetate, Sodium propionate, and sodium benzoate and benzoic acid	Ready-to-eat meat and poultry products that permit the use of any safe and suitable antimicrobial agent	The maximum level for the combination cannot exceed (by weight of total formulation) 0.5 percent for sodium propionate, 0.25 percent for sodium diacetate, and 0.1 percent for sodium benzoate and benzoic acid.	21 CFR 184.1784 and 184.1733	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	Sodium hypochlorite	Red meat carcasses down to a quarter of a carcass	Sodium hypochlorite applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	On whole or eviscerated poultry carcasses	Sodium hypochlorite applied as a spray at a level not to exceed 50 ppm calculated as free available chlorine measured prior to application	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	In water used in meat processing	Sodium hypochlorite not to exceed 5 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	In water used in poultry processing (except for product formulation)	Sodium hypochlorite not to exceed 50 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	Poultry chiller water	Sodium hypochlorite not to exceed 50 ppm calculated as free available chlorine (measured in the incoming potable water)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	Poultry chiller red water (i.e., poultry chiller water re-circulated, usually through heat exchangers, and reused back in the chiller)	Sodium hypochlorite not to exceed 5 ppm calculated as free available chlorine (measured at influent to chiller)	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	Reprocessing contaminated poultry carcasses	Sodium hypochlorite at 20 ppm calculated as free available chlorine Note: Agency guidance has allowed the use of up to 50 ppm calculated as free available chlorine	9 CFR 381.91	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	On giblets (e.g., livers, hearts, gizzards, and necks) and salvage parts	Sodium hypochlorite not to exceed 50 ppm calculated as free available chlorine in the influent to a container for chilling.	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium hypochlorite	Beef primals	Sodium hypochlorite at 20 ppm calculated as free available chlorine	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium metasilicate	Component of marinades used for raw meat and poultry products	Sodium metasilicate not to exceed 2 percent by weight of the marinade	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium metasilicate	Raw beef carcasses, subprimals, and trimmings	Sodium metasilicate a 4 percent (plus or minus 2 percent) solution	Acceptability determination	None under the accepted conditions of use (1)
Antimicrobials	Sodium metasilicate	RTE meat and poultry products	Sodium metasilicate up to a 6 percent solution applied to the surface of the product at a rate not to exceed 300 ppm of the finished product	Acceptability determination	None under the accepted condition of use (1)
Antimicrobials	Sodium metasilicate and sodium carbonate blend	RTE poultry products	Up to 15 percent of a solution of sodium metasilicate and sodium carbonate (sodium metasilicate not to exceed 6 percent) applied as a surface application at a rate not to exceed 700 ppm by weight of the finished poultry product	Acceptability determination	None under the accepted condition of use (1)
Antimicrobials	Sodium propionate/ Propionic acid	Ready-to-eat meat and poultry, where antimicrobials are permitted.	Sodium propionate/ Propionic acid up to 0.5 percent (by weight of total formulation)	21 CFR 184.1784 184.1081	Listed by common or usual name in the ingredients statement (4)
Antimicrobials	A solution of sodium carbonate and disodium metasilicate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1742 and 21 CFR 1769	None under the accepted conditions for use
Antimicrobials	Sodium carbonate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1742	None under the accepted conditions for use

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antimicrobials	A solution of sodium citrate dihydrate, sodium hypochlorite, and potassium hydroxide solution	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1751 and acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide and sodium carbonate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763 and 21 CFR 184.1742	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide and sodium gluconate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 182.1480 and 21 CFR 182.6757	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide and sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763 and acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide and sodium metasilicate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763 and 21 CFR 184.1769	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide and sodium sulfate	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763 and acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide, potassium hydroxide, and sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763, 21 CFR 184.1631, and acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide, potassium hydroxide, sodium tripolyphosphate, and sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763, 21 CFR 184.1631, 21 CFR 182.1810, and acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide and potassium hydroxide	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763 and 21 CFR 184.1631	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide, sodium chloride, carbonic acid disodium salt, sodium hypochlorite, and hypochlorous acid	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763, 21 CFR 186.1797, 21 CFR 184.1742, and acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hydroxide, sodium chloride, and sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 184.1763, 21 CFR 186.1797, and acceptability determination	None under the accepted conditions for use
Antimicrobials	Sodium hydroxide	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
Antimicrobials	A solution of sodium hypochlorite, sodium chloride, and hypochlorous acid	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	21 CFR 186.1797 and acceptability determination	None under the accepted conditions for use
Antimicrobials	Sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
Antimicrobials	Trisodium phosphate	Raw poultry carcasses, parts, and giblets	Trisodium phosphate Pre-chill: Applied to carcasses or parts as a spray or dip up to 15 seconds using an 8-12 percent solution within the temperature range of 65 degrees F to 85 degrees F. Applied to giblets as a spray or dip up to 30 seconds using an 8-12 percent solution. Both applied in accordance with good manufacturing practice.(21 CFR 182.1778) Post-chill: Applied to carcasses or parts as a spray or dip up to 15 seconds using an 8-12 percent solution within a temperature range of 45 degrees F to 55 degrees F and used in accordance with good manufacturing practice. (9 CFR 424.21 (c) and 21 CFR 182.1778)	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Antioxidants	Butylated hydroxyanisole (BHA)	“Brown N Serve” sausages	Butylated hydroxyanisole (BHA) 0.02 percent in combination with other antioxidants for use in meat, based on fat content	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antioxidants	Butylated hydroxytoluene (BHT)	“Brown N Serve” sausages	Butylated hydroxytoluene (BHT) 0.02 percent in combination with other antioxidants for use in meat, based on fat content	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Antioxidants	A combination of canola oil, mono- and di-glycerides, the natural spice extract rosemary, and natural mixed tocopherols derived from sunflowers	Dried turkey broth powder	Combination of canola oil, mono- and di-glycerides, the natural spice extract rosemary, and natural mixed tocopherols derived from sunflowers at a level not to exceed 0.12 percent during production of dried turkey broth powder	Acceptability determination	None under the accepted conditions of use (1) except for rosemary extract. Rosemary extract should be identified as “rosemary extract, flavoring, or natural flavoring” in the ingredients statement
Binders	A combination of food starch (e.g., modified corn starch) and carrageenan	Turkey ham and water products and cured pork products where binders are permitted per 9 CFR 319.104	Combination of food starch (e.g., modified corn starch) not to exceed 3 percent of the product formulation with carrageenan not to exceed 1.5 percent (9 CFR 424.21(c))	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	A mixture of carrageenan, sodium carbonate, and xanthan gum	Raw poultry filets, whole carcasses, and parts	A mixture of carrageenan, sodium carbonate, and xanthan gum applied as a brine solution not to exceed 0.65 percent by weight in the finished product	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	A mixture of carrageenan, whey protein concentrate, and xanthan gum	Sausages where binders are permitted; cooked poultry products; beef and poultry patties; modified breakfast sausage, cooked sausages, and fermented sausages covered by FSIS Policy Memo 123; and modified substitute versions of fresh sausage, ground beef, or hamburger covered by FSIS Policy Memo 121B.	A mixture of carrageenan, whey protein concentrate, and xanthan gum not to exceed 3.5 percent by weight of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	A mixture of sodium alginate, calcium sulfate, glucono delta-lactone, and sodium pyrophosphate	Various meat and poultry products where binders are permitted	Mixture not to exceed 1.55 percent of product formulation with the sodium alginate not to exceed 1 percent of the product formulation and the sodium pyrophosphate not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Beef collagen	Various meat and poultry products where binders are permitted	Beef collagen not to exceed 3.5 percent of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Beef protein	As a coating or marinade or addition to beef pattie mix when the beef protein is used as (a) a water binding agent to retain moisture and/or (b) used to block fat in cooked product	Beef protein is only used in beef food products where binders are permitted and the ingredient "Beef Protein" is appropriately declared on the label of raw "Beef with Beef Protein" product per 9 CFR Section 317.2(c)(2). When used as a marinade or coating, beef protein does not exceed 0.8 percent by weight of the final product formulation. When used in the batter only, beef protein does not exceed 0.14 percent by weight of the final product formulation. When used as both coating and in the batter, beef protein does not to exceed 0.89 percent by weight of the final product formulation	GRAS Notice No. 000313	"Beef Protein" used when the protein concentration is 18percent or less; "Concentrated Beef Protein" used when protein concentration is greater than 18percent. Final determination will be made by FSIS when label is submitted for approval (2)
Binders	Binders listed in 9 CFR 424.21(c) for use in cured pork products and poultry products	"Turkey ham and water products"	Binders listed in 9 CFR 424.21© for use in cured pork products and poultry products added in accordance with 9 CFR 319.104(d) and 424.21(c)	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Canola Protein (CPI) and Hydrolized Canola Protein (HCPI)	Used as a binder in ground meat (beef and pork patties) and whole muscle poultry products where binders are permitted	Canola Protein (CPI) and Hydrolized Canola Protein (HCPI) up to 2 percent of product formulation	GRAS Notice No. 000386	Listed by common or usual name in the ingredients statement (2)
Binders	Carboxymethyl cellulose (cellulose gum)	Poultry franks	Carboxylmethyl cellulose (cellulose gum) not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Carboxymethyl cellulose	Cured pork products	Carboxylmethyl cellulose not to exceed 3 percent of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Carrageenan	Thickener in batter used to prepare poultry franks	Carrageenan not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Carrot Fiber	Various comminuted meat and poultry products where binders are permitted	Carrot fiber not to exceed 3.5 percent of the product formulation	GRAS Notice No. 000116	List as "isolated carrot product" -2
Binders	Cellulose, powdered conforming to the specifications in the Food Chemicals Codex 5th Edition	Various comminuted poultry products where binders are permitted	Cellulose, powdered conforming to the specifications in the Food Chemicals Codex 5th Edition not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Chicken Protein	Whole muscle poultry food products where binders are permitted provided the protein is used in products of the same kind (e.g., chicken protein in a marinade injected into whole muscle chicken food products)	Chicken protein not to exceed 0.80 percent of the final product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Chicken Protein, Concentrated Turkey Protein)	Various poultry products where the protein solution is used in products of the same kind (e.g., chicken protein in a coating of a breaded chicken fritter)	Chicken protein, concentrated turkey protein as a coating applied to the product and/or as a portion of the batter. Not to exceed 0.8 percent of product formulation when applied as a protein coating only, 0.14 percent of product formulation when used in the batter only, and 0.89 percent of product formulation when used as both a coating and in the batter	GRAS Notice No. 000168	Listed by common or usual name in the ingredients statement (2)
Binders	Citrus (dried mandarin oranges lemons, limes, grapefruits, and tangerines) flour and citrus pulp dried with guar gum	Various ground meat and poultry products where binders are permitted	Citrus flour and citrus pulp dried with guar gum not to exceed 3.5 percent of the product formulation	GRAS Notice No. 000487	List as 'citrus flour' or 'dried citrus pulp' with guar gum (2)
Binders	Citrus fiber products derived from the albedo or pith layer of lemon or lime peels with or without guar gum (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis)	In whole muscle cuts of meat and poultry and various comminuted meat and poultry products where binders are permitted	Citrus fiber products derived from the albedo or pith layer of lemon or lime peels with or without guar gum (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis) not to exceed 3.0 percent of product formulation	GRAS Notice No. 541	Listed as Citrus Fiber" in the ingredient statement
