

UNITED STATES DEPARTMENT OF AGRICULTURE
 FOOD SAFETY AND INSPECTION SERVICE
 WASHINGTON, DC

FSIS DIRECTIVE

7120.1
Rev. 59

8/7/24

SAFE AND SUITABLE INGREDIENTS USED IN THE PRODUCTION OF MEAT, POULTRY, AND EGG PRODUCTS

I. PURPOSE

This directive provides inspection program personnel (IPP) with the latest updates to the list of substances that may be used in the production of meat, poultry, and egg products. As a reminder, this directive no longer provides the complete listing of approved substances, On-Line Reprocessing (OLR) and Off-Line Reprocessing (OFLR) Antimicrobial Intervention Systems. Instead, it only provides a list of the latest changes. The complete listing of [OLR and OFLR Antimicrobial Intervention Systems](#) is available at the link above. FSIS is also providing a link to the [complete list of safe and suitable ingredients](#) and the list in [9 CFR 424.21\(c\)](#) of additional acceptable food ingredients. This Directive and its associated documents do not supersede regulations, including standards of identity ([9 CFR 319](#) and [9 CFR 381 subpart P](#)). Establishments are to ensure that their use of the listed substances is compliant with all regulatory requirements.

II. CANCELLATION

FSIS Directive 7120.1, Revision 58 *Safe and Suitable Ingredients Used in the Production of Meat, Poultry, and Egg Products*, 6/21/23

III. LATEST UP-DATE TO THE LIST OF SUBSTANCES

Table 1: Summary of Updates to List of Substances

1) The use of the substances is consistent with FDA's labeling definition of a processing aid, 2) Generally Recognized as Safe (GRAS), 3) Secondary Direct Food Additive, 4) Direct Food Additive, 5) Color Additive, 6) Food Contact Substance (FCS) subject to food contact notifications (FCN) is defined as any substance that is intended for use as a component of materials used in manufacturing, packing, packaging, transporting, or holding food if such use is not intended to have any technical effect in such food.				
Substance	Intended Use of Product	Amount	Reference	Labeling Requirements
Antimicrobials				
Bacteriophage preparation (<i>Salmonella</i> targeted)	Ready-to-eat (RTE) poultry products prior to slicing and on raw poultry carcasses, parts, and ground applied as a spray; RTE and raw	Monophage cocktail applied at levels up to 1 x 10 ⁸ PFU/g of food	GRAS Notice No. 000435	None under the conditions of use (1). Use in ground poultry requires labeling of added water: "Ground [Chicken, Turkey, etc.]

