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 <u>OLR and OFLR Antimicrobial Intervention Systems</u> is available at the link above. FSIS is also providing a link to the <u>complete list of safe and suitable</u> ingredients, the list in <u>9 CFR 424.21(c)</u> of additional acceptable food ingredients, and a <u>Web based look-up table</u> 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	(1) In process	(1) Not to exceed	Food Contact	None under
peroxyacetic acid	water, ice or	2000 ppm PAA,	Substance	the accepted
(PAA), hydrogen	brine applied	1474 ppm HP, 136	Notification No.	conditions of
peroxide (HP), acetic	as a wash,	ppm HEDP and 6.7	FCN 2046	use (1).
acid, 1-	spray, dip,	ppm DPA; (2) Not to	(replaces FCN	
hydroxethylidine-1,1-	rinse, chiller	exceed 495 ppm	1745, FCN 1495,	
disphonic acid (HEDP)	water, low-	PAA, 1180 ppm HP,	FCN 1236, FCN	
and/or dipicolinic acid	temperature	29 ppm HEDP and	1096, and FCN	
(DPA), and optionally,	(less than 40	0.44 ppm DPA; (3)	140)	
sulfuric acid.	∘F) immersion	Not to exceed 2000		
	bath, or scald	ppm PAA, 1474		
	water for	ppm HP, 121.5 ppm		

poutry, including carcasses, parts, trim and organs DPA: (4) Not to exceed 495 ppm PAA, 1180 ppm HP, 33.5 ppm HEDP and 0 44 ppm DPA and 0 44 ppm DPA and 0 44 ppm DPA (2) In process water, ice or brine for washing, trinsing, storing or cooling processed and pre- formed (RTE) poutry brine or chiller tank dwell time: 5 seconds- 180 minutes; RTE brine tank dwell water, ice or brine for washing, tinsing, tinsing, tang; ta		whole or cut	HEDP and 6.7 ppm		
including carcasses, parts, trim and organs (2) In process brine for water, ice or brine for monol of the pock of the pock storing or cooling (1) In process storing or cooling processed and organs (1) In process (1) In process (2) In process (2) In process (2) In process (2) In process (2) In process (3) In process (4) In process (4		poultry.	DPA: (4) Not to		
carcassés, parts, trim and organs 9AA, 1180 pům HP, 33.5 ppm HEDP and 0.44 ppm DPA, (2) in process All applications pH range: 1 - 11; sprayrinse/washdip water, ice or brine for washing, storing or cooling processed and pre- formed (RTE) poultry as defined in 21 CFR 170.3 (n)(34) raw meat and processed and pre- thiller tank dwell image: 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		including	exceed 495 ppm		
parts.trim and organs (2) In process Water, ice or brine for washing, rinsing, storing or processed and pre- defined in 21 CFR 170.3 (n) spray, dip, rinse, chiller tank dwell formed (RTE) poultry as defined in 21 (n) (34) (n) (34) (n		carcasses.	PAA, 1180 ppm HP.		
and organs (2) In process Water, ice or brine for washing, cooling processed and pre- cooling processed and pre- formed (RTE) politivas water, low- water, low- water, ice or brine for washing, rinsing, storing or cooling processed and pre- formed (RTE) meat as defined in 21 and 044 ppm DPA. All applications pH range 2-6112 mest and presure 5-170 psi; politivas politivas; RTE meat and poulity brine tank dwell time: 5 seconds tours. Use a PAA test kit or in-line monitor to verify the PAA concentration 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) In accordance with good Acceptability determination None under the accepted		parts trim	33.5 ppm HFDP		
(2) In process water, ice or brine for washing, All applications pH range: 1 - 11; spray/insel/wash/dp washing, water, ice or processed and pre- cooling processed and pre- defined in 21 (n)(34) raw meat and poultry brine or chiller tank dwell time: 5 seconds- 180 minutes; RTE meat and poultry brine tank dwell time: 5 seconds- 180 minutes; RTE meat and poultry brine tank dwell time: 5 seconds- water, ice or brine applied as a wash, spray, dip, rinse, chiller 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) None under the accepted Methanol Antimicrobial as quesh, spray, dip, rinsing, storing or cooling In accordance with good Acceptability determination None under the accepted		and organs	and 0.44 ppm DPA		
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Initialy, seconds, spray storing or cooling precessed processed and pre- formed (RTE) poultry brine or chiller tank dwell formed (RTE) noninutes; RTE adefined in 21 meat and poultry CFR 170.3 brine tank dwell (n)(34) time: 5 seconds- 100 minutes; RTE water, ice or brine applied meat and poultry as awash, pAc concentration spray, dip, rinse, chiller monitor to verify the PA concentration spray, dip, rinse, chiller monitor to verify the PA concentration bath, or scald water for whole or cut meat, including carcasses, parts, trim and organs (4) In process water, ice or brine for and organs (4) In process water, ice or brine for ymathing, rinsing, storing or cooling processed and pre- formed (RTE) n accordance with Acceptability None under Methanol Antimicrobial agent in In accordance with Acceptability None under		washing,	wet time. 2–00		
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		agentin	good	determination	the accepted