Binders	Citrus fiber (containing less than 85 percent dietary fiber based on appropriate AOAC methods of analysis)	Various whole muscle and comminuted meat and poultry products and RTE meat and poultry products where binders are permitted	Citrus fiber (containing less than 85 percent dietary fiber based on appropriate AOAC methods of analysis) level not exceeding the product's standard of identity limits with a maximum of 5 percent of total product formulation	GRAS Notice No. 000599	Listed as "isolated citrus product," which would also include the residual sucrose without the need to label it separately (2)
Binders	Corn Bran Fiber (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis)	As a formulation aid or as a texturizer in ground, whole muscle, emulsified and processed meat and poultry products, including sauces, soups and gravies, where binders are permitted	Corn Bran Fiber (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis) not to exceed 2 percent of the product formulation	GRAS Notice No. 000427, (21 CFR 170.3(o)(14)), (21 CFR 170.3(o)(32))	Listed as "corn hull fiber in the ingredients statement (2)
Binders	Dried potato	For use as a binder in products where binders are allowed	As a binder in meat products at 3.5 percent individually or collectively with other binders and extenders for use in meat where binders are permitted and at 3 percent for cooked poultry products and 2 percent for raw poultry products where binders are permitted.	Acceptability determination	Potato powder or potato (dry)
Binders	Dried potato and mustard flour	For use as a binder in products where binders are allowed	As a binder in meat products at 3.5 percent individually or collectively with other binders and extenders for use in meat where binders are permitted and at 3 percent for cooked poultry products and 2 percent for raw poultry products where binders are permitted.	Acceptability determination	Potato powder or potato (dry) and mustard flour
Binders	Guar Gum	(1) For use as whipping aid in egg products (2) Fish of the order Siluriformes	Guar Gum (1) Not to exceed 0.5 percent (2) Sufficient for purpose using good manufact-uring practices	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Guar powder, micronized	Various meat and poultry products where binders are permitted	Guar powder, micronized not to exceed 3.0 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Hydroxypropyl methylcellulose	Seasoning mixtures added to sauces and gravies produced under FDA jurisdiction that will be used in meat and poultry products	Hydroxypropyl methylcellulose sufficient for purpose	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Hydroxypropyl methylcellulose	Thickener in meat and poultry pot pie fillings, sauces, soups, and gravies	Hydroxypropyl methylcellulose not to exceed 1 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Inulin (Chicory Root Fiber when containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis)	Various meat and poultry products (e.g., frankfurters, sausage, patties, loaves, pates) where binders are permitted	Inulin 2 to 5 percent of the product formulation	Acceptability determination and GRAS Notice No. 000118	Listed by common or usual name in the ingredients (Inulin). Alterna-tively, may be listed as “Chicory Root Fiber” when containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis. (2)
Binders	Konjac flour	Meat and poultry products in which starchy vegetable flours are permitted	Konjac flour not to exceed 3.5 percent of the product formulation individually or collectively with other binders	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Meat Protein Extracts (MPEs)(poultry protein, beef protein, and pork protein). Produced through the use of Flavourzyme enzyme up to 0.5 percent by weight of raw meat and poultry products or the combination of Flavourzyme and Protamex enzymes up to 0.5 percent each by weight of raw meat and poultry products	As binding agents and coatings (flavorings) in meat and poultry products of the same species	Meat Protein Extract s (MPEs) in nonstandardized meat and poultry products that permit binders at levels not to exceed 0.89 percent by weight and in standardized meat and poultry products where standards of identity permit at levels not to exceed 0.89 percent by weight	Acceptability determination	Listed as “partially hydrolyzed (source of protein) in the ingredients statement (2)
Binders	Methylcellulose	Various comminuted meat and poultry products where binders are permitted	Methylcellulose not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Methylcellulose	Thickener in meat and poultry pot pie fillings, sauces, soups, and gravies; a binder in poultry patties, loaves, and nuggets; a binder in meat patties, loaves, and nuggets; texturizer in Policy Memo 121B and 123 products.	Methylcellulose not to exceed 1 percent of the product formulation as a thickener in meat and poultry pot pie fillings, sauces, soups, and gravies; 1.6 percent as a binder in poultry patties, loaves, and nuggets; 0.25 percent as a binder in meat patties, loaves, and nuggets; 0.6 percent as a texturizer in Policy Memo 121B and 123 products	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Microcrystalline cellulose and sodium carboxymethylcellulose	As a fat replacer and binder in standardized and non-standardized comminuted meat and poultry products	Microcrystalline cellulose and sodium carboxymethylcellulose in standardized comminuted meat and poultry products where binders are permitted and in non-standardized comminuted meat and poultry products at levels up to 3 percent	Acceptability determination	Listed as “cellulose gel, cellulose gum” in the ingredients statement (2)
Binders	Monocalcium phosphate (mono-, di-, and tribasic)	Fish of the order Siluriformes	Monocalcium phosphate (mono-, di-, and tribasic) sufficient for purpose using good manufacturing practices	21 CFR 182.1217	Listed by common or usual name in the ingredients statement (4)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Oat Bran, Oat Fiber	As a binder in intact and comminuted meat and poultry products where binders are permitted	0.5% - 3.5% of formulation	GRN 261	Listed as “oat bran, oat hull fiber” or “oat bran, oat fiber” in the ingredients statement (2). Whole muscle red meat must be descriptively labeled. Ex: “Beef and Binder Product”.
Binders	Oat Fiber	Various meat products (e.g., frankfurters, sausage patties, loaves) where binders are permitted and whole muscle meat products	Oat Fiber not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed as “isolated oat product” or “modified oat product” in the ingredients statement. Whole muscle meat products must be descriptively labeled (4)
Binders	Oat Fiber (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis)	In whole muscle cuts of meat and poultry and comminuted meat and poultry products where binders are permitted	Oat Fiber not to exceed 3.5 percent of product formulation	Acceptability determination	Listed as “Oat Fiber” in the ingredient statement
Binders	Oat Hull Fiber	Various non-standardized comminuted meat products	Oat Hull Fiber not to exceed 3.5 percent of the product formulation	GRAS Notice No. 000261	Listed as “isolated oat product” in the ingredients statement (2)
Binders	Oat Hull Fiber	Whole muscle and comminuted poultry products where binders are permitted	Oat Hull Fiber not to exceed 3.5 percent of the product formulation	GRAS Notice No. 000342	Listed as “isolated oat product” in the ingredients statement (2)
Binders	Oat Hull Fiber (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis)	In whole muscle cuts of meat and poultry and comminuted meat and poultry products where binders are permitted	Oat Hull Fiber not to exceed 3.5 percent of product formulation	Acceptability determination	Listed as “Oat Hull Fiber” in the ingredient statement
Binders	Oat Hull Fiber (containing a minimum of 85 percent dietary fiber based on appropriate AOAC method of analysis)	Anti-caking agent within powdered or crystallized organic acids and/or oleoresin-containing injectable brines for meat and poultry	Oat Hull Fiber at levels below 2 percent (w/w) of the dry mixtures, and at levels of 0.1 percent or less of the total product formulation	GRAS Notice No. 000261	Listed as “oat hull fiber” or as “isolated oat product” (if under 85 percent dietary fiber) in the ingredients statement (2)
Binders	Orange pulp, dried	Non-standardized whole muscle meat and poultry products where binders are permitted and standardized whole muscle meat and poultry products where standards of identity permit the use of binders	Orange pulp, dried not to exceed 3.5 percent of the product formulation	Acceptability determination	List as “citrus flour” or “dried orange pulp” (2)
Binders	Orange pulp, dried and orange pulp, dried with guar gum	Various ground meat and poultry products where binders are permitted	Orange pulp, dried and orange pulp, dried with guar gum not to exceed 3.5 percent of the product formulation	GRAS Notice No. 000154	List as “citrus flour” or “dried orange pulp” (2)
Binders	Orange pulp, dried and orange pulp, dried with guar gum	Processed egg products (liquid, frozen, and dried whole eggs)	Orange pulp, dried and orange pulp, dried with guar gum not to exceed 3.0 percent of total product formulation	Acceptability determination	Listed as 'citrus flour' or 'dried orange pulp'. If containing guar gum, label as 'citrus flour with guar gum' or 'dried orange pulp with guar gum'. (2)
Binders	Partially hydrolyzed proteins	Various meat and poultry products where binders are permitted.	Partially hydrolyzed proteins not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Pea fiber	Standardized meat and poultry products where binders are permitted and non-standardized meat and poultry products, e.g., meat patties and poultry nuggets	Pea fiber sufficient for purpose	Acceptability determination	Listed as “isolated pea product” (2)
Binders	Pea protein	Pea protein as a binder in comminuted and whole muscle meat and poultry products	At levels up to 3% where the standard of identity permits	GRN 803	Listed as “pea protein” or “pea protein isolate”
Binders	Pea protein	Pea protein as a binder and flavoring agent in various whole muscle and comminuted meat and poultry products and RTE meat and poultry products where binders are permitted	At a level not exceeding the product’s specific standard of identity limits and not more than 7% of the total product formulation.	GRN 581	Listed as “pea protein” or “pea protein isolate”
Binders	Pea protein proteolysate	Various whole muscle and comminuted meat and poultry products and RTE meat and poultry products	Pea protein proteolysate not to exceed the product’s specific standard of identity limits and not more than 7 percent of the total product formulation	GRN 1581	Listed as “pea protein proteolysate”’ or ‘pea protein isolate’.(2)
Binders	Pectin	Various meat and poultry products where binders are permitted	Pectin not to exceed 3 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Plum Extract/ Puree/ Fiber/powder	Whole cuts of meat and poultry products. Various, meat and poultry products where binders are permitted.	Plum Extract/ Puree/ Fiber/powder not to exceed Up to 2 percent product formulation	Acceptability Determination	List as “isolated plum product”
Binders	Pork collagen	Various meat and poultry food products where binders are permitted	Pork collagen not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Pork skin proteins	Various meat products where binders are permitted	Pork skin proteins not to exceed 1.5 percent of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Pork Protein	As a coating or marinade or addition to pork when the pork protein is used as (a) water binding agent to retain moisture and/or (b) block fat in cooked product	Pork protein is only used in pork products where binders are permitted and the ingredient “Pork Protein” is appropriately declared on the label of raw “Pork with Pork Protein” product per 9 CFR Section 317.2(c)(2); when used as marinade or protein coating not to exceed 0.8percent by weight of final product formulation; when used in batter only not to exceed 0.14percent by weight of final product formulation; when used as both coating and in batter not to exceed 0.89 percent by weight of final product formulation	GRAS Notice No. 000314	“Pork Protein” used when the protein concentration is 21 percent or less; “Concentrated Pork Protein” used when protein concentration is greater than 2 percent. Final determination will be made by FSIS when label is submitted for approval for “Pork with Pork Protein” product (2)
Binders	Potassium bicarbonate	Formulation aid in fish of the order Siluriformes	Potassium bicarbonate levels sufficient for purpose using good manufacturing practices	21 CFR 184.1613	Listed by common or usual name in the ingredients statement (4)
Binders	Potato fiber	Whole muscle poultry products and comminuted meat and poultry products where binders are permitted	Potato fiber not to exceed 3.5 percent of product formulation	GRAS Notice No. 000310	Listed as “isolated potato product” (2)
Binders	Potato protein concentrate	Meat and poultry products where binders are permitted	Potato protein concentrate not to exceed 3.0 percent of the product formulation; or 3.5 percent in combination with potato starch	Acceptability determination and GRAS Notice No. 000086	Listed as “Potato protein concentrate” in the ingredient statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Potato protein isolate	Various whole muscle and comminuted meat and poultry products where binders are permitted	Potato protein isolate not to exceed 3.0 percent of the product formulation	GRAS Notice No. 000447	Listed as “potato protein isolate” in the ingredients statement (2)
Binders	Psyllium Husk	As a binder in meat and poultry products where binders are permitted	Psyllium Husk at levels up to 0.3 percent of total product weight	Acceptability determination	Listed as “Psyllium” or “Psyllium Husk” in the ingredients statement (2)
Binders	Rice bran	Various comminuted meat and poultry products where binders are permitted (e.g., hot dogs, meatballs, and chicken patties)	Rice bran not to exceed 3.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Rice hull fiber	For use as a binder in meat and poultry products.	Up to 3.5 percent of the product formulation in products where binders are permitted.	GRAS Notice No. 000478	List by common or usual name in the ingredients statement (2)
Binders	Rice starch	As a binder in Whole muscle poultry where binders are permitted	Rice starch, 2 percent in raw; 3 percent in cooked poultry.	Acceptability determination	Listed by common name “rice starch” in the ingredients statement.