	red meat carcasses, subprimals, and trimmings.			containing an [x]% solution of water”
<i>Salmonella</i> bacteriophage preparation consisting of two monophages (BP-63 and BP-12 Triumvirate)	Raw poultry carcasses, parts, and trim	<i>Salmonella</i> bacteriophage preparation applied at 1×10^8 PFU/g	GRAS Notice No. 000603	None under the accepted conditions of use (2)
<i>Salmonella</i> bacteriophage preparation containing the bacterial monophages FO1a and S16	Red meat (pork and beef) carcasses, parts, or trim applied via dip, spray or blend; Raw poultry carcasses and parts	<i>Salmonella</i> bacteriophage preparation applied at levels up to 10^8 PFU/g	GRAS Notice No. 000468	None under the accepted conditions of use (1)
Long-chain glycolipids from <i>Dacryopinax spathularia</i> (“jelly mushroom glycolipids”)	Dry-cured sausages	At a level of 100 mg/kg at the rate of 5 mg/dm ² for surface treatment	GRAS Notice No. 000740	Listed by common or usual name “glycolipids” or “mushroom glycolipids” in the ingredients statement (4)
Bacteriophage preparation (<i>Salmonella</i> targeted)	Whole muscle red meat and poultry including whole carcasses, primals, subprimals, parts, organs, and trim prior to grinding	At levels up to 1×10^7 PFU/g	GRAS Notice No. 001038	None under the accepted conditions of use (1)
Sodium metasilicate solution (SMS)	Whole or cut poultry carcasses and parts	SMS solution at a concentration of 2% – 4% as a spray or dip	Acceptability determination; 21 CFR 173.310	None under the accepted conditions of use (1)
Blend of salt, lactic acid, sodium diacetate, and mono- and diglycerides	RTE red meat and poultry products	Blend of salt, lactic acid, sodium diacetate, and mono- and diglycerides not to exceed 0.5% of the 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)
An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, optionally, sulfuric acid, and optionally, 1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP), and/or optionally dipicolinic acid (DPA)	<p>(1) In process water and ice used to spray, wash, rinse, or dip red meat carcasses, parts, trim, and organs, and in chiller water for red meat carcasses, parts, trim, and organs;</p> <p>(2) In process water and ice used to spray, wash, rinse, or dip poultry carcasses, parts, trim, and organs, and in chiller water, low temperature (e.g., less than 40 degrees F) immersion baths, or scald water for poultry carcasses, parts, trim, and organs;</p> <p>(3) In water, brine, or ice for washing, rinsing, or cooling processed and pre-formed red meat products;</p> <p>(4) In water, brine, or ice for washing, rinsing, or cooling processed and pre-formed poultry products;</p> <p>(5) In brines, sauces, and marinades applied on the</p>	<p>(1) Not to exceed 2000 ppm PAA, 1203 ppm HP, 60 ppm HEDP, and 1.64 ppm DPA;</p> <p>(2) Not to exceed 2000 ppm PAA, 1474 ppm HP, 100 ppm HEDP, and 2.01 ppm DPA;</p> <p>(3) Not to exceed 495 ppm PAA, 367 ppm HP, 23 ppm HEDP, and 0.50 ppm DPA;</p> <p>(4) Not to exceed 230 ppm PAA, 323 ppm HP, 12 ppm HEDP, and 0.44 ppm DPA;</p> <p>(1)(2)(3)(4) pH range: 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</p>	<p>Food Contact Substance Notification No. FCN 2274</p> <p>(replaces FCN 1872 and FCN 1897)</p>	<p>None under the accepted conditions of use (1)</p>

	<p>surface or injected into processed or unprocessed, cooked or uncooked, whole or cut poultry processed and pre-formed red meat and poultry products; and</p> <p>(6) In water for washing shell eggs</p>			
<p>An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), and/or dipicolinic acid (DPA), and optionally sulfuric acid</p>	<p>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;</p> <p>2) in process water or ice used in washing, rinsing, or cooling whole or cut red meat carcasses, parts, trim, and organs;</p> <p>3) in process water, ice, or brine used in washing, rinsing, or cooling processed and pre-formed red meat products;</p> <p>4) in process water, ice, or brine used in washing, rinsing, or cooling processed and</p>	<p>1) 2000 ppm PAA, 1333 ppm HP, 133 ppm HEDP, and 6.5 ppm DPA</p> <p>2) 1800 ppm PAA, 1200 ppm HP, 120 ppm HEDP, and 5.9 ppm DPA</p> <p>3) 495 ppm PAA, 193 ppm HP, 33 ppm HEDP, and 0.5 ppm DPA</p> <p>4) 230 ppm PAA, 153 ppm HP, 15 ppm HEDP, and 0.8 ppm DPA</p>	<p>FCN 2266 (previously FCN 1986 and 1867)</p>	<p>None under the accepted conditions of use (1)</p>

	<p>pre-formed poultry products;</p> <p>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 red meat and poultry products;</p> <p>6) in process water used in washing shell eggs</p>			
An aqueous mixture of dimethylpolysiloxane (DMPS), polysorbate 65, polyethylene glycol, sorbitan monostearate, sodium hydroxide, polyacrylic acid (sodium salt), and formaldehyde	For use as a defoamer in spray, drench, or dip interventions for raw poultry carcasses and parts	A proprietary blend not to exceed 10% DMPS, 0.9% polyethylene glycol and 0.1% formaldehyde	Acceptability determination 21 CFR 173.340	None under the accepted conditions of use (1)
Blend of cultured dextrose, dried vinegar, maltodextrin, and rosemary extract	Cured and uncured red meat and poultry products, cured and uncured RTE red meat and poultry products, and raw (ground and whole cuts) red meat and poultry products	Blend of cultured dextrose, dried vinegar, maltodextrin, and rosemary extract, not to exceed 1.5% of the product formulation	Acceptability Determination	All ingredients must be listed by common or usual name in the ingredients statement (4)
Film Forming Agents				
Edible film	(1)(2) An aid to transfer spices to	(1) A mixture of glycerin, methylcellulose	Acceptability Determination	None under the accepted