	shellegg	manufacturing		conditions for
	wash water	practices		use
A solution of methyl	Antimicrobial	In accordance with	21 CFR	None under
cellulose and sorbitan	agent in	good	182.1480 and	the accepted
tristearate	shell egg	manufacturing	acceptability	conditions for
	wash water	practices	determination	use
Phosphoric Acid	Antimicrobial	In accordance with	21 CFR	None under
	agentin	good	182.1073	the accepted
	shellegg	manufacturing		conditionsfor
A colution of	wash water	practices	21.050	use Nono undor
A Solution of	Antimicrobia	In accordance with	194 1202 and	the seconted
and sodium	sholl ogg	good		conditions for
hypochlorite	shell eyy	nractices	determination	
Potassium bydrovide	Antimicrobial	In accordance with		None under
1 otassium nyuloxide	agentin	and	184 1203	the accented
	shellenn	manufacturing	104.1200	conditions for
	wash water	practices		use
Propylene alvcol	Antimicrobial	In accordance with	21 CFR	None under
····· g. j	agentin	aood	184.1666	the accepted
	shellegg	manufacturing		conditions for
	wash water	practices		use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
carbonate and	agent in	good	184.1742 and 21	the accepted
disodium metasilicate	shell egg	manufacturing	CFR 1769	conditions for
	wash water	practices		use
Sodium carbonate	Antimicrobial	In accordance with	21 CFR	None under
	agentin	good	184.1742	the accepted
	shellegg	manufacturing		conditionsfor
	wash water	practices		use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
citrate dinydrate,	agentin	good	184.1751 and	the accepted
and notassium	shell eyy	nractices	determination	
hydroxide solution	wash water	practices	determination	use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide and sodium	agentin	aood	184 1763 and 21	the accepted
carbonate	shellega	manufacturing	CFR 184 1742	conditions for
	wash water	practices	01111011112	use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide and sodium	agent in	good	182.1480 and 21	the accepted
gluconate	shellegg	manufacturing	CFR 182.6757	conditions for
	wash water	practices		use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide and sodium	agent in	good	184.1763 and	the accepted
hypochlorite	shell egg	manufacturing	acceptability	conditionsfor
···	wash water	practices	determination	use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide and sodium	agentin	good	184.1763 and 21	the accepted
metasilicate	shellegg	manufacturing	CFR 184.1769	conditions for
	wash water	practices		use

A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide and sodium	agent in	good	184.1763 and	the accepted
sulfate	shellegg	manufacturing	acceptability	conditions for
	wash water	practices	determination	use
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide, potassium	agent in	good	184.1763, 21	the accepted
hydroxide, and	shell egg	manufacturing	CFR 184.1631,	conditions for
sodium hypochlorite	wash water	practices	and acceptability	use
			determination	
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide, potassium	agent in	good	184.1763, 21	the accepted
hydroxide, sodium	shell egg	manufacturing	CFR 184.1631,	conditionsfor
tripolyphosphate, and	wash water	practices	21 CFR	use
sodiumhypochlorite			182.1810, and	
			acceptability	
	A u tinci cu chicl		determination	
A solution of sodium	Antimicrobia	In accordance with	21 CFR	None under
nydroxide and	agentin	good	184.1763 and 21	the accepted
potassium nydroxide	shell egg	nanuracturing	GFR 184.1031	conditions for
A solution of sodium	Antimicrohial	In accordance with	21 CFR	None under
hydroxide sodium	agentin	aood	184 1763 21	the accepted
chloride carbonic	shellenn	manufacturing	CFR 186 1797	conditions for
acid disodium salt	wash water	practices	21 CFR	use
sodium hypochlorite.	water water	practicee	184.1742. and	400
and hypochlorous			acceptability	
acid			determination	
A solution of sodium	Antimicrobial	In accordance with	21 CFR	None under
hydroxide, sodium	agent in	good	184.1763, 21	the accepted
chloride, and sodium	shell egg	manufacturing	CFR 186.1797,	conditions for
hypochlorite	wash water	practices	and acceptability	use
			determination	
Sodium hydroxide	Antimicrobial	In accordance with	Acceptability	None under
	agentin	good	determination	the accepted
	shellegg	manufacturing		conditionsfor
	wash water	practices		use
A solution of sodium	Antimicrobial	In accordance with		None under
hypochlorite, sodium	agentin	good	186.1/9/ and	the accepted
chloride, and	snell egg	manufacturing	acceptability	conditions for
Sodium hypochlorito	Antimicrobiol	practices		use Nono undor
	agont in	in accordance with	determination	the seconted
	agent in	good good	determination	the accepted
	agent in shell egg wash water	maccordance with good manufacturing practices	determination	the accepted conditions for
	agent in shell egg wash water	maccordance with good manufacturing practices Miscellaneous	determination	the accepted conditions for use
A solution of	agent in shell egg wash water	maccordance with good manufacturing practices Miscellaneous Magnesium	determination	the accepted conditions for use
A solution of magnesium distearate	agent in shell egg wash water Defoaming agent used	maccordance with good manufacturing practices Miscellaneous Magnesium distearate in	determination 21 CFR 184.1440 and	the accepted conditions for use None under the accepted
A solution of magnesium distearate and hydrophobic silica	agent in shell egg wash water Defoaming agent used in	maccordance with good manufacturing practices Miscellaneous Magnesium distearate in accordance with	21 CFR 184.1440 and GRN 000554	None under vse None under the accepted conditions for
A solution of magnesium distearate and hydrophobic silica	agent in shell egg wash water Defoaming agent used in conjunction	maccordance with good manufacturing practices Miscellaneous Magnesium distearate in accordance with good	determination 21 CFR 184.1440 and GRN 000554	None under use None under the accepted conditions for use
A solution of magnesium distearate and hydrophobic silica	agent in shell egg wash water Defoaming agent used in conjunction with	manufacturing practices Miscellaneous Magnesium distearate in accordance with good manufacturing	21 CFR 184.1440 and GRN 000554	None under use None under the accepted conditions for use
A solution of magnesium distearate and hydrophobic silica	agent in shell egg wash water Defoaming agent used in conjunction with antimicrobial	manufacturing practices Miscellaneous Magnesium distearate in accordance with good manufacturing practices and	21 CFR 184.1440 and GRN 000554	None under use None under the accepted conditions for use
A solution of magnesium distearate and hydrophobic silica	agent in shell egg wash water Defoaming agent used in conjunction with antimicrobial solutions in	manufacturing practices Miscellaneous Magnesium distearate in accordance with good manufacturing practices and hydrophobic silica	21 CFR 184.1440 and GRN 000554	None under the accepted conditions for use None under the accepted conditions for use
A solution of magnesium distearate and hydrophobic silica	agent in shell egg wash water Defoaming agent used in conjunction with antimicrobial solutions in shell egg	manufactoridance with good manufacturing practices Miscellaneous Magnesium distearate in accordance with good manufacturing practices and hydrophobic silica up to 2% wet	determination 21 CFR 184.1440 and GRN 000554	None under use 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	Company	Substance	PPM	Method of	
System	Name/		Concentration	Application	
	Distributor				
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
PearIOX, 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 App	proved Off-Line Repro	cessing (OFLR) An	timicrobial Systems fo	or Poultry
Approved	Company Name/	Substance	PPM Concontration	Method of
System	Distributor		Concentration	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 <u>askFSIS</u> or by telephone at 1-800-233-3935.

Pachel a Edilstein

Assistant Administrator Office of Policy and Program Development