Binders	Rice starch	As a binder in Whole muscle meat products where binders are permitted	Rice starch, sufficient for purpose but level may be limited by food standards of identity or other approved conditions of use, for example up to 0.8 percent in cured pork products	Acceptability determination	Listed by common name “rice starch” in the ingredients statement.
Binders	Rice starch	As a binder in comminuted meat and poultry where binders are permitted	Rice starch, sufficient for purpose but level may be limited by food standards of identity or other approved conditions of use, for example up to 3.5 percent in a 9 CFR 319.140 “Sausage”	Acceptability determination	Listed by common name “rice starch” in the ingredients statement.
Binders	Rice starch	Cured pork products	Rice Starch not to exceed 0.8 percent of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Silicone dioxide	To prevent caking	Silicone dioxide sufficient for purpose using good manufacturing practices	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Binders	Sodium alginate	Various meat products where binders are permitted	Sodium alginate not to exceed 1 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Sodium alginate	Various poultry products where binders are permitted	Sodium alginate not to exceed 0.8 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Sodium aluminum phosphate	Fish of the order Siluriformes	Sodium aluminum phosphate levels sufficient for purpose using good manufacturing practices	21 CFR 182.1781	Listed by common or usual name in the ingredients statement (4)
Binders	Sodium carbonate or sodium bicarbonate	Fish of the order Siluriformes	Sodium carbonate or sodium bicarbonate levels sufficient for purpose using good manufacturing practices	21 CFR 184.1742, 21 CFR 184.1736	Listed by common or usual name in the ingredients statement (4)
Binders	Sodium phosphate (mono-, di-, and tribasic)	Fish of the order Siluriformes	Sodium phosphate (mono-, di-, and tribasic) sufficient for purpose using good manufacturing practices	21 CFR 182.1778	Listed by common or usual name in the ingredients statement (4)
Binders	Soy Fiber (Okara)	Sausages as provided for in 9 CFR Part 319, bockwurst	Soy Fiber (Okara) not to exceed 3.5 percent of the formulation individually or collectively with other binders for use in meat	Acceptability determination	Listed as “Isolated Soy Product” in the ingredients statement (2)
Binders	Soy Fiber (Okara)	Chili con carne, chili con carne with beans	Soy Fiber (Okara) not to exceed 8 percent of the formulation individually or collectively with other binders for use in meat	Acceptability determination	Listed as “Isolated Soy Product” in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Binders	Soy Fiber (Okara)	Spaghetti with meatballs and sauce, spaghetti with meat and sauce and similar products	Soy Fiber (Okara) not to exceed 12 percent of the formulation individually or collectively with other binders for use in meat	Acceptability determination	Listed as “Isolated Soy Product” in the ingredients statement (2)
Binders	Soy Fiber (Okara)	Various meat and poultry products (e.g., patties, loaves, pates) where binders are permitted	Soy Fiber (Okara) sufficient for purpose	Acceptability determination	Listed as “Isolated Soy Product” in the ingredients statement (2)
Binders	Sugar beef fiber	Used as a binding and/or thickening agent in standardized meat and poultry products, and in non-standardized meat and poultry products such as beef and poultry patties, sausages, or chicken links.	Sugar beef fiber in non-standardized meat and poultry products at levels up to 5 percent, and in standardized meat and poultry products where binding and/or thickening agents are permitted.	GRAS Notice No. 000430	Listed as “sugar beet pulp,” or “sugar beet powder,” or “sugar beet pulp powder” in the ingredients statement (2)
Binders	Transglutaminase enzyme	Texturizing agent in meat and poultry food products where texturizing agents and binders are permitted	Transglutaminase enzyme not to exceed 65 ppm of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Transglutaminase enzyme	Cross-linking agent in modified meat and poultry products addressed in Policy Memos 121B and 123.	Transglutaminase enzyme not to exceed 65 ppm of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Transglutaminase enzyme	Binding and cross-linking agent in uncooked restructured chicken breasts	Transglutaminase enzyme not to exceed 100 ppm of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Binders	Trehalose	Binding and purge control agent in various meat and poultry products where binders are permitted	Trehalose not to exceed 2 percent of the product formulation	GRAS Notice No. 000045	Listed by common or usual name in the ingredients statement (2)
Binders	Xanthan gum (purified by recovery with ethyl alcohol)	Various meat and poultry products where binders are permitted and in fish of the order Siluriformes.	Non-standardized meat and poultry products and products with a standard of identity which currently permit the use of xanthan gum listed in 9 CFR 424.21(c) Sufficient for purpose in accordance with 21 CFR 172.5	GRAS Notice No. 000121 9 CFR 424.21(c)	Listed by common or usual name in the ingredients statement (4)
Coloring Agents	Annatto powder (annatto extract, water, potassium carbonate, potassium hydroxide)	To tint sodium nitrite containing cure meat or poultry blends for purposes of visual confirmation of addition in batching operations (in lieu of FD&C Red #3)	Annatto powder (annatto extract, water, potassium carbonate, potassium hydroxide) at less than 1 ppm per 1000 pounds of meat or poultry blending	Acceptability determination	None under the accepted conditions of use (1)
Coloring Agents	Carmine (cochineal)	To color isolated soy protein for use in dry cured acidified sausages	Carmine (cochineal) 0.2 to 0.4 percent of the hydrated protein gel. The protein gel must not exceed 30 percent of the meat food product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (5); Product name requires qualifying statement such as “Artificially Colored”
Coloring Agents	Carmine (cochineal)	To color non-standardized fully cooked poultry products and standardized fully cooked poultry products that permit the use of coloring agents	Carmine (cochineal) not to exceed 0.0075 percent of total finished product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (5); Product name requires qualifying statement such as “Artificially Colored”
Coloring Agents	Citric acid	For use as color stabilizer in egg products	Citric acid sufficient for purpose	Acceptability determination	List by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Coloring Agents	Monopotassium phosphate or monosodium phosphate	For use as color preservative in egg products	Monopotassium phosphate or monosodium phosphate not to exceed 0.5 percent in liquid whole egg. If water is used as a carrier, not to exceed 50 percent of the solution mixture by weight.	Acceptability determination; 21 CFR 160.110(a)	List by common or usual name in the ingredients statement (2)
Coloring Agents	Titanium dioxide	To color non-standardized RTE poultry products and standardized RTE poultry products that permit the use of coloring agents	Titanium dioxide not to exceed 0.25 percent by weight of the food product	Acceptability determination; 21 CFR 73.575	Listed by common or usual name in the ingredients statement (5). Product name requires qualifying statement contiguous to product name such as “Artificially Whitened” or “Artificially Lightened”
Coloring Agents	Tomato lycopene extract and concentrate	To color RTE meat products that permit the use of coloring agents	Tomato lycopene extract used at a level not to exceed 50 mg/kg lycopene in product. Tomato lycopene concentrate used at a level not to exceed 100 mg/kg of lycopene in product.	GRAS Notice No. 000156	Listed by common or usual name in the ingredients statement (5); Product name requires qualifying statement such as “Colored with lycopene tomato extract”
Curing Accelerators (must be used only in combination with curing agents)	Potassium erythorbate	Cured pork and beef cuts; cured meat food products; cured comminuted poultry or poultry products	Potassium erythorbate 87.5 oz. to 100 gallons of pickle at 10 percent pump; 7/8 oz. to 100 lbs. Of meat, meat byproduct or poultry product; 10 percent to surfaces of cured meat cuts or poultry products prior to packaging	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Calcium carbonate	Denuding agent for washing tripe	Calcium carbonate sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Calcium citrate	Denuding agent for washing tripe	Calcium citrate sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Calcium hydroxide	Denuding agent for washing tripe	Calcium hydroxide sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Potassium carbonate	Denuding agent for washing tripe	Potassium carbonate sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Potassium citrate	Denuding agent for washing tripe	Potassium citrate sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Potassium hydroxide	Denuding agent for washing tripe	Potassium hydroxide sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Tricalcium phosphate	Denuding agent for washing tripe	Tricalcium phosphate sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Denuding agents (may be used in combination. Must be removed from tripe by rinsing with potable water.)	Tripotassium phosphate	Denuding agent for washing tripe	Tripotassium phosphate sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Emulsifying Agents	DATEM (diacetyl tartaric acid esters of mono- and diglycerides)	Used to emulsify shortening products* *9 CFR 424 also refers to the use of DATEM in various poultry products, however the safety has not been confirmed in meat and poultry products other than shortening.	DATEM (diacetyl tartaric acid esters of mono- and diglycerides) sufficient for purpose	9 CFR 424.21	Listed by common or usual name in the ingredients statement “DATEM.”
