

# Food Additive Status List

[Color Additive Status List \(/industry/color-additive-inventories/color-additive-status-list\)](/industry/color-additive-inventories/color-additive-status-list)

**Disclaimer FDA offers this list as a service to the Field Offices. Inclusion of a substance in the Food Additive Status list does not necessarily represent its legal regulatory status. The regulations for food additives in 21 Code of Federal Regulations need to be consulted.**

**More >>**

**NOTE: The Food Additives Status List is provided only as a quick look-up on the use limitations for a food additive. It is possible that mistakes or omissions could have occurred. Additionally, there may be cases where the agency has offered interpretations concerning specific provisions of the regulations. For example, in the case of boiler water additives or other minor ingredients, processing aids, or indirect additives, FDA has not objected, in certain cases, to the substitution of ammonium, calcium, magnesium, potassium, or sodium salts for each other when only one is listed in a regulation. The Food Additive Status list is updated at regular intervals, so it may not reflect the latest information. For all these reasons, take care before advising a firm that a use of a particular food additive is prohibited or otherwise limited. Read the actual regulation. If there are any doubts or if a particular situation is unclear, you or your supervisor should consult with the CFSAN, Office of Food Additive Safety (HFS-200) at (240) 402-1200 [S](#), or the Division of Petition Review (HFS-265) at (240) 402-1264 [S](#), or the Division of Food Contact Substance Notification Review HFS-275 at (240) 402-1162 [S](#), or the Division of Biotechnology and GRAS Notice Review HFS-255 at (240) 402-1221 [S](#).**

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## FOREWORD

This Food Additives Status List, formerly called Appendix A of the Investigations Operations Manual (IOM), organizes additives found in many parts of 21 CFR (<http://www.gpoaccess.gov/ecfr/index.html>) into one alphabetized list. Additives included are those specified in the regulations promulgated under the FD&C Act, under Sections 401 (Food Standards), and 409 (Food Additives). The Food Additives Status List includes short notations on use limitations for each additive. For complete information on its use limitations, refer to the specific regulation for each substance. New regulations and revisions are published in current issues of the Federal Register (<http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR>) as promulgated. Also refer to the Food Ingredient and Packaging inventories (</food/food-ingredients-packaging/food-ingredient-and-packaging-inventories>) in the Foods section of the FDA web site to review several FDA databases of additive categories. For example, Substances Added to Food (</food/food-additives-petitions/substances-added-food-formerly-eafus>) is a helpful reference within the limitations described at the beginning of the database.

NOTE: Pesticide chemicals from 40 CFR 180 for which EPA has set tolerances in food that are enforced by FDA have been removed from this list.

The Food Additive Status List omits certain categories of additives. Here are the omissions:

1. Obviously safe substances not cited in a regulation as Generally Recognized as Safe (GRAS). You may find such substances in the GRAS Notice Inventory (</food/generally-recognized-safe-gras/gras-notice-inventory>) on the FDA web site. This site contains notices received from companies since 1998, and FDA's response.
2. Synthetic flavoring substances in 21 CFR 172.515. The CFR does not contain a complete list of permissible flavorings. Certain trade groups such as the Flavor Extract Manufacturers Association have established expert panels to evaluate and make determinations on the GRAS status of their products. If you need help in determining the acceptability of a flavoring after consulting 21 CFR 172.515, contact CFSAN Office of Food Additive Safety (HFS-200) at (240) 402-1200 .
3. Those pending administrative determination.
4. Substances granted prior sanction for specific use prior to enactment of the Food Additives Amendment. For additional information on these substances, contact the CFSAN Office of Food Additive Safety (HFS-200) at (240) 402-1200 .
5. Indirect food additives, 21 CFR Parts 175, 176, 177, & Part 178 (except that sanitizing agents for food processing equipment as listed in 178.1010 are included in the Food Additives list.) Be aware that as a result of the Food Quality Protection Act of 1996 and Antimicrobial Regulation Technical Corrections Act of 1998, EPA now has jurisdiction