	red meat and poultry products (3) An aid to transfer sauces to red meat and poultry products	(22% of blend), pectin, and dextrose not to exceed 1.5% of the finished product (2) A mixture of glycerin, methylcellulose (22% of blend), and sodium alginate not to exceed 1.5% of the finished product (3) A mixture of glycerin, sodium carboxymethylcellulose (22% of blend), pectin, and dextrose not to exceed 1.5% of the finished product		conditions of use (1)
Flavoring Agents				
D-psicose	As a sweetener in red meat and poultry jerkies	Levels not to exceed 15%	GRAS Notice No. 001057	Listed as “D-psicose,” “D-allulose,” or “allulose,” in the ingredients statement (2)
Miscellaneous				
Glucose oxidase enzyme preparation produced by <i>Aspergillus niger</i>	To desugar egg products	Not to exceed 7.72 mg total organic solids per kilogram (TOS/kg)	GRAS Notice No. 001054	Listed as “glucose oxidase enzyme preparation (contains wheat)” in the ingredient statement; “Glucose removed for stability” or “Stabilized, glucose removed” must be listed immediately after the

				product name (2)
An aqueous mixture of dimethylpolysiloxane, sodium carboxymethylcellulose, polysorbate 60, sorbitan monostearate, silicone dioxide, sodium sulfate, and formaldehyde	For use as a defoamer in spray, drench, or dip interventions for raw poultry carcasses and parts	A proprietary blend not to exceed 10% DMPS, 2.0% sodium carboxymethylcellulose, and 0.1% formaldehyde	Acceptability determination	None under the accepted conditions of use (1)
Phosphate Buffered Saline (PBS) solution containing potassium chloride (KCl), potassium phosphate monobasic anhydrous (KH ₂ PO ₄), sodium chloride (NaCl), and sodium phosphate dibasic anhydrous (Na ₂ HPO ₄)	Used as a wash in post-harvest to remove media components from cell-cultured poultry food product	Levels not to exceed 0.05 g/L KCl, 0.05 g/L KH ₂ PO ₄ , 2.0 g/L NaCl, and 0.29 g/L Na ₂ HPO ₄	Acceptability Determination and FDA Cell Culture Consultation Notification CCC 000002	None under the accepted conditions of use (1)
Sodium chloride solution	Used as a wash in post-harvest to remove media components from cell-cultured poultry food product	Sodium chloride not to exceed 0.45%	Acceptability Determination and FDA Cell Culture Consultation Notification CCC 000001	Listed by "salt" in the ingredient statement (2)
An aqueous solution of alkyl polyglucoside, sodium benzoate, and citric acid	As a cleaning agent to remove hair and dirt from bovine and ovine feet	0.01% – 0.03% (w/w) Alkyl polyglucoside, 0.2% (w/w) sodium benzoate, and 0.14% (w/w) citric acid in water solution followed by a potable water rinse	Acceptability determination	None under the accepted conditions of use (1)
Algal oil (≥35% DHA) from <i>Schizochytrium</i> sp.	Used as an alternative edible oil in red meat (including Siluriformes fish products), poultry, and egg products	Not to exceed 1.0% in red meat (including Siluriformes fish products), 0.6% in poultry, and 1.0% in egg products	GRN 001128	Listed in the ingredients statement by its common or usual name "Algal oil" in the