Emulsifying Agents	Papain enzyme	Egg products (egg white)	Papain enzyme not to exceed 0.25 percent of total product formulation	Acceptability determination	Listed by common or usual name 'Papain' in the ingredients statement. (2)
Emulsifying Agents	Phospholipase A2 enzyme derived from a non-animal source	Egg products (egg yolks and whole eggs)	Phospholipase A2 enzyme derived from a non-animal source not to exceed 0.05 percent of total product formulation	GRN 183	Listed by common or usual name 'Phospholipase” in the ingredients statement.(2)
Emulsifying Agents	Phospholipase A2 enzyme derived from a non-animal source	Egg products (egg yolks and whole eggs)	Phospholipase A2 enzyme derived from a non-animal source not to exceed 0.05 percent of total product formulation	GRN 212	Listed by common or usual name 'Phospholipase” in the ingredients statement. (2)
Film Forming Agents	A mixture of invert sugar, water, maltodextrin, malic acid, modified food starch, pectin, and xanthan gum	Used to transfer flavorings, spices or coloring to the packaging materials of meat and poultry products	A mixture of invert sugar, water, maltodextrin, malic acid, modified food starch, pectin, and xanthan gum not to exceed 0.5 percent of the total of the finished product	Acceptability determination	None under the accepted conditions of use (1)
Film Forming Agents	Aqueous mixture of Sunflower lecithin, acetic acid, citric acid, corn starch, rice bran extract, propylene glycol and methylcellulose	For use as an aid in the release of netting and/or casing on meat and poultry products after cooking and to transfer spices onto the meat or poultry product	Aqueous mixture of Sunflower lecithin, acetic acid, citric acid, corn starch, rice bran extract, propylene glycol and methylcellulose, not to exceed 2 percent of the product formulation	Acceptability determination	None under the accepted conditions of use. Any spices added to the release agent must be listed on the ingredient statement
Film Forming Agents	A mixture of water, glycerin, carrageenan, and cornstarch	Used to aid in the release of elastic netting on cooked meat products that are cooked in elastic netting	A mixture of water, glycerin, carrageenan, and cornstarch sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Film Forming Agents	A mixture of water, glycerin, carrageenan, cornstarch, and caramel	Used to aid in the release of elastic netting on cooked meat products that are cooked in elastic netting	A mixture of water, glycerin, carrageenan, cornstarch, and caramel sufficient for purpose	Acceptability determination	“Caramel Color” listed as an ingredient and as a product name qualifier (2)
Film Forming Agents	A mixture of water, glycerin, carrageenan, cornstarch, and smoke flavoring	Used to aid in the release of elastic netting on cooked meat products that are cooked in elastic netting	A mixture of water, glycerin, carrageenan, cornstarch, and smoke flavoring sufficient for purpose	Acceptability determination	“Smoke Flavor” listed as an ingredient and as a product name qualifier (2)
Film Forming Agents	A mixture of water, liquid smoke, citric acid, phosphated mono-and diglycerides, sodium salt, cellulose gum, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate	For use as an aid in the release of netting and/or casing on meat and poultry products after cooking	A mixture of water, liquid smoke, citric acid, phosphated mono-and diglycerides, sodium salt, cellulose gum, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate not to exceed 2 percent of the product formulation	Acceptability determination	Listed as 'liquid smoke' in the ingredients statement (1)
Film Forming Agents	A mixture of water, liquid smoke, citric acid, cellulose gum, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate	For use as an aid in the release of netting and/or casing on meat and poultry products after cooking	A mixture of water, liquid smoke, citric acid, cellulose gum, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate not to exceed 2 percent of the product formulation	Acceptability determination	Listed as 'liquid smoke' in the ingredients statement (1)
Film Forming Agents	A mixture of water, liquid smoke, citric acid, cellulose gum, rice bran extract, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate	For use as an aid in the release of netting and/or casing on meat and poultry products after cooking	A mixture of water, liquid smoke, citric acid, cellulose gum, rice bran extract, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate not to exceed 2 percent of the product formulation	Acceptability determination	Listed as 'liquid smoke and rice bran extract' in the ingredients statement (1)
Film Forming Agents	A mixture of water, propylene glycol, sodium alginate, potassium sorbate, citric acid, and calcium chloride	For use as an aid in the release of netting and/or casing on meat and poultry products after cooking	A mixture of water, propylene glycol, sodium alginate, potassium sorbate, citric acid, and calcium chloride not to exceed 2 percent of the product formulation	Acceptability determination	None under the accepted conditions of use (1)
Film Forming Agents	A mixture of water, sunflower oil and sunflower lecithin, liquid smoke with polysorbate, citric acid, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate	For use as an aid in the release of netting and/or casing on meat and poultry products after cooking	A mixture of water, sunflower oil and sunflower lecithin, liquid smoke with polysorbate, citric acid, calcium chloride, propylene glycol, sodium alginate, xanthan gum, and potassium sorbate not to exceed 2 percent of the product formulation	Acceptability determination	Listed as 'liquid smoke' in the ingredients statement (1)
Film Forming Agents	A solution of sodium alginate, dextrose, isolated pea protein, sugar, and maltodextrin (DE of 6) used with a solution of calcium chloride, powdered sugar, oleoresin black pepper, and isolated pea protein.	Used to form a calcium alginate-based casing on pork and poultry sausages.	A solution of sodium alginate, dextrose, isolated pea protein, sugar, and maltodextrin (DE of 6) used with a solution of calcium chloride, powdered sugar, oleoresin black pepper, and isolated pea protein. Quantity of the casing on the sausage ranges from 8 to 15 percent of total product formulation and calcium alginate not to exceed 0.219 percent of the finished product formulation	Acceptability determination	List all ingredients used in the casing by common or usual name in the ingredients statement (4)
Film Forming Agents	Canola oil	Used as a release agent on belts during the freezing of raw poultry products.	Applied on the freezer belt at a maximum amount of approximately 6 pounds (1 gallon) resulting in 0.001 g/in2 of canola oil on the form freeze belt.	Acceptability determination	None under the accepted conditions of use (2)
Film Forming Agents	Gelatin spice sheets	To ensure even distribution of seasonings on cooked pork products	Gelatin spice sheets sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Film Forming Agents	Hydroxypropyl methylcellulose	Film-forming agent in glazes for meat and poultry products	Hydroxypropyl methylcellulose not to exceed 4 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Film Forming Agents	Methylcellulose	Film-forming agent in glazes for meat and poultry products	Methylcellulose not to exceed 3 percent of the product formulation for poultry products, 3.5 percent of the product formulation for meat products	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Film Forming Agents	Sodium alginate, guar gum, dicalcium phosphate, acetylated distarch adipate (modified food starch), and sodium hexametaphosphate	For use as a component in sausage casing for various types of sausages, specifically as part of the solution used to encase the sausage	Sodium alginate, guar gum, dicalcium phosphate, acetylated distarch adipate (modified food starch), and sodium hexametaphosphate as a component in sausage casing, specifically as part of the solution used to encase the sausage, at a range from 2 to 15 percent of total product formulation	Acceptability determination	Listed as 'alginate- based casing (sodium alginate, guar gum, dicalcium phosphate, modified food starch, and sodium hexametaphosphate)'at the end of the ingredients statement (4)
Film Forming Agents	Sodium alginate, acetylated distarch adipate (modified food starch), and sodium hexametaphosphate	For use as a component in sausage casing for various types of sausages, specifically as part of the solution used to encase the sausage	Sodium alginate, acetylated distarch adipate (modified food starch), and sodium hexametaphosphate as a component in sausage casing, specifically as part of the solution used to encase the sausage, at a range from 0.7 to 5.5 percent of the casing solution and the dry mixture not to exceed 0.6 percent of total product formulation	Acceptability determination	Listed as “alginate-based casing (sodium alginate, modified food starch, and sodium hexametaphosp-hate)”at the end of the ingredients statement (4)
Film Forming Agents	A proprietary mixture of water, propylene glycol, sodium citrate, xanthan gum and guar gum (action gum), citric acid, sunflower lecithin and/or rapeseed lecithin, soybean oil, polysorbate, distilled acetylated monoglycerides, corn starch, and tertiary butylhydroquinone.	For use as aid in the release of netting and/or casing on meat and poultry products after cooking.	Not to exceed 2 percent of total product formulation.	Acceptability determination	None under the accepted conditions of use (1)
Film Forming Agents	A mixture of water, propylene glycol, sodium citrate, and xanthan gum and guar gum (action gum)	For use as aid in the release of netting and/or casing on meat and poultry products after cooking.	Not to exceed 2 percent of total product formulation.	Acceptability determination	None under the accepted conditions of use (1)
Flavoring Agents	A blend of lemon juice and vinegar	Various non standarized raw, cured, and ready to eat meat and poultry products and on standardized meat and poultry products where flavoring agents are permitted	A blend of lemon juice and vinegar up to 3.5 percent of product formulation	Acceptability determination	Listed by common or usual name 'lemon juice and vinegar'in the ingredients statement for various non standarized raw, cured, and ready to eat meat and poultry products and on standarized meat and poultry products where flavoring agents are permitted. Ground beef and ground poultry must be descriptively labeled (4)
Flavoring Agents	Adenosine 5'-monophosphoric acid (AMP) and its monosodium and disodium salts	As a flavor enhancer for meat and poultry soups and soup mixes	Adenosine 5'-monophosphoric acid (AMP) and its monosodium and disodium salts not to exceed 200 ppm of the product formulation	GRAS Notice No. 000144	Listed by common or usual name in the ingredients statement (2)
Flavoring Agents	A mixture of L- lysine and L-glutamic acid	Raw meat and poultry products	A mixture of L- lysine and L- glutamic acid applied as a brine solution prior to cooking and/or smoking not to exceed 0.6 percent in finished product	Acceptability determination	Listed by common or usual name in the ingredients statement (4)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Flavoring Agents	Carboxypeptidase enzyme preparation	To accelerate the development of flavor during the ripening process of fermented meat	Carboxypeptidase enzyme preparation at levels of 1.2-6.0 milligrams TOS/kg of fermented meat	GRAS Notice No. 000345	Listed as Carboxypeptidase (CPG) enzyme or 'enzyme' in the ingredients statement (2)
Flavoring Agents	Encapsulated Sodium diacetate	Flavor enhancer in fresh and ready-to-eat (RTE) comminuted and whole muscle meat and poultry added as a component in seasoning blends and meat sauces	Encapsulated Sodium diacetate at a level not to exceed 1.0 percent (total formula weight) in combination with other GRAS acids at a level sufficient to achieve a pH of 4.8 – 5.5	Acceptability determination	Listed by common or usual name in the ingredients statement. Comminuted product must be descriptively labeled. (2)
Flavoring Agents	Lactic acid	As a flavor enhancer added to pork fatty tissue used in the production of dehydrated pork fatty tissue	Lactic acid not to exceed 0.367 percent of the pork fatty tissue, prior to dehydration	Acceptability determination	Product must be descriptively labeled (4)