over sanitizing solutions applied to permanent or semi-permanent food contact surfaces, other than food packaging. To look up indirect food additives in Parts 175, 176, 177 and 178 go to FDA's Indirect Additives Used in Food Contact Substances (</food/packaging-food-contact-substances-fcs/list-indirect-additives-used-food-contact-substances>). Use it to locate the regulation in which its use is fully described. In 1997, FDA implemented a new Food Contact Notification program for certain food contact substances. These notifications are effective only for the manufacturer or supplier identified in the notification. A list of Effective Food Contact Substance (FCS) Notifications (</food/packaging-food-contact-substances-fcs/inventory-effective-food-contact-substance-fcs-notifications>) is available on the FDA web site.

6. Color additives, 21 CFR Parts 70, 71, 73, 74, 80 & 82. Go to the Color Additives Status List (</industry/color-additive-inventories/color-additive-status-list>).

Please send corrections or additions to the list to Harold Woodall, FDA/CFSAN Office of Food Additive Safety (HFS-206), 5100 Paint Branch Parkway, College Park, Maryland 20740 or e-mail them to [harold.woodall@fda.hhs.gov](mailto:harold.woodall@fda.hhs.gov).

## ABBREVIATIONS USED

### Technical Effects

#### Technical Effects

Type	Kind, effect or use of additive	Type	Kind, effect or use of additive
AC	Anticaking agent	AF	Antifoaming (or defoaming) agent
AOX	Antioxidant	BC	Boiler compound
BL	Bleaching agent or flour-maturing agent	B&N	Buffer and neutralizing agent
CTG	Component or coating for fruits & vegetables	DS	Dietary supplement
EMUL	Emulsifier	ENZ	Enzyme
ESO	Essential oil and/or oleoresin (solvent free)	FEED	Substances under the Food Additives Amendment added directly to feed
FLAV	Natural flavoring agent	FL/ADJ	Substance used in conjunction with flavors
FUM	Fumigant	FUNG	Fungicide
HERB	Herbicide	HOR	Hormone

<b>INH</b>	<b>Inhibitor</b>	<b>MISC</b>	<b>Miscellaneous</b>
<b>NAT</b>	<b>Natural substances and extractives</b>	<b>NNS</b>	<b>Non-nutritive sweetener</b>
<b>NUTR</b>	<b>Nutrient</b>	<b>NUTRS</b>	<b>Nutritive Sweetener</b>
<b>PEST</b>	<b>Pesticide other than fumigant</b>	<b>PRES</b>	<b>Chemical preservative</b>
<b>SANI</b>	<b>Sanitizing agent for food processing equipment</b>	<b>SDA</b>	<b>Solubilizing and dispersing agent</b>
<b>SEQ</b>	<b>Sequestrant</b>	<b>SOLV</b>	<b>Solvent</b>
<b>SP</b>	<b>Spices, other natural seasonings &amp; flavorings</b>	<b>SP/ADJ</b>	<b>Spray adjuvant</b>
<b>STAB</b>	<b>Stabilizer</b>	<b>SY/FL</b>	<b>Synthetic flavor</b>
<b>VET</b>	<b>Veterinary drug, which may leave residue in edible tissues of animals or in edible animal products</b>		

## Regulatory Status

### Regulatory Status

<b>Type</b>	<b>Kind, effect or use of additive</b>	<b>Type</b>	<b>Kind, effect or use of additive</b>
<b>BAN</b>	<b>Substances banned prior to the Food Additives Amendment (FAA) because of toxicity. These substances are bolded and italicized.</b>	<b>FS</b>	<b>Substances permitted as optional ingredient in a standardized food</b>
<b>GRAS</b>	<b>Generally recognized as safe. Substances in this category are by definition, under Sec. 201(s) of the FD&amp;C Act, not food additives. Most GRAS substances have no quantitative restrictions as to use, although their use must conform to good manufacturing practices. Some GRAS substances, such as sodium benzoate, do have a quantitative limit for use in foods.</b>	<b>GRAS/FS</b>	<b>Substances generally recognized as safe in foods but limited in standardized foods where the standard provides for its use.</b>

