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

FSIS DIRECTIVE

7120.1
Rev. 55

2/24/21

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 up-dates 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, the list in 9 CFR 424.21(c) of additional acceptable food ingredients, and a Web based look-up table to search ingredients by name.

II. CANCELLATION

FSIS Directive 7120.1, Revision 54 *Safe and Suitable Ingredients Used in the Production of Meat, Poultry, and Egg Products*, 10/28/2020

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				
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	(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	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).

	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)	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.		
Methanol	Antimicrobial agent in	In accordance with good	Acceptability determination	None under the accepted

	shell egg wash water	manufacturing practices		conditions for use
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
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
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
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
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
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
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
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
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
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
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
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

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
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
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
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
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
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
Sodium hydroxide	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
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
Sodium hypochlorite	Antimicrobial agent in shell egg wash water	In accordance with good manufacturing practices	Acceptability determination	None under the accepted conditions for use
Miscellaneous				
A solution of magnesium distearate and hydrophobic silica	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

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
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
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
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
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
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

List of Approved On-Line Reprocessing (OLR) Antimicrobial Systems for Poultry				
Approved OLR System	**Company Name/ Distributor**	**Substance**	**PPM Concentration**	**Method of Application**
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.	Ecolab	FCN 2046	The concentration of PAA is applied at 20 –2000 ppm PAA,1474 ppm hydrogenperoxide and 136ppm 1-hydroxyethylidene-1,1-diphosphonic acid,and 6.7 ppm DPA;Spray exposure time: 5 – 60 seconds,pH: 2 – 8; pressure: minimumof 5 psi. Use a PAA test kit or in-line monitor to verify the PAA concentration in the water.	Spray cabinet/ Wash/IOBW

Apex Clear	SafeQuest Technologies/PSSI Chemical Innovations	Sulfuric acid, sodium sulfate and water	Fed continuously with tap water dosed with Apex Clear™ to a target pH of 1.8 +/- 0.4. For spray cabinets, the fresh mixture will be delivered to spray bars at a minimum system pressure of 10 psi and mixture flow between 5 gal/minutes and 10 gal/minute.	Spray Cabinet
PearlOX, All-O-San	Xgenex Labs, LLC	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1, 1- diphosphonic acid (HEDP) and optionally sulfuric acid, (FCN 1638).	An aqueous mixture not exceeding 2000 ppm peroxyacetic acid (PAA), 950 ppm hydrogen peroxide (HP), 113 ppm acetic acid, 1-hydroxyethylidene-1, 1- diphosphonic acid (HEDP) and optionally, sulfuric acid; contact time: one (1) – 120 seconds; pH 2.0 – 8.0; pressure: 5 – 170 psi, temperature: 32° to 99°F	Spray
List of Approved Off-Line Reprocessing (OFLR) Antimicrobial Systems for Poultry				
Approved OFLR System	**Company Name/ Distributor**	**Substance**	**PPM Concentration**	**Method of Application**
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	Ecolab	FCN 2046	The concentration of PAA is applied at 40 – 2000 ppm, 1474 ppm hydrogen peroxide and 136 ppm 1-hydroxyethylidene-1, 1-diphosphonic acid, and 6.7 ppm DPA; Spray exposure	Spray cabinet/Wash/ IOBW

optionally, sulfuric acid.			time: 5 – 60 seconds, pH: 2 – 8; pressure: minimum of 5 psi. Use a PAA test kit or in-line monitor to verify the PAA concentration in the water.	
PearlOX, All-O-San	Xgenex Labs, LLC	An aqueous mixture of peroxyacetic acid (PAA), hydrogen peroxide (HP), acetic acid, 1-hydroxyethylidene-1, 1- diphosphonic acid (HEDP) and optionally sulfuric acid, (FCN 1638).	An aqueous mixture not exceeding 2000 ppm peroxyacetic acid (PAA), 950 ppm hydrogen peroxide (HP), 113 ppm acetic acid, 1-hydroxyethylidene-1, 1- diphosphonic acid (HEDP) and optionally, sulfuric acid; contact time: one (1) – 120 seconds; pH 2.0 – 8.0; pressure: 5 – 170 psi, temperature: 32° to 99°	Spray

IV. QUESTIONS

Refer questions regarding this directive to the Office of Policy and Program Development through askFSIS or by telephone at 1-800-233-3935.

Assistant Administrator
Office of Policy and Program Development