Flavoring Agents	Laminaria japonica (brown algae)	As a flavor enhancer or flavoring agent in marinades for meat and poultry, meat and poultry soups, gravies, and seasonings	Laminaria japonica (brown algae) not to exceed 0.08 percent of the product formulation	GRAS Notice No. 000123	Listed by common or usual name in the ingredients statement (2)
Flavoring Agents	Malic acid	Flavoring agent in fish of the order Siluriformes	Malic acid at levels sufficient for purpose using good manufacturing practices	21 CFR 582.1069	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Mixture of citrus (orange) extract, oregano extract, and rosemary extract	As a natural flavoring in meat and poultry products including RTE, fresh, cooked and frozen beef, pork, and poultry products where currently permitted by FSIS regulations	Mixture of citrus (orange) extract, oregano extract, and rosemary extract up to 1000 ppm of the final product formulation	Acceptability determination	Each ingedient listed by common or usual name or collectively as “natural flavoring” (4)
Flavoring Agents	Monosodium glutamate (MSG)	Flavoring agent in fish of the order Siluriformes in various meat and poultry products and fish of the order Siluriformes	Monosodium glutamate (MSG) at levels sufficient for purpose using good manufacturing practices	9 CFR 424.21, 21 CFR 182.1	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Pea protein proteolysate	Various whole muscle and comminuted meat and poultry products and RTE meat and poultry products	Pea protein proteolysate not to exceed the product’s specific standard of identity limits and not more than 7 percent of the total product formulation	GRN 1581	Listed as “pea protein proteolysate”’ or ‘pea protein isolate’.(2)
Flavoring Agents	Potassium acetate	Various meat and poultry products	Potassium acetate not to exceed 1.2 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Potassium carbonate	Flavoring agent in fish of the order Siluriformes	Potassium carbonate levels sufficient for purpose using good manufacturing practices	21 CFR 184.1619	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Potassium citrate	As a flavor or flavor enhancing agent in meat and poultry products	Potassium citrate not to exceed 2.25 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Sodium acetate and sodium diacetate mixture	Various meat and poultry products	Sodium acetate and sodium diacetate mixture as a combination not to exceed 0.80 percent total formulation weight. Sodium acetate not to exceed 0.50 percent of the formulation weight; Sodium diacetate not to exceed 0.30 percent of the formulation weight.	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Sucralose	Non-nutritive sweetener in various non-standardized meat and poultry products	Sucralose not to exceed 500 ppm in the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Flavoring Agents	Trehalose	As a flavor enhancer in non-standardized RTE meat and poultry products	Trehalose not to exceed 2 percent by weight of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Beef Protein	A 1.8 percent beef protein solution pH adjusted with the use of up to 0.5 percent citric acid used as a processing aid in frying beef products to reduce fat uptake.	Beef Protein applied as a coating at up to 0.8 percent (by weight of the final product), or as a component of batter at up to 0.14 percent, and as both at a combined total of up to 0.89 percent	GRAS Notice No. 000313	None under the accepted conditions of use (1)
Miscellaneous	Activated charcoal	Use of activated charcoal in collecting and removing gases and liquid impurities during the beef aging process.	For single-use only and the amount of activated charcoal used will not exceed 0.00135 wt.percent or 13.5 ppm on beef. The inedible fat layer that contains the activated charcoal will be cut off and discarded prior to retail.	Food Contact Substance Notification No. FCN 1629	None under the accepted conditions of use (6)
Miscellaneous	Alkyl polyglycosides	Hog scalding	Alkyl polyglycosides sufficient for purpose of increasing the wetting ability of the caustic solution	GRAS Notice No. 000237	None under the accepted conditions of use (1)
Miscellaneous	Alkyl polyglycosides	(1) Wash meat (i.e., beef carcasses after the hide has been removed to remove any extraneous hair, dirt, etc during butchering, parts, trim, and organs) and (2) wash poultry (i.e., whole or eviscerated carcasses, parts, and trim after defeathering)	Up to 0.5% (w/v) in wash water followed by an aqueous intervention without APG, or up to 2% (w/v) in wash water followed by a potable water wash	GRAS Notice No. 000237 (supplemented)	None under the accepted conditions of use (1)
Miscellaneous	Ammonium hydroxide	To adjust the pH of brine solutions prior to injection into meat	Ammonium hydroxide sufficient for purpose to achieve a brine solution with a pH of up to 11.6	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	An aqueous mixture of dimethylpolysilo-xane,Tween 60, S-Maz 60, a Kosher Base (DMPS and Silicone Dioxide) and Formaldehyde	Spray, drench, or dip for raw poultry carcasses/parts (may be used with Cecure™)	A proprietary blend (including ≤10 percent DMPS, ≤0.08 percent Formaldehyde)	21 CFR 173.340, 21 CFR 172.842, CFR 172.480 and 9 CFR 424.21(c)	None under the accepted conditions of use (1)
Miscellaneous	An aqueous solution of arginine, potassium hydroxide, salt, and water	pH control agent in brine solutions for beef subprimals or to make beef patties	Arginine is added to the salt and water brine solution and the pH is adjusted. The potassium hydroxide is then added and the pH is adjusted.	Acceptability determination L-arginine: GRAS Notice No. 000290	Salt and water must be listed by common or usual name on the ingredients statement
Miscellaneous	An aqueous solution of Sodium Hydroxide and Sodium Gluconate	As a cleaning agent to remove hair and dirt from bovine and ovine feet	Final concentrations will be 3.76-4.67 percent sodium hydroxide and 0.26-0.32 percent sodium gluconate, in water solution	21 CFR 182.6757 and 21 CFR 184.1763	None under the accepted conditions of use (1)
Miscellaneous	An aqueous solution of Hydrogen Peroxide	As a bleaching agent on bovine and ovine feet	Final concentration of Hydrogen Peroxide between 0.38-0.48 percent wt. followed by a potable water rinse	21 CFR 184.1366(c)	None under the accepted conditions of use (1)
Miscellaneous	An aqueous solution of alkyl polyglycoside	As a cleaning agent to remove hair and dirt from bovine and ovine feet	Concentration of Alkyl Polyglycoside will be 0.01-0.03 percent wt. in water solution followed by a potable water rinse or removed by subsequent	Acceptability Determination	None under the accepted conditions of use (1)
Miscellaneous	A 60/40 blend of sodium bicarbonate and citric acid	To generate carbon dioxide in packages of raw whole muscle cuts of meat and poultry; raw meat and poultry trimmings; raw ground meat and poultry	A 60/40 blend of sodium bicarbonate and citric acid incorporated into soaker pads at a level not to exceed 0.5 to 2 grams per pad	Acceptability determination	None under the accepted conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	A mixture of potato starch, sodium and postassium di-and triphosphate, dextrose, carrageenan, microcrystalline cellulose (cellulose gel), xanthan gum, sodium ascorbate, and sodium erythorbate	For use in meats and poultry as a binder where binders are permitted, although the presence of the sodium ascorbate and sodium erythorbate would limit the use of this ingredient to cured products, and their levels of use must comply with the limits prescribed in 9 CFR 424.21.	A mixture of potato starch, sodium and postassium di-and triphosphate, dextrose, carrageenan, microcrystalline cellulose (cellulose gel), xanthan gum, sodium ascorbate, and sodium erythorbate in meats and poultry as a binder where binders are permitted at 3 percent of the finished	Acceptability determination	Listed as “potato starch, sodium and postassium di-and triphosphate, dextrose, carrageenan, microcrystalline cellulose (cellulose gel), xanthan gum, sodium ascorbate, and sodium erythorbate' in the ingredients statement (2)
Miscellaneous	A mixture of sodium chloride, potassium chloride, and sodium gluconate	For use in whole muscle meats and poultry for sodium reduction	A mixture of sodium chloride, potassium chloride, and sodium gluconate at levels sufficient for purpose	Acceptability determination	Listed as “salt, potassium chloride, and sodium gluconate” in the ingredients statement (2)
Miscellaneous	A mixture of sodium chloride, sodium ferrocyanide, potassium chloride, magnesium carbonate, sodium nitrite, medium chain triglycerides (MCT) and sodium gluconate	For use in whole muscle meats, meat products and poultry products for sodium reduction and curing	A mixture of sodium chloride, sodium ferrocyanide, potassium chloride, magnesium carbonate, sodium nitrite, medium chain triglycerides (MCT) and sodium gluconate at a level of up to 3 percent of product formulation	Acceptability determination	Listed as 'salt, sodium gluconate, potassium chloride, and sodium nitrite” in the ingredients statement (2)
Miscellaneous	A solution of water, dextrose, glycerin, maltose, and sodium phosphate	To aid in the removal of residual blood from beef, bison, pork, lamb and goat carcasses after the typical exsanguination process is completed.	A solution of water, dextrose, glycerin, maltose, and sodium phosphate sufficient for purpose	Acceptability determination	For all edible tissue none under the accepted conditions of use unless the Moisture Fat Freepercent (MFFpercent) analysis shows treated carcasses are not in compliance with retained water requirements. All edible tissue from treated carcasses not in compliance must be labeled in accordance with Policy Memo 066C. Organ meat from all treated carcasses must be descriptively labeled to indentify the ingredients of the solution. Labeling of the solution; however, is not required in the ingredients statement of further processed meat products formulated with organ meat treated with the solution (e.g., beef patties formulated with beef hearts). (1)
Miscellaneous	Algal oil derived from *Schizochytrium sp.*	For use as an alternative edible oil in the production of various meat and poultry products	Algal oil derived from *Schizochytrium sp.* not to exceed 1.45 percent by weight of the product formulation for meat products and 0.87 percent by weight of the product formulation for poultry products	GRAS Notice No. 000137	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	High Oleic Algal Oil derived from *Prototheca moriformis*	To partially replace other edible oils (fats) used in the production of the meat and poultry-containing products	Not to exceed 5% by weight of the product formulation of meat and poultry-containing products	GRAS No. 000754	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Barley fiber	For use as a texturizer in sauces, soups, and gravies containing meat and poultry	Barley fiber not to exceed 2.5 percent by weight of the product formulation	GRAS Notice No. 000344	Listed as “isolated barley product” in the ingredient statement (2)
Miscellaneous	Bacterial proteolytic food grade enzyme derived from Bacillus subtilis and alkaline protease food grade enzyme made from Bacillus licheniformis	To reduce gelation and viscosity of cooked meat and poultry broths, stocks, and extracts	Bacterial proteolytic food grade enzyme derived from Bacillus subtilis and alkaline protease food grade enzyme made from Bacillus licheniformis ,0.1 percent of each enzyme for a maximum of 0.2 percent the total formulation.	Acceptability determination	None under the accepted conditions of use (2)
Miscellaneous	Carrageenan, dextrose, and sodium hexametaphosphate (optional)	To aid in suspending insoluble solids in brine before pumping into meat and poultry products	Up to 0.53 percent carrageenan, 0.19 percent dextrose, and 0.17 percent sodium hexametaphosphate (optional) to suspend insoluble solids in a brine solution	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Cellulose (powdered)	To facilitate grinding and shredding in cheese	Cellulose not to exceed 2 percent of the cheese	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Choline chloride with or without magnesium stearate	For use as a direct replacement for sodium chloride in meat and poultry products including processed, ready-to-eat (RTE), fresh and frozen meat and poultry products with or without stated standards of identity or composition	Not to exceed 6000 ppm choline chloride. When magnesium stearate is used with choline chloride it is used with 2 percent added magnesium stearate	Acceptability determination	Listed as “choline chloride” in the ingredient statement (1)