<b>ILL</b>	<b>Substances used or proposed for use as direct additives in foods without required clearance under the FAA. Their use is illegal. These substances are bolded and italicized.</b>	<b>PD</b>	<b>Substances for which a petition has been filed but denied because of lack of proof of safety. Substances in this category are illegal and may not be used in foods.</b>
<b>PS</b>	<b>Substances for which prior sanction has been granted by FDA for specific uses. There are a number of substances in this category not listed herein because they have not been published in the FEDERAL REGISTER.</b>	<b>REG</b>	<b>Food additives for which a petition has been filed and a regulation issued.</b>
<b>REG/FS</b>	<b>Food additives regulated under the FAA and included in a specific food standard.</b>		

## Miscellaneous Abbreviations

### Miscellaneous Abbreviations

Type	Kind, effect or use of additive	Type	Kind, effect or use of additive
<b>&amp;</b>	<b>and</b>	<b>amt</b>	<b>amount</b>
<b>art</b>	<b>artificially</b>	<b>avg</b>	<b>average</b>
<b>ca</b>	<b>about, approximately</b>	<b>calc</b>	<b>calculated</b>
<b>CFR</b>	<b>Code of Federal Regulations</b>	<b>cnd</b>	<b>canned</b>
<b>cond</b>	<b>conditions</b>	<b>comb.</b>	<b>w/ in combination with; combined with</b>
<b>comp</b>	<b>component</b>	<b>ctg</b>	<b>coating for fruits, vegetables, tablets</b>
<b>do</b>	<b>Same CFR reference as appears earlier in paragraph</b>	<b>dr</b>	<b>dried</b>
<b>F.R.</b>	<b>Federal Register</b>	<b>g</b>	<b>gram(s)</b>
<b>GMP</b>	<b>In accordance with good manufacturing practices; or sufficient for purpose; or quantity not greater than required</b>	<b>incl</b>	<b>including</b>
<b>mfr</b>	<b>manufacture</b>	<b>mg</b>	<b>milligram(s)</b>
<b>min</b>	<b>mineral</b>	<b>ml</b>	<b>milliliter</b>

<b>nonstdzd</b>	<b>nonstandardized</b>	<b>Part</b>	<b>Refers to Part number under Title 21 CFR</b>
<b>pdt</b>	<b>product</b>	<b>pdt</b>	<b>production</b>
<b>pest</b>	<b>pesticide</b>	<b>pkg</b>	<b>packaging</b>
<b>ppm</b>	<b>parts per million</b>	<b>prepns</b>	<b>preparations</b>
<b>res</b>	<b>residue</b>	<b>sp</b>	<b>special dietary</b>
<b>suppl</b>	<b>supplement</b>	<b>sw</b>	<b>sweetened</b>
<b>tabs</b>	<b>tablets</b>	<b>temp</b>	<b>temporary</b>
<b>veg</b>	<b>vegetable(s)</b>	<b>w/</b>	<b>with</b>
<b>w/o</b>	<b>without</b>	<b>wt</b>	<b>weight</b>
<b>X-ref</b>	<b>cross reference</b>	<b>&lt;</b>	<b>less than</b>
<b>=</b>	<b>less than or equal to</b>	<b>&gt;</b>	<b>greater than</b>
<b>=</b>	<b>greater than or equal to</b>	<b>+</b>	<b>plus</b>

