

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Anticoagulants	Sodium tripolyphosphate	Sequestrant/anti-coagulant for use in recovered livestock blood which is subsequently used in food products	Not to exceed 0.5 percent of recovered blood	Acceptability determination	Listed by common or usual name in the ingredients statement (2)
Antioxidants	BHA (butylated hydroxyanisole)	"Brown N Serve" sausages	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	BHT (butylated hydroxytoluene)	"Brown N Serve" sausages	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	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
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)	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	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	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	Sufficient for purpose	Acceptability determination	List by common or usual name in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-ae6a-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

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	Not to exceed 0.5 percent in liquid whole egg. If water is used as a carrier, not to exceed 50% 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	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	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	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	Sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

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.)	Calcium hydroxide	Denuding agent for washing tripe	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	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	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 hydroxide	Denuding agent for washing tripe	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	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	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.	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)	Not to exceed 0.25 percent of total product formulation	Acceptability determination	Listed by common or usual name "Papain" in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Emulsifying Agents	Phospholipase A2 enzyme derived from a non-animal source	Egg products (egg yolks and whole eggs)	Not to exceed 0.05 % 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)	Not to exceed 0.05 % 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	Not to exceed 0.5% of the total of the finished product	Acceptability determination	None under the accepted conditions of use (1)
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	Sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
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	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	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	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	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	Not to exceed 2 percent of the product formulation	Acceptability determination	Listed as "liquid smoke and rice bran extract" in the ingredients statement (1)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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	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	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.	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/in ² 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	Sufficient for purpose	Acceptability determination	None under the accepted conditions of use (1)
Film Forming Agents	Hydroxypropyl methylcellulose	Film-forming agent in glazes for meat and poultry products	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	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	As a component in sausage casing, specifically as part of the solution used to encase the sausage, at a range from 2 to 15% 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)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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	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% of the casing solution and the dry mixture not to exceed 0.6% of total product formulation	Acceptability determination	Listed as "alginate-based casing (sodium alginate, modified food starch, and sodium hexametaphosphate)" at the end of the ingredients statement (4)
Flavoring Agents	A blend of lemon juice and vinegar	Various non-standardized raw, cured, and ready to eat meat and poultry products and on standardized meat and poultry products where flavoring agents are permitted	Up to 3.5% of product formulation	Acceptability determination	Listed by common or usual name "lemon juice and vinegar" in the ingredients statement for various non-standardized raw, cured, and ready to eat meat and poultry products and on standardized 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	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	Applied as a brine solution prior to cooking and/or smoking not to exceed 0.6% in finished product	Acceptability determination	Listed by common or usual name in the ingredients statement (4)
Flavoring Agents	Carboxypeptidase enzyme preparation	To accelerate the development of flavor during the ripening process of fermented meat	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)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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	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	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	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	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	Up to 1000 ppm of the final product formulation	Acceptability determination	Each ingredient listed by common or usual name or collectively as "natural flavoring" (4)
Flavoring Agents	Pea protein proteolysate	Various whole muscle and comminuted meat and poultry products and RTE meat and poultry products	Not to exceed the product's specific standard of identity limits and not more than 7% 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	No 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 citrate	As a flavor or flavor enhancing agent in meat and poultry products	Not to exceed 2.25% 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	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	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	Not to exceed 2 percent by weight of product formulation	Acceptability determination	Listed by common or usual name in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	A 1.8% beef protein solution pH adjusted with the use of up to 0.5% citric acid.	Used as a processing aid in frying beef products to reduce fat uptake.	Applied as a coating at up to 0.8% (by weight of final product), as a component of batter at up to 0.14%, and as both at a combined total of up to 0.89%	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.% 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	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	Wash meat (i.e., beef carcasses after the hide has been removed to remove any extraneous hair, dirt, etc.) during butchering	Used at 2% active solution level followed by a potable water rinse	GRAS Notice No. 000237	None under the accepted conditions of use (1)
Miscellaneous	Ammonium hydroxide	To adjust the pH of brine solutions prior to injection into meat	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% DMPS, ≤0.08% 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	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	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)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	A mixture of potato starch, sodium and potassium 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.	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 potassium 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	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	At a level of up to 3% of product formulation	Acceptability determination	Listed as "salt, sodium gluconate, potassium chloride, and sodium nitrite" in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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.	Sufficient for purpose	Acceptability determination	For all edible tissue none under the accepted conditions of use unless the Moisture Fat Free% (MFF%) 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 identify 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 <i>Schizochytrium sp.</i>	For use as an alternative edible oil in the production of various 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. 000137	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Barley fiber	For use as a texturizer in sauces, soups, and gravies containing meat and poultry	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	Cellulose (powdered)	To facilitate grinding and shredding in cheese	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 definition of a processing aid. (2)	Not to exceed 6000 ppm choline chloride. When magnesium stearate is used with choline chloride it is used with 2% added magnesium stearate	Acceptability determination	Listed as "choline chloride" in the ingredient statement (1)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Citroglycerides (citric acid esters of mono- and diglycerides)	To aid in the dispersion of lauric arginate (LAE)	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	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	Diacylglycerol oil	For use as an alternative edible oil in the production of various meat and poultry products	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	Up to 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	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	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. 000105	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Fish oil (predominantly sardine, anchovy, and tuna)	For use as an alternative edible oil in the production of various meat and poultry products	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	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	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	Glucose oxidase and catalase enzymes from <i>Aspergillus niger</i> 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	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 <i>Aspergillus niger</i> 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	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)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Glycerophospholipid cholesterol acyltransferase (GCAT) enzyme preparation from <i>Bacillus licheniformis</i> expressing a modified GCAT gene from <i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i> (GCAT enzyme preparation)	For use as an emulsifier in comminuted meat products	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	Not to exceed 0.5 percent	Acceptability determination	List by common or usual name in the ingredients statement (2)
Miscellaneous	Hydrogen peroxide	To minimize biofilm buildup on reverse osmosis and ultrafiltration membranes for processing beef plasma	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	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	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	Sufficient for purposes	GRAS Notice No. 000217	Listed by common or usual name in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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	Not to exceed 2.77% 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	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	Sufficient for purpose using good manufacturing practices	GRAS Notice No. 000270	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Protease preparations from Bacillus licheniformis	Used as a processing aid to prevent gel formation in making chicken broth	Applied to chicken broth at a rate up to 0.5% 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% rice flour, 1% natrium (sodium) alginate, and 80% water used at a level not to exceed 25% 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	Potassium magnesium chloride, and salt	For use as a replacement for a portion of the salt normally used in meat and poultry products	Sufficient for purpose	GRAS Notice No. 000403	Listed as Sea Salt (Potassium magnesium chloride, and salt) in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
Miscellaneous	Salmon oil	For use as an alternative edible oil in the production of various meat and poultry products	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	Silicon dioxide	For use as anticaking agent in egg products	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	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. 000102	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	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	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	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	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	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	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)	When used in accordance with 21 CFR 182.6757 as a sequestrant 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	0.05 percent solution	Acceptability determination	None under the accepted conditions of use (1)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-ae09-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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	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	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)
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	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	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 silicoaluminate	For use as anticaking agent in egg products	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	Stearidonic acid (SDA) soybean oil	For use as an ingredient in meat and poultry products	Sufficient for purpose	GRAS Notice No. 000283	Listed by common or usual name in the ingredients statement (2)
Miscellaneous	Triethyl citrate	For use as whipping aid in egg products	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.	Sufficient for purpose	GRAS Notice No. 000272	Listed by common or usual name in the ingredients statement (2)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