Miscellaneous	Citroglycerides (citric acid esters of mono- and diglycerides)	To aid in the dispersion of lauric arginate (LAE)	Citroglycerides used in a 5:1 mixture with lauric arginate with the maximum amount in meat and poultry products not to exceed 1125 ppm	GRAS Notice No. 000222	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Cultured Sugar (derived from cane, corn, or beets)	In uncooked (raw) sausage meat	Cultured sugar at up to 4.8 percent of the product formula	GRAS Notice No. 000240	Cultured cane and beet sugar listed by common or usual name (e.g., “cultured cane sugar) or as “cultured sugar.” Cultured corn sugar listed as “cultured corn sugar” or “cultured dextrose” (2)
Miscellaneous	DHA 350 oil extracted and refined from Schizochytrium sp. strain FCC-1324	Alternative edible oil in the production of meat and poultry products	Not to exceed 1.45 percent by weight of the product formulation for meat products and 0.87 percent by weight of the product formulation for poultry products	GRAS Notice No.000843	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	DHA 550 oil extracted and refined from Schizochytrium sp. strain FCC-1324	Alternative edible oil in the production of meat and poultry products	Not to exceed 0.92 percent by weight of the product formulation for meat products and 0.55 percent by weight of the product formulation for poultry products	GRAS Notice No. 000844	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Diacylglycerol oil	For use as an alternative edible oil in the production of various meat and poultry products	Diacylglycerol oil not to exceed 11 percent of the meat or poultry product formula	GRAS Notice No. 000115	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Dimethylpolysiloxane (methyl polysilicone)	Antifoaming agent in soups, rendered fats, curing solutions and non-curing brine solutions	Dimethylpolysiloxane (methyl polysilicone) not to exceed 10 ppm in soups and rendered fats; up to 50 ppm in curing solutions and non-curing brine solutions	21 CFR 173.340 and 9 CFR 424.21(c)	None under the accepted conditions of use (1)
Miscellaneous	Erythorbic Acid	To delay discoloration in ground beef and ground beef patties	Erythorbic acid not to exceed 0.04 percent of the product formulation	Acceptability determination	Product must be descriptively labeled (2)
Miscellaneous	Fish oil concentrate	For use as an alternative edible oil in the production of various meat and poultry products	Fish oil concentate not to exceed 2.9 percent by weight of the product formulation for meat products and 1.7 percent by weight of the product formulation for poultry products	GRAS Notice No. 005	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Fish oil (predominantly sardine, anchovy, and tuna)	For use as an alternative edible oil in the production of various meat and poultry products	Fish oil (predominantly sardine, anchovy, and tuna) not to exceed 3.3 percent by weight of the product formulation for meat products and 2.0 percent by weight of the product formulation for poultry products	GRAS Notice No. 000193	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Fish oil (predominantly anchovy)	For use as an alternative edible oil in the production of various meat and poultry products	Fish oil (predominantly anchovy) not to exceed 3.3 percent by weight of the product formulation for meat products and 2.0 percent by weight of the product formulation for poultry products	GRAS Notice No. 000138	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Fish oil (predominantly anchovy) microencapsulated	For use as an alternative edible oil in the production of various meat and poultry products	Fish oil (predominantly anchovy) microencapsulated not to exceed 6.0 percent by weight of the product formulation for meat products and 3.6 percent by weight of the product formulation for poultry products	GRAS Notice No. 000138	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Fungal protease produced by Aspergillus oryzae	To hydrolyze finely ground poultry and meat to facilitate reduction of particle size and/or liquefy to make homogenous slurries, purees, and broths, and to reduce gelation and viscosity of finely ground meat and poultry, broths, stocks, and extracts.	1) Enzeco Protease FNP at levels of up to 0.2percent of the enzyme per batch, as calculated by solids content. 2) Enzeco Fungal Protease Concentrate MG at levels of up to 0.5 percent of the enzyme per batch, as calculated by solids content.	GRAS Notice No. 000090	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Glucose oxidase and catalase enzymes from *Aspergillus niger* with a dextrose energy source and sodium bicarbonate buffer	To maintain a low oxygen atmosphere in packages of raw whole muscle cuts of meat and poultry	Glucose oxidase and catalase enzymes from *Aspergillus niger* with a dextrose energy source and sodium bicarbonate buffer incorporated into soaker pads such that the enzymes do not exceed 0.03 percent by weight of the meat or poultry	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Glucose oxidase and catalase enzymes from *Aspergillus niger* with a dextrose energy source and sodium bicarbonate buffer	To maintain a low oxygen atmosphere in packages of shelf-stable, ready-to-eat, meat products	Glucose oxidase and catalase enzymes from *Aspergillus niger* with a dextrose energy source and sodium bicarbonate buffer applied to the surface of the product such that the enzymes do not exceed 0.03 percent by weight of the meat food product	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Glycerophospholipid cholesterol acyltransferase (GCAT) enzyme preparation from *Bacillus licheniformis* expressing a modified GCAT gene from *Aeromonas salmonicida* subsp. s*almonicida* (GCAT enzyme preparation)	For use as an emulsifier in comminuted meat products	Glycerophospholipid cholesterol acyltransferase (GCAT) enzyme preparation from Bacillus licheniformis expressing a modified GCAT gene from Aeromonas salmonicida subsp. salmonicida (GCAT enzyme preparation) not to exceed 22.6 mg TOS/kg of total product formulation	GRAS Notice No. 000265	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Guar gum	For use as whipping aid in egg products	Guar gum not to exceed 0.5 percent	Acceptability determination	List by common or usual name in the ingredients statement (2)
Miscellaneous	High Oleic Algal Oil derived from *Prototheca moriformis*	To partially replace other edible oils (fats) used in the production of the meat and poultry-containing products	Not to exceed 5% by weight of the product formulation of meat and poultry-containing products	GRAS No. 000754	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Hydrogen peroxide	To minimize biofilm buildup on reverse osmosis and ultrafiltration membranes for processing beef plasma	Hydrogen peroxide not to exceed 100 ppm added just prior to plasma entering membranes	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Hydrogen peroxide	Used as prescribed for alternative pasteurization treatments of egg products	Hydrogen peroxide used at 10 percent solution	21 CFR 178.1005	None under the accepted conditions of use (1)
Miscellaneous	Hydrolyzed gelatin	To prevent moisture loss from fresh cuts of meat and poultry	A 13 percent aqueous solution of hydrolyzed gelatin sprayed on the surface not to exceed 2 percent hydrolyzed gelatin by weight of the meat or poultry	Acceptability determination	Listed by common or usual name in the ingredients statement. Label must also bear a statement, contiguous to the product name, indicating product has been coated with hydrolyzed gelatin to prevent moisture loss. (4)
Miscellaneous	A solution of magnesium distearate and hydrophobic silica	A solution of magnesium distearate and hydrophobic silica as a defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water.	Magnesium distearate in accordance with good manufacturing practices and hydrophobic silica up to 2% wet weight	21 CFR 184.1440 and GRN 000554	None under the accepted conditions for use
Miscellaneous	Medium and long chain triacylglycerol (tailored triglycerides containing approximately 12 percent medium chain fatty acids)	For use as a supplementary source of vegetable oil in the production of various meat and poultry products	Medium and long chain triacylglycerol (tailored triglycerides containing approximately 12 percent medium chain fatty acids) sufficient for purposes	GRAS Notice No. 000217	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Microcrystalline cellulose coated with cellulose gum, potato starch, sodium tripolyphosphate (a stabilizer), chicken egg white powder, tetrasodium pyrophosphate (a stabilizer), and transglutaminase	For use as a fat replacer and moisture binder in non-standardized comminuted meat products or standardized comminuted meat products that permit the use of binders and phosphates	Microcrystalline cellulose coated with cellulose gum, potato starch, sodium tripolyphosphate (a stabilizer), chicken egg white powder, tetrasodium pyrophosphate (a stabilizer), and transglutaminase not to exceed 2.77 percent by weight of the final products	Acceptability determination	Labeled in the correct order of predominance followed by a sublisting of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sublisting of the blend in the ingredients statement
Miscellaneous	Polyglycerol ester produced by transesterification of triglycerol with soybean oil	Added to fresh livestock blood during collection to eliminate foaming	Polyglycerol ester produced by transesterification of triglycerol with soybean oil not to exceed 60 ppm in the fresh livestock blood	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Polyglycerol polyricinoleic acid (PGPR)	For use as an emulsifier in the formulation of color additives which are subsequently used in processed meat and poultry products for which colors are permitted	Polyglycerol polyricinoleic acid (PGPR) sufficient for purpose using good manufacturing practices	GRAS Notice No. 000270	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Polydimethylsiloxane (also known as dimethylpolysiloxane)	Defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water	In accordance with the limitations imposed in 21 CFR 173.340	CFR 173.340	None under the accepted conditions for use
Miscellaneous	A solution of polydimethyl siloxane (dimethylpolysiloxane) and silicon dioxide (silicon)	Defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water	In accordance with the limitations imposed in 21 CFR 173.340 for polydimethyl siloxane and up to 2% wet weight for silicon dioxide	21 CFR 173.340 and GRN 000554	None under the accepted conditions for use
Miscellaneous	Potassium magnesium chloride, and salt	For use as a replacement for a portion of the salt normally used in meat and poultry products	Potassium magnesium chloride, and salt sufficient for purpose	GRAS Notice No. 000403	Listed as Sea Salt (Potassium magnesium chloride, and salt) in the ingredients statement (2)
Miscellaneous	Protease preparations from Bacillus licheniformis	Used as a processing aid to prevent gel formation in making chicken broth	Protease preparations from Bacillus licheniformis applied to chicken broth at a rate up to 0.5 percent of the weight of protease to the weight of protein in the chicken broth	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Rice protein	1) For use as a replacement for fat and/or meat or poultry in processed meat and poultry products (e.g. meat and poultry patties) where the use of ingredients of this type are permitted. 2) For use in the formulation of substitute standardized meat and poultry products named by an expressed nutrient content claim described in 9 CFR 319.10 and 381.172 which allow the use of ingredients of this type as a replacement for fat	Rice protein comprised of 19 percent rice flour, 1 percent natrium (sodium) alginate, and 80 percent water used at a level not to exceed 25 percent of the finished product	Acceptability determination	The ingredient must be listed as “Textured Rice Protein with a sublisting of ingredients in the ingredient statement, i.e., Textured Rice Protein (water, rice flour, sodium alginate).”