## ADDITIVES

### A

- **Acacia** (gum arabic)- EMUL/STAB, REG, Used as thickener, emulsifier, or stabilizer at  $\geq 20\%$  of alcoholic beverages-172.780, GRAS/FS, See Reg Part 135, Frozen Desserts; Part 169, Food Dressings and Flavorings; Part 169.179, Vanilla Pwd-184.1330
- **Acesulfame potassium** - NNS, REG, See Regulation -172.800
- **Acetic acid** - B&N/FEED, GRAS/FS, Part 133, Cheese; Part 582.1005, In animal feed practices; 184.1005, 172.814
- **Acetic anhydride** - MISC, REG, In modifying food starch -172.892
- **Acetone** - SOLV, REG, 30 ppm - As residual solvent in spice oleoresins 173.210
- **Acetone peroxides** - BL, REG/FS, GMP, Part 137, Cereal Flours -172.802
- **Acetyl-(p-nitrophenyl)-sulfanilamide** - FEED, REG, See: Sulfanitran
- **N-Acetyl-L-methionine** (free, hydrated, or anhydrous, or sodium or potassium salts) - NUTR, REG, In foods, except infant foods and foods containing added nitrites/nitrates -172.372

- **Acetylated monoglycerides** - EMUL, REG, GMP, Used in food, food processing, food pkg or food stg equipment -172.828
- **Acidified sodium chlorite solutions** - REG, Microbial control agent in water for processing poultry, raw agricultural commodities, processed fruits, processed root, tuber, bulb, legume, fruiting (i.e., eggplant, groundcherry, pepino, pepper, tomatillo, and tomato), cucurbit and leafy vegetables, red meat, red meat parts, organs, processed, comminuted or formed meat food products, and seafood. See 173.325 for specifications and limitations.
- **Aconitic acid** (equisetic acid, citridic acid, achilleic acid) -SY/FL, GRAS/FS - 184.1007
- **Acrolein** - MISC, REG, In modifying food starch - 172.892
- **Acrylamide-acrylic acid resin** - GMP, MISC, REG, < 5 ppm by wt of juice - Used in clarifying beet sugar or cane sugar juice and liquor or corn starch hydrolyzate - 173.5; < 10 ppm by wt of liquor or hydrolyzate; Fixing agent for the immobilization of glucose isomerase for use in manufacturing high fructose corn syrup - 173.357; FEED, REG, GMP, As a thickener & suspending agent in non-medicated aqueous suspensions intended for addition to animal feeds -573.120
- **Acrylamide-Sodium Acrylate Resin** - MISC, REG, 173.5, Boiler Water Additive - 173.310, 172.710 - Adjuvants for pesticide use dilutions
- **Acrylic Acid 12-acrylamido-2,2-propionic sulfonic acid copolymer** - BC, REG, GMP, Boiler water - 173.310
- **Acrilonitrile copolymers** - 180.22
- **Adjuvants for pesticides use dilutions** - ADG/PEST, REG, Surfactants and adjuvants added to pesticide use dilutions to growing crops - 172.710
- **Adipic acid** - B&N/FEED, GRAS, GMP, In animal feed practices - 582.1005 - FLV, GRAS - 184.1009
- **Adipic anhydride** - MISC, REG, In modifying food starch -172.892
- **Agar-agar** - MISC, GRAS/FS, GRAS - 184.1115 - 0.8% -In baked goods and baking mixes; 2.0% - In confections & frostings; 1.2% - In soft candy; 0.25% - In all other candy; Part 135, Frozen Desserts; Part 150 Art Swt Jelly & Preserves
- **Aklomide (2-chloro-4-nitrobenzamide)** - FEED, REG, 4.5 ppm - In liver & muscles of uncooked edible tissue -556.30; 3 ppm - In skin w/fat of chickens - 556.30 - Use 558.35
- **DL-Alanine** - FL/ADJ, REG, 1% of pickling spice - As a flavor enhancer for sweeteners in pickling mix - 172.540 L- Alanine - NUTR, REG - 172.320
- **Albendazole** -VET, REG, Use in cattle as suspension -520.45a; Use in cattle as paste - 520.45b; 0.2 ppm - As residue in uncooked edible cattle tissue - 556.34 (aminosulfone metabolite); 0.6 ppm - As residue in uncooked edible cattle muscles - 556.34; 1.2 ppm - As

residue in uncooked edible cattle liver - do; 1.8 ppm - As residue in uncooked edible cattle kidney - