

<i>Classbeg of Substance</i>	<i>Substance</i>	<i>Purpose</i>	<i>Products</i>	<i>Amount</i>	
Anticoagulants	Citric acid Sodium citrate	To prevent clotting	Fresh beef blood	0.2%—with or without water. When water is used to make a solution of citric acid or sodium citrate added to beef blood not more than two parts of water to one part of citric acid or sodium citrate shall be used.	
Antifoaming agent	Methyl polysilicone	To retard foaming	Soups Rendered fats Curing pickle	10 parts per million. 10 parts per million. 50 parts per million.	
Antioxidants and oxygen interceptors	BHA (butylated hydroxyanisole)	To retard rancidity	Dry sausage	0.003% based on total weight } 0.006% in combination	
	BHT (butylated hydroxytoluene).	do	do		
	Propyl gallate	do	do		
	BHA (butylated hydroxyanisole).	do	Rendered animal fat or a combination of such fat and vegetable fat.		
	BHT (butylated hydroxytoluene).	do	do		} 0.02% in combination
	Glycine	do	do		
	Nordihydroguaiaretic acid (NDGA)	do	do		
	Propyl gallate	do	do		
	Resin guaiac	do	do		

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	Tocopherols	do	do	0.03%. A 30% concentration of tocopherols in vegetable oils shall be used when added as an antioxidant to products designated as "lard" or "rendered pork fat."
	BHA (butylated hydroxyanisole)	do	Fresh pork sausage, brown, and serve sausage, pregrilled beef patties, and fresh sausage made from beef or beef and pork.	0.01% based on fat content
	BHT (butylated hydroxytoluene)	do	do	} 0.02% combination based on fat content
	Propyl gallate	do	do	
	BHA (butylated hydroxyanisole)	do	Dried meats	
	BHT (butylated hydroxytoluene)	do	do	} in combination
	Propyl gallate	do	do	

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Binders	Algin	To extend and stabilize product	Breading mix; sauces.	Sufficient for purpose
	Carrageenan	do	do	do.
	Carboxymethyl cellulose (cellulose gum)	do	Baked pies	do
	Gums, vegetable	do	Egg roll	do
	Methyl cellulose	To extend and to stabilize product (also carrier)	Meat and vegetable patties	0.15%
	Isolated soy protein	To bind and extend product	Imitation sausage; nonspecific loaves; soups; stews.	Sufficient for purpose
Bleaching agent	Sodium caseinate	do	do	do
	Whey (dried)	do	do	do
	Hydrogen peroxide	To remove color	Triple (substance must be removed from product by rinsing with clear water)	do
Catalysts (substances must be eliminated during process)	Nickel	To accelerate chemical reaction	Rendered animal fats or a combination of such fats and vegetable fats	do
	Sodium amide	Rearrangement of fatty acid radicals	do	do
	Sodium methoxide	do	do	do
Coloring agents (natural)	Alkanet, annatto, carotene, cochineal, green chlorophyll, saffron and tumeric	To color casings or rendered fats; marking and branding product	Sausage casings, oleomargarine, shortening, marking or branding ink on product	Sufficient for purpose (may be mixed with approved artificial dyes or harmless inert material such as common salt and sugar)
Coloring agents (artificial)	Coal tar dyes approved under the Federal Food, Drug, and Cosmetic Act (operator must furnish evidence to officer in charge that dye has been certified for use in connection with foods by the Food and Drug Administration)	do	do	Sufficient for purpose (may be mixed with approved natural coloring matters or harmless inert material such as common salt or sugar)
	Titanium dioxide	do	Canned ham salad spread and creamed type canned products	0.5%
Cooling and retort water treatment agents	Calcium chloride	To prevent staining on exterior of canned goods	Any	Sufficient for purpose
	Citric acid	do	do	do
	Diotyl sodium sulfosuccinate	do	do	0.05%
	Disodium-calcium ethylenediamine-tetraacetate	do	do	Sufficient for purpose
	Disodium ethylenediamine-tetraacetate	do	do	do
	Disodium phosphate	do	do	do

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	Ethylendiamine-tetraacetic acid	do	do	do
	Isopropanol	do	do	0.002%
	Potassium pyrophosphate	do	do	Sufficient for purpose
	Propylene glycol	do	do	do
	Sodium bicarbonate	do	do	do
	Sodium carbonate	do	do	do
	Sodium dodecylbenzene sulfonate	do	do	0.05%
	Sodium gluconate	do	do	Sufficient for purpose
	Sodium hexametaphosphate	do	do	do
	Sodium laurylsulfate	do	do	0.05%
	Sodium metasilicate	do	do	Sufficient for purpose
	Sodium n-alkylbenzene sulfonate (alkyl group predominantly C ₁₂ and C ₁₃ and not less than 95% C ₁₀ to C ₁₆)	do	do	0.05%
	Sodium nitrite (The sodium nitrite must be decharacterized with 0.05% powdered charcoal. Bulk decharacterized sodium nitrite when in cook room shall be held in locked metal bin or container conspicuously labeled "Decharacterized sodium nitrite—To be used by authorized personnel only.")	To inhibit corrosion on exterior of canned goods	do	600 parts per million
	Sodium pyrophosphate	To prevent staining on canned goods	do	0.05%
	Sodium tripolyphosphate	do	do	do
	Zinc oxide	do	do	0.01%
	Zinc sulfate	do	do	do
Curing agents	Ascorbic acid	To accelerate color fixing or preserve color during storage	Cured pork and beef cuts, cured comminuted meat food product	75 ozs. to 100 gals. pickle at 10% pump level ¾ oz. to 100 lbs. meat or meat byproduct; 10% solution to surfaces of cured cuts prior to packaging (the use of such solution shall not result in the addition of a significant amount of moisture to the product)
	Erythorbic acid	do	do	do
	Glucono delta lactone	To accelerate color fixing	Cured, comminuted meat or meat food product	8 ozs. to each 100 lbs. of meat or meat byproduct

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	Genoa salami	16 ozs. to 100 lbs. of meat (1.0%)		
	Sodium ascorbate	To accelerate color fixing or preserve color during storage	Cured pork and beef cuts, cured, comminuted meat food product	87.5 ozs. to 100 gals. pickle at 10% pump level; 7/8 ozs. to 100 lbs. meat or meat byproduct; 10% solution to surfaces of cured cuts prior to packaging (the use of such solution shall not result in the addition of a significant amount of moisture to the product)
	Sodium erythorbate	do	do	do
	Citric acid or sodium citrate	do	do	May be used in cured products or in 10% solution used to spray surfaces of cured cuts prior to packaging to replace up to 50% of the ascorbic acid, erythorbic acid, sodium ascorbate, or sodium erythorbate that is used
Curing agents (Continued)	Sodium or potassium nitrate	Source of nitrite	Cured products	7 lbs. to 100 gals. pickle; 3½ ozs. to 100 lbs. meat (dry cure); 2¼ ozs. to 100 lbs. chopped meat.
	Sodium or potassium nitrite (supplies of sodium nitrite and potassium nitrite and mixtures containing them must be kept securely under the care of a responsible employee of the establishment. The specific nitrite content of such supplies must be known and clearly marked accordingly)	To fix color	do	2 lbs. to 100 gals. pickle at 10% pump level; 1 oz. to 100 lbs. meat (dry cure); ¼ oz. to 100 lbs. chopped meat and/or meat byproduct. The use of nitrites, nitrates, or combination shall not result in more than 200 parts per million nitrite in finished product.
Denuding agents; may be used in combination. Must be removed from tripe by rinsing with potable water	Lime (calcium oxide, calcium hydroxide)	To denude mucous membrane	Tripe	Sufficient for purpose
	Sodium carbonate	do	do	do
	Sodium gluconate	do	do	do
	Sodium hydroxide	do	do	do
	Sodium metasilicate	do	do	do
	Sodium persulfate	do	do	do
	Trisodium phosphate	do	do	do
Emulsifying agents	Acetylated mono-glycerides	To emulsify product	Shortening	do

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Flavoring agents; protectors and developers	Diacetyl tartaric acid esters of mono and diglycerides	do	Rendered animal fat or a combination of such fat with vegetable fat	do
	Glycerol-lacto stearate, oleate, or palmitate	do	do	do
	Lecithin	To emulsify product (also as anti-oxidant)	Oleomargarine, shortening	do
	Mono and diglycerides (glycerol palmitate, etc.)	To emulsify product	Rendered animal fat or a combination of such fat with vegetable fat	Sufficient for purpose in lard and shortening; 0.5% in oleomargarine
	Polyglycerol esters of fatty acids (polyglycerol esters of fatty acids are restricted to those up to and including the decaglycerol esters and otherwise meeting the requirements of 21 CFR § 121.1120(a))	do	Rendered animal fat or a combination of such fat with vegetable fat when use is not precluded by standards of identity or composition	Sufficient for purpose
	Polysorbate 80 (polyoxyethylene (20) sorbitan monooleate)	do	Shortening for use in nonstandardized baked goods, baking mixes, icings, fillings, and toppings and in the frying of foods	1.0% when used alone. If used with polysorbate 60 the combined total shall not exceed 1.0%
	Propylene glycol mono and diesters of fats and fatty acids	do	Rendered animal fat or a combination of such fat with vegetable fat	Sufficient for purpose
	Polysorbate 60 (polyoxyethylene (20) sorbitan monostearate)	do	Shortening for use in nonstandardized baked goods, baking mixes, icings, fillings, and toppings and in the frying of foods	1.0% when used alone. If used with polysorbate 80 the combined total shall not exceed 1.0%
	Steryl-2-lactylic acid	do	Shortening to be used for cake icings and fillings	3.0%
	Steryl monoglyceridyl citrate	do	Shortening	Sufficient for purpose
	Program approved artificial smoke flavoring ¹	To flavor product	Any	Sufficient for purpose
	Program approved smoke flavoring ¹	do	do	do
	Autolyzed yeast extract	do	do	do
	Harmless bacteria starters of the acidophilus type, lactic acid starter or culture of <i>Pediococcus cerevisiae</i>	To develop flavor	Dry sausage, pork roll, thuringer, lebanon bologna, cervelat, and salami	0.5%
	Benzoic acid, sodium benzoate	To retard flavor reversion	Oleomargarine	0.1%
Citric acid	To protect flavor	do	Sufficient for purpose	

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	Corn syrup solids, corn syrup, glucose syrup	To flavor	Chili con carne, sausage, hamburger, meat loaf, luncheon meat, chopped or pressed ham	2.0% individually or collectively, calculated on a dry basis
	Dextrose	To flavor product	Sausage, ham and cured products	Sufficient for purpose
	Diacetyl	do	Oleomargarine	do
	Disodium guanylate	do	do	do
	Disodium inosinate	do	do	do
	Hydrolyzed plant protein	do	Any	do
	Isopropyl citrate	To protect flavor	Oleomargarine	0.02%
	Malt syrup	To flavor product	Cured products	2.5%
	Milk protein hydrolysate	do	Any	Sufficient for purpose
	Monosodium glutamate	do	do	do
	Sodium sulfoacetate derivative of mono and diglycerides	do	do	0.5%
	Sodium tripolyphosphate	To help protect flavor	"Fresh Beef," "Beef for Further Cooking," "Cooked Beef," and similar products which are frozen after processing	do
	Mixtures of sodium tripolyphosphate and sodium hexametaphosphate	do	do	do
	Starter distillate	do	Oleomargarine	Sufficient for purpose
	Stearyl citrate	To protect flavor	do	0.15%
	Sugars (sucrose and dextrose)	To flavor product	Any	Sufficient for purpose
Gases	Carbon dioxide solid (dry ice)	To cool product	Chopping of meat, packaging of product	do
	Nitrogen	To exclude oxygen	Sealed container	do
Hog scald agents; must be removed by subsequent cleaning operations	Caustic soda	To remove hair	Hog carcasses	do
	Dioctyle sodium sulfosuccinate	do	do	do
	Lime	do	do	do
	Methyl polysilicone	do	do	do
	Sodium carbonate	do	do	do
	Sodium dodecylbenzene sulfonate	do	do	do
	Sodium hexametaphosphate	do	do	do
	Sodium lauryl sulfate	do	do	do
	Sodium metasilicate	do	do	do
	Sodium n-alkylbenzene sulfonate (alkyl group predominantly C ₁₂ and C ₁₃ and not less than 95% C ₁₀ to C ₁₆)	do	do	do
	Sodium sulfate	do	do	do
	Sodium tripolyphosphate	do	do	do
	Sucrose	do	do	do

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Miscellaneous	Trisodium phosphate	do	do	do
	Potassium sorbate	To retard mold growth	Dry sausage	2.5% in water solution may be applied to casings after stuffing or casings may be dipped in solution prior to stuffing
		To preserve product and to retard mold growth	Oleomargarine or margarine	0.1% by weight of the finished oleomargarine or margarine
	Calcium disodium, EDTA (calcium disodium ethylenediaminetetraacetate)	To preserve product and to protect flavor	do	75 parts per million by weight of the finished oleomargarine or margarine.
	Propylparaben (propyl p-hydroxybenzoate)	do	do	3.5% in water solution may be applied to casings after stuffing or casings may be dipped in solution prior to stuffing
	Sodium bicarbonate	To neutralize excess acidity, cleaning vegetables	Rendered fats, soups, curing pickle	Sufficient for purpose.
	Calcium propionate	To retard mold growth	Pizza crust	} 0.32% alone or in combination based on weight of the flour used
	Sodium propionate	do	do	
	Sodium hydroxide	To decrease amount of cooked-out juices	Cured hams, pork shoulder picnics and loins, canned hams and pork shoulder picnics; chopped ham; and bacon	May be used only in combination with phosphates in ratio of 4 parts phosphate to one part sodium hydroxide; the combination shall not exceed 5.0% pickle at 10% pump level; 0.5% in product
	Phosphates	Diosodium phosphate	To decrease amount of cooked-out juices	Cured hams, pork shoulder picnics and loins, and canned hams and pork, shoulder picnics, and products covered by § 1.271 (12), and similar products; chopped ham, and bacon
Monosodium phosphate		do	do	do
Sodium hexameta-phosphate		do	do	do
Sodium tripoly-phosphate		do	do	do
Sodium pyro-phosphate		do	do	do
Sodium acid pyrophosphate		do	do	do

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Proteolytic enzymes	Aspergillus oryzae	To soften tissue	Beef cuts	Solutions consisting of water, salt, monosodium glutamate, and approved proteolytic enzymes applied or injected into cuts of beef shall not result in a gain of more than 3.0% above the weight of the untreated product.
	Aspergillus flavusoryzae group	do	do	do
	Bromelin	do	do	do
	Ficin	do	do	do
	Papain	do	do	do
Refining agents (must be eliminated during process of manufacturing)	Acetic acid	To separate fatty acids and glycerol	Rendered fats do	Sufficient for purpose
	Bicarbonate of soda Carbon (purified charcoal)	do	do	do
	Caustic soda (sodium hydroxide)	To refine fats	do	do
	Diatomaceous earth; Fuller's earth	do	do	do
	Sodium carbonate	do	do	do
	Tannic acid	do	do	do
Rendering agents	Tricalcium phosphate	To aid rendering	Animal fats	Sufficient for purpose
	Trisodium phosphate	do	do	do
Artificial sweeteners Synergists (used in combination with antioxidants)	Saccharin	To sweeten product	Bacon	0.01%
	Citric acid	To increase effectiveness of antioxidants	Lard and shortening	0.01% alone or in combination with antioxidants in lard or shortening
			Dry sausage	0.003% in dry sausage in combination with anti-oxidants
			Fresh pork sausage	0.01% on basis of fat content, in combination with antioxidants
			Dried meats	0.01% on basis of total weight in combination with antioxidants
	Malic acid	do	Lard and shortening	do
	Monolsopropyl citrate	To increase effectiveness of antioxidants	Lard, shortening oleomargarine, fresh pork, sausage, dried meats	do
	Phosphoric acid	do	Lard and shortening	0.01%
	Monoglyceride citrate	do	Lard, shortening, fresh pork sausage,	0.02%