Miscellaneous	Salmon oil	For use as an alternative edible oil in the production of various meat and poultry products	Salmon oli not to exceed 5.0 percent by weight of the product formulation for meat products and 3.0 percent by weight of the product formulation for poultry products	GRAS Notice No. 000146	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Sea Salt (Potassium magnesium chloride, and salt)	For use as a replacement for a portion of the salt normally used in meat and poultry products	Sea Salt Potassium magnesium chloride, and salt) sufficient for purpose	GRAS Notice No. 000403	Listed as Sea Salt in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Silica (as modified silica, modified amorphous silica. or synthetic amorphous silica)	Defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water	2% wet weight	GRN 000554	None under the accepted conditions for use
Miscellaneous	Silicon dioxide	For use as anticaking agent in egg products	Silicon dixide not to exceed 1.0 percent in dried whole eggs or yolks	Acceptability determination; 21 CFR 172.480	List by common or usual name in the ingredients statement (2)
Miscellaneous	Small planktivorous pelagic fish oil	For use as an alternative edible oil in the production of various meat and poultry products	Small planktivorous pelagic fish oil not to exceed 3.3 percent by weight of the product formulation for meat products and 2.0 percent by weight of the product formulation for poultry products	GRAS Notice No. 002	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Sodium bicarbonate	Neutralize excess acidity (maintain pH) in fresh pork and beef cuts	Sodium bicarbonate in an injected solution, not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Sodium bicarbonate	Maintain pH and reduce purge in fresh turkey products	Sodium bicarbonate in an injected solution, not to exceed 0.5 percent of the product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Sodium bicarbonate	To soak natural casings to ease stuffing	Sodium bicarbonate 1.06 percent of an aqueous solution. Casings must be rinsed with potable water prior to stuffing	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Sodium carbonate	Used as an anti-scaling agent with authorized sodium metasilicate (SMS) meat and poultry uses	Sodium carbonate up to 15 percent of a solution of sodium metasilicate and sodium carbonate (sodium metasilicate not to exceed 6 percent) applied as a surface application at a rate not to exceed 700 ppm by weight of the authorized SMS meat and poultry product uses	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Sodium carbonate	For moisture retention in meat and poultry products	Sodium carbonate at a minimum of 750 ppm in brine solutions, in accordance with current industry standards of good manufacturing practice	21CFR 184.1736	Listed by common or usual name (i.e., sodium carbonate) in the ingredients statement (2)
Miscellaneous	Sodium desoxycholate	For use as whipping aid in egg products	Sodium desoxycholate not to exceed 0.1 percent in egg products	Acceptability determination	List by common or usual name in the ingredients statement (2)
Miscellaneous	Sodium gluconate	For use as a stabilizer in emulsion-type sausages (derived from its sequestering properties)	Sodium gluconate when used in accordance with 21 CFR 182.6757 as a sequestraint and in accordance with good manufacturing practice	Acceptability determination	Listed as “sodium gluconate” in the ingredients statement (2)
Miscellaneous	Sodium hydroxide	For application to poultry carcasses immediately after removal of feathers and prior to evisceration to minimize fecal material from adhering to the carcass	Sodium hydroxide 0.05 percent solution	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Sodium hydroxide and hydrochloric acid	To adjust the pH of (species) plasma during processing (in which it is exposed to heat) to prevent gelling	Sodium hydroxide and hydrochloric acid sufficient for purpose to adjust pH	Acceptability determination	None under the accepted conditions of use (1)
Miscellaneous	Sodium lauryl sulfate	For use as whipping aid in egg products	Sodium lauryl sulfate not to exceed 0.1 percent in dried egg whites; Not to exceed 0.0125 percent in liquid or frozen egg whites	Acceptability determination	List by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Sodium nitrite	For use on one side of a food packaging film used for vacuum packaging raw red meat and raw whole muscle cuts of red meat as a color fixative	Sodium nitrite at a maximum level of 113 milligrams per square meter of film.	GRAS Notice No. 000228	Red meat packaged in a film containing sodium nitrite must be coded with a “Use or Freeze by” date not to exceed 34 days after packaging for ground red meat and 36 days for whole muscle cuts of red meat.
Miscellaneous	Sodium potassium hexametaphosphate	To decrease the amount of cooked out juices in meat and poultry products except where otherwise prohibited by the meat or poultry inspection regulations	Sodium potassium hexametaphosphate not to exceed 0.5 percent of product formulation	GRAS Notice No. 000316	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Sodium siliocoaluminate	For use as anticaking agent in egg products	Sodium siliocoaluminate not to exceed 2.0 percent in dried whole eggs of yolks	Acceptability determination; 21 CFR 160.105(d)(1)	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Solution of sodium chloride	Chilling poultry carcasses to improve chilling efficiency, meat tenderness, and as an antimicrobial agent.	Sodium chloride up to 4 percent in poultry chilling water	9 CFR 381.120	Listed as “tenderized with sodium chloride” or “tenderized with salt” contiguous to the product name (2)
Miscellaneous	Sorbitan monostearate	Defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
Miscellaneous	Soybean oil	Defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water	In accordance with good manufacturing practices	GRN 000306	None under the accepted conditions for use
Miscellaneous	Stearidonic acid (SDA) soybean oil	For use as an ingredient in meat and poultry products	Stearidonic acid (SDA) soybean oil sufficient for purpose	GRAS Notice No. 000283	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Steviol Glycosides with Rebaudioside A and Stevioside	A non-nutritive sweetener in cured and uncured meat and poultry products	At a maximum use level of 2500 ppm of the total product	GRAS Notice No. 790	Listed as “steviol glycosides (purity greater than or equal to 95%),” “highly refined steviol glycosides at a purity greater than or equal to 95%,” or “high purity steviol glycosides (≥95%),” in the ingredients statement
Miscellaneous	Thermolysin enzyme preparation produced by Geobacillus stearothermophilus	To hydrolyze finely ground poultry and meat to facilitate reduction of particle size and/or liquefy to make homogenous slurries, purees, and broths	Amano Thermoace PC10F at levels of up to 0.3 percent of the enzyme per batch, as calculated by solids content.	GRAS Notice No. 000598	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Triethyl citrate	For use as whipping aid in egg products	Triethyl citrate not to exceed 0.03 percent in liquid or frozen egg whites; not to exceed 0.025 percent in dried egg whites	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Triple salt of magnesium, ammonium, and potassium chloride	For use as a substitute for a portion of the sodium chloride normally used in meat and poultry products.	Triple salt of magnesium, ammonium, and potassium chloride sufficient for purpose	GRAS Notice No. 000272	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Trisodium phosphate (as a component of phosphate blends, not to exceed 40 percent of the phosphate blend)	To decrease the amount of cooked out juices in meat food products except where otherwise prohibited by the meat inspection regulations and poultry food products	Trisodium phosphate for meat food products, 5 percent of phosphate in pickle at 10 percent pump level; 0.5 percent of phosphate in meat food product (only clear solution may be injected into meat food product). For poultry food products, 0.5 percent of total product.	Acceptability determination	Listed by common or usual name in the ingredients statement (4) Note: Phosphates may be collectively designated as “sodium phosphates” or “potassium phosphates”
Miscellaneous	Trisodium diphosphate	For use as a stabilizer, moisturizer, and sequestraint for use in sausages (fine emulsions)	Trisodium diphosphate not to exceed 0.5 percent of phosphate in product	GRAS Notice No. 000300	Listed by common or usual name in the ingredients statement (2) / Note: Phosphates may be collectively designated as “sodium phosphates” or “potassium phosphates”
Miscellaneous	Tuna oil	For use as an alternative edible oil in the production of various meat and poultry products	Tuna oil not to exceed 3.1 percent by weight of the product formulation for meat products and 1.8 percent by weight of the product formulation for poultry products	GRAS Notice No. 009	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	White mineral oil (petroleum)	Defoaming agent used in conjunction with antimicrobial solutions in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
Miscellaneous	Xanthan gum	To aid in suspending carrageenan and other insoluble solids (e.g., starch and soy protein) in the brine tank before poultry and ham pumping	Xanthan gum not to exceed 2 percent of the amount of carrageenan	Acceptability determination	None under the accepted conditions of use (1)
Moisture Retention	An aqueous mixture of sodium tripolyphosphate, sodium hexametaphosphate and salt (optional)	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium tripolyphosphate, sodium hexametaphosphate and salt (optional) sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 182.6760	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	An aqueous mixture of sodium tripolyphosphate, salt, sodium hexametaphosphate, citric acid, and ascorbic acid	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium tripolyphosphate, salt, sodium hexametaphosphate, citric acid, and ascorbic acid sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 182.6760, 21 CFR 182.1033, 21 CFR 182.3013	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Moisture Retention	An aqueous mixture of sodium tripolyphosphate, salt, sodium hexametaphosphate, citric acid, and ascorbic acid	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium tripolyphosphate, salt, sodium hexametaphos-phate, sodium acid pyrophosphate and citric acid sufficient for purpose using good manufacturing practices	21 CFR 182.1810 21 CFR 182.6760, 21 CFR 182.1087, 21 CFR 182.1033	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	An aqueous mixture of sodium tripolyphosphate, salt, sodium hexametaphos-phate, sodium acid pyrophosphate and citric acid	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium tripolyphosphate, salt, sodium hexametaphos-phate, sodium acid pyrophosphate and citric acid sufficient for purpose using good manufacturing practices	21 CFR 182.1810 21 CFR 182.6760, 21 CFR 182.1087, 21 CFR 182.1033	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	An aqueous mixture of sodium tripolyphosphate, salt, and citric acid.	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium tripolyphosphate, salt, and citric acid, Sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 182.1033	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Moisture Retention	An aqueous mixture of pentasodium, triphosphate, tetra sodium diphosphate	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of pentasodium, triphosphate, tetra sodium diphosphate, sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 182.6789	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	An aqueous mixture of sodium, triphosphate, potassium citrate, citric acid, and tetra sodium diphosphate, sodium chloride	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium, triphosphate, potassium citrate, citric acid, and tetra sodium diphosphate, sodium chloride, sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 182.6789, 21 CFR 182.1033	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	An aqueous mixture of salt, citric acid, potassium citrate, pentasodium triphosphate, tetra sodium diphosphate	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of salt, citric acid, potassium citrate, pentasodium triphosphate, tetra sodium diphosphate, sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 182.6789, 21 CFR 182.1033	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Moisture Retention	An aqueous mixture of citric acid, sodium triphosphate, potassium diphosphate	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of citric acid, sodium triphosphate, potassium diphosphate, sufficient for purpose using good manufacturing practices	21 CFR 182.1033, 21 CFR 182.1810	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	An aqueous mixture of sodium triphosphate, salt, potassium citrate	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	An aqueous mixture of sodium triphosphate, salt, potassium citrate, sufficient for purpose using good manufacturing practices	21 CFR 182.1810, 21 CFR 184.1625	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients