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 except where otherwise prohibited by the poultry products inspection regulations	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 sequestrant for use in sausages (fine emulsions)	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	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. 000109	Listed by common or usual name in the ingredients statement (2)
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	Not to exceed 2 percent of the amount of carrageenan	Acceptability determination	None under the accepted conditions of use (1)
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)

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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	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	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	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 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
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 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

(1) The use of the substance(s) 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

Table of Safe and Suitable Ingredients: Miscellaneous Update 5/25/2017

For a complete listing refer to FSIS Directive 7120.1 Safe and Suitable Ingredients used in the Production of Meat, Poultry, and Egg Products
<http://www.fsis.usda.gov/wps/wcm/connect/bab10e09-aefa-483b-8be8-809a1f051d4c/7120.1.pdf?MOD=AJPERES>

CATEGORY	SUBSTANCE	INTENDED USE OF PRODUCT	AMOUNT	REFERENCE	LABELING REQUIREMENTS
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. 00019	None under the accepted conditions of use (2).
Tenderizing Agents	Calcium gluconate	Raw meat products	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 <i>Bacillus subtilis</i>	Raw meat products	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 <i>Bacillus subtilis</i> var. <i>amyloliquefaciens</i>	Raw meat products	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 <i>Aspergillus niger</i>	Raw meat cuts and raw poultry muscle tissue of hen, cock, mature turkey, mature duck, mature goose, and mature guinea	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)

(1) The use of the substance(s) 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