				ingredients statement (2)
Buglossoides Oil (refined)	As an alternative edible oil in red meat and poultry products	At levels of up to 5% of the total product formula	GRN 486	Listed in the ingredients statement as "Buglossoides oil" (2)
A proprietary mixture of cold soluble carrageenan, dextrose, and, optionally, sodium hexametaphosphate	To aid in suspending insoluble ingredients in brine, pickle, and marinade solutions before applying red meat and poultry products	Up to 0.53% carrageenan, 0.19% dextrose, and, optionally, 0.17% sodium hexametaphosphate (optionally) in the finished product	Acceptability determination	None under the accepted conditions of use (1)
Packaging Systems				
Carbon monoxide (CO) as a component of a modified atmosphere packaging (MAP) system	Fully cooked, sliced, pre-packed, RTE deli red meats	CO not to exceed 0.48%	GRN 1018 Acceptability determination	None under the accepted conditions of use (2); Before shipping to retailers, product must be labeled with a "Use or Freeze By" date
List of Approved On-Line Reprocessing (OLR) Antimicrobial Systems for Poultry				
Approved OLR System	Company Name/ Distributor	Substance	PPM Concentration	Method of Application
HydriShield PA 15 LP, HydriShield PA 15 HP, HydriShield PA 22 HP, HydriShield PA 22 LP, HydriShield PA 22 SF	Hydrite Chemical Co.	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, optionally, sulfuric acid, and optionally, 1-hydroxyethylidene 1,1-diphosphonic acid (HEDP), and/or optionally dipicolinic acid (DPA) (FCN 2274) FCN 2274 replaces FCN 1872	PAA between 20-2000 ppm, HP not to exceed 1474 ppm, and HEDP not to exceed 100 ppm; pH Range: 2.0-8.0; exposure time: 5-60 seconds; pressure: 5-150 psi	Spray Cabinet, Wash, Dip, Rinse, IOBW

Promoat XL™, Promoat™	Safe Foods Chemical Innovations	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid (AA), 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), and/or dipicolinic acid (DPA), and optionally sulfuric acid FCN 2266 replaces FCN 1986	PAA not to exceed 2000 ppm, HP not to exceed 1333 ppm, HEDP not to exceed 133 ppm; and DPA not to exceed 6.5 ppm; pH range: 1.0 – 12.0; Spray Pressure: 5 – 120 psi; Spray contact time: 0.5 – 15 seconds; Wash and rinse contact time: 0.5 – 120 seconds; Dip dwell time: 0.5 – 60 seconds	Spray Cabinet, Wash, Dip, Rinse
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List of Approved Off-Line Reprocessing (OFLR) Antimicrobial Systems for Poultry

Approved OFLR System	Company Name/ Distributor	Substance	PPM Concentration	Method of Application
HydriShield PA 15 LP, HydriShield PA 15 HP, HydriShield PA 22 HP, HydriShield PA 22 LP, HydriShield PA 22 SF	Hydrite Chemical Co.	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, optionally, sulfuric acid, and optionally, 1-hydroxyethylidene 1,1-diphosphonic acid (HEDP), and/or optionally dipicolinic acid (DPA) (FCN 2274) (FCN 2274 replaces FCN 1872)	PAA between 20-2000 ppm, HP not to exceed 1474 ppm, and HEDP not to exceed 100 ppm; pH Range: 2.0-8.0; exposure time: 5-60 seconds; pressure: 5-150 psi	Spray Cabinet, Wash, Dip, Rinse, IOBW
Promoat XL™, Promoat™	Safe Foods Chemical Innovations	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1,1-diphosphonic	PAA not to exceed 2000 ppm, HP not to exceed 1333 ppm, HEDP not to exceed 133 ppm; and DPA	Spray Cabinet, Wash, Dip, Rinse

		acid (HEDP), and/or dipicolinic acid (DPA), and optionally sulfuric acid (FCN 2266 replaces FCN 1986)	not to exceed 6.5 ppm; pH range: 1.0 – 12.0; Spray Pressure: 5 – 120 psi; Spray contact time: 0.5 – 15 seconds; Wash and rinse contact time: 0.5 – 120 seconds; Dip dwell time: 0.5 – 60 seconds	
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IV. QUESTIONS

Refer questions regarding this directive to your supervisor or as needed to the Office of Policy and Program Development through [askFSIS](#) or by telephone at 1-800-233-3935. When submitting a question, complete the [web form](#) and select **New Technology, Innovations** for the Inquiry Type. For labeling questions select Labeling for the Inquiry Type.

NOTE: Refer to [FSIS Directive 5620.1](#), *Using askFSIS*, for additional information on submitting questions.



Assistant Administrator
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