Moisture Retention	Calcium citrate	Fish of the order Siluriformes	Calcium citrate, sufficient for purpose using good manufacturing practices	21 CFR 582.1195	Listed by common or usual name in the ingredients statement (4)
Moisture Retention	Rice Bran Extract	As a moisture retention agent and an alternative to sodium phosphate in meat and poultry products where the standard of identity permits the use of phosphates.	At levels of up to 1.2 percent of the product formulation in meat and poultry products where the standard of identity permits the use of phosphates.	GRAS Notice No. 000884	Listed as rice bran extract in the ingredients statement (2)
Moisture Retention	Sodium citrate	Fish of the order Siluriformes	Sodium citrate, sufficient for purpose using good manufacturing practices	21 CFR 184.1751	Listed by common or usual name in the ingredients statement (4)
Moisture Retention	Sodium tripolyphosphate	Fish of the order Siluriformes	Sodium tripolyphosphate, sufficient for purpose using good manufacturing practices	21 CFR 182.1810	Listed by common or usual name in the ingredients statement (4)
Moisture Retention	Sodium tripolyphosphate and salt (optional)	Injected or applied as a spray, immersion bath, drag through dip tank or tumbler to retain moisture in fish or fish products of the order Siluriformes	Sodium tripolyphosphate and salt (optional), sufficient for purpose using good manufacturing practices	21 CFR 182.1810	Labeled in the correct order of predominance followed by a sub-listing of each ingredient of the blend listed by its common or usual name in the ingredients statement. Phosphates may be listed collectively as “sodium phosphate” in the correct order of predominance in the sub-listing of the blend in the ingredients

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Packaging Systems	Carbon monoxide gas as part of Cryovac's modified atmosphere packaging system (for use with 550P Tray/Lid and LID551P)	Packaging fresh cuts of case ready muscle meat and case ready ground meat to maintain wholesomeness, provide flexibility in distribution, and reduce shrinkage of the meat	The use of carbon monoxide (0.4 percent), carbon dioxide (30 percent) and nitrogen (69.6 percent) as part of the Cryovac low oxygen modified atmosphere packaging system used with 550P Tray /Lid	Acceptability Determination	None under the accepted conditions of use (2)
Packaging Systems	Carbon monoxide gas as part of Cryovac's modified atmosphere packaging system	Packaging fresh cuts of case ready muscle meat and case ready ground meat to maintain wholesomeness	The use of carbon monoxide (0.4 percent), carbon dioxide (30 percent) and nitrogen (69.6 percent) introduced directly into the package. System uses a barrier lid that only covers a highly permeable patch. The permeable patch is a one half inch hole in the lid film. Barrier lid removed prior to display for retail sale	Acceptability determination	None under the accepted conditions of use (2)
Packaging Systems	Carbon monoxide gas as part of the Pactiv modified atmosphere packaging system (ActiveTech 2001)	Packaging fresh cuts of case ready muscle meat and case ready ground meat to maintain wholesomeness	The use of carbon monoxide (0.4 percent), carbon dioxide (30 percent) and nitrogen (69.6 percent) as part of the Pactiv modified atmosphere packaging system	GRAS Notice No. 000083	None under the accepted conditions of use (2)
Packaging Systems	Carbon monoxide gas as part of a high oxygen modified atmosphere packaging (MAP) system used in accordance with GRN 000083 (Pactiv)	Packaging fresh cuts of fresh ground and whole muscle meat to maintain wholesomeness, provide flexibility in distribution, and reduce shrinkage of the meat	Carbon monoxide gas not to exceed 0.4 percent of the modified atmosphere gas mixture	GRAS Notice No. 000251	None under the accepted conditions of use (2)
Packaging Systems	Carbon monoxide gas as part of a high oxygen modified atmosphere packaging system used in accordance with GRN 000083 (Cargill)	Packaging fresh cuts of case-ready muscle meat and ground meat to maintain wholesomeness	Carbon monoxide gas not to exceed 0.4 percent of the modified atmosphere gas mixture	Acceptability determination	None under the accepted conditions of use (2)
Packaging Systems	Carbon monoxide gas a part of Cargill's modified atmosphere packaging system introduced directly into the bulk or master container used for bulk transportation of fresh meat products. Meat products are subsequently repackaged in packages not containing a carbon monoxide modified atmosphere prior to retail sale (In accordance with GRN 000083)	Packaging fresh cuts of muscle meat and ground meat to maintain wholesomeness	Carbon monoxide gas not to exceed 0.4 percent of the modified atmosphere gas mixture	Acceptability determination	None under the accepted conditions of use (2)
Packaging Systems	Carbon monoxide gas as part of the Precept modified atmosphere packaging system	Packaging case-ready fresh cuts of beef and pork as well as ground beef and pork to maintain wholesomeness	Carbon monoxide gas as part of the Precept modified atmosphere packaging system 0.4 percent (with a process tolerance of 20 percent, allowing for a carbon monoxide concentration up to 0.48 percent) in combination with carbon dioxide (20-100 percent) and nitrogen (0-80 percent)	GRAS Notice No. 000143	None under the accepted conditions of use (2) Products packaged in this MAP system must be coded with a "Use or Freeze by" date not to exceed 28 days after packaging for ground meat and 35 days for whole muscle cuts

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Packaging Systems	Carbon monoxide gas as part of Precept's modified atmosphere packaging system	Packaging case-ready fresh cuts of poultry as well as ground poultry	Carbon monoxide gas as part of Precept's modified atmosphere packaging system, 0.3 percent (with a process tolerance of 20 percent, allowing for a carbon monoxide concentration up to 0.36 percent), in combination with nitrogen (0-80 percent), and carbon dioxide (20-100 percent)	Acceptability determination	None under the accepted conditions of use (2) Products packaged in this MAP system must be coded with a "Use or Freeze by" date not to exceed 28 days after packaging for ground poultry and 35 days for whole muscle cuts of poultry
Packaging Systems	Carbon monoxide as a component of a modified atmosphere packaging system (Tyson Foods, Inc.)	Packaging case-ready fresh cuts of beef and pork as well as ground beef and pork	Carbon monoxide (at a level not to exceed 2.2 mg carbon monoxide per pound of packaged meat) in combination with carbon dioxide and nitrogen	GRAS Notice No. 000167	None under the accepted conditions of use (2) / Products packaged in this MAP system must be coded with a "Use or Freeze by" date not to exceed 28 days after packaging for ground meat and 35 days for whole muscle cuts
Packaging Systems	Carbon monoxide as part of the packaging system	Wholesale (primals and subprimals)	Carbon monoxide (21.4 ml/1 of water) dissolved in a brine/marinade (27.8 percent by weight) solution which is injected into meat wholesale- primals and subprimals.	GRAS Notice No. 000194	None under the accepted conditions of use (2).
Packaging Systems	Carbon monoxide gas part of a modified atmosphere packaging system	To extend the shelf life and stabilize the color of red meat sausage, poultry sausages and sausages made with a red meat/poultry blend	Carbon monoxide not to exceed 0.4 percent of the modified atmosphere gas mixture.	Acceptability determination	Product labeled with a "Use or Freeze By" date, which may be applied by the retailer prior to display
Poultry scald agents (must be removed by subsequent cleaning operations)	Alkyl polyglycosides	To remove feathers from poultry carcasses	Alkyl polyglycosides, sufficient for purpose	GRAS Notice No. 000237	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium acid phosphate	To remove feathers from poultry carcasses	Calcium acid phosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium acid pyrophosphate	To remove feathers from poultry carcasses	Calcium acid pyrophosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium bicarbonate	To remove feathers from poultry carcasses	Calcium bicarbonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium carbonate	To remove feathers from poultry carcasses	Calcium carbonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium dodecylbenzene sulfonate	To remove feathers from poultry carcasses	Calcium dodecylbenzene sulfonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium 2-ethylhexyl sulfate	To remove feathers from poultry carcasses	Calcium 2-ethylhexyl sulfate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium hexametaphosphate	To remove feathers from poultry carcasses	Calcium hexametaphosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium hydroxide	To remove feathers from poultry carcasses	Calcium hydroxide, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium lauryl sulfate	To remove feathers from poultry carcasses	Calcium lauryl sulfate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium phosphate (mono-, di-, and tribasic)	To remove feathers from poultry carcasses	Calcium phosphate (mono-, di-, and tribas), sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium pyrophosphate	To remove feathers from poultry carcasses	Calcium pyrophosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium sesquicarbonate	To remove feathers from poultry carcasses	Calcium sesquicarbonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium sulfate	To remove feathers from poultry carcasses	Calcium sulfate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Calcium tripolyphosphate	To remove feathers from poultry carcasses	Calcium tripolyphosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium acid phosphate	To remove feathers from poultry carcasses	Potassium acid phosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium acid pyrophosphate	To remove feathers from poultry carcasses	Potassium acid pyrophosphat, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium bicarbonate	To remove feathers from poultry carcasses	Potassium bicarbonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium carbonate	To remove feathers from poultry carcasses	Potassium carbonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium dodecylbenzene sulfonate	To remove feathers from poultry carcasses	Potassium dodecylbenzene sulfonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium 2-ethylhexyl sulfate	To remove feathers from poultry carcasses	Potassium 2-ethylhexyl sulfate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium hexametaphosphate	To remove feathers from poultry carcasses	Potassium hexametaphosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium hydroxide	To remove feathers from poultry carcasses	Potassium hydroxide, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium lauryl sulfate	To remove feathers from poultry carcasses	Potassium lauryl sulfate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium phosphate (mono-, di-, and tribasic)	To remove feathers from poultry carcasses	Potassium phosphate (mono-, di-, and tribasic), sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium pyrophosphate	To remove feathers from poultry carcasses	Potassium pyrophosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium sesquicarbonate	To remove feathers from poultry carcasses	Potassium sesquicarbonate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium sulfate	To remove feathers from poultry carcasses	Potassium sulfate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Potassium tripolyphosphate	To remove feathers from poultry carcasses	Potassium tripolyphosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Tetracalcium pyrophosphate	To remove feathers from poultry carcasses	Tetracalcium pyrophosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Poultry scald agents (must be removed by subsequent cleaning operations)	Tetrapotassium pyrophosphate	To remove feathers from poultry carcasses	Tetrapotassium pyrophosphate, sufficient for purpose	Acceptability determination	None under the conditions of use (1)
Tenderizing Agents	Calcium gluconate	Raw meat products	Calcium gluconate solutions applied or injected into raw meat shall not result in a gain of 3 percent above green weight	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Tenderizing Agents	Protease preparation derived from *Bacillus subtilis*	Raw meat products	Protease preparation derived from Bacillus subtilis solutions applied or injected into raw meat shall not result in a gain of 3 percent above green weight	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Tenderizing Agents	Protease produced from Bacillus subtilis var. amyloliquefaciens	Raw meat products	Protease produced from Bacillus subtilis var. amyloliquefaciens solutions applied or injected into raw meat shall not result in a gain of 3 percent above green weight	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Tenderizing Agents	Protease produced from *Aspergillus niger*	Raw meat cuts and raw poultry muscle tissue of hen, cock, mature turkey, mature duck, mature goose, and mature guinea	Protease produced from Aspergillus niger solutions applied or injected into raw meat or poultry tissue shall not result in a gain of 3 percent above green weight	GRAS Notice No. 000089	Listed by common or usual name in the ingredients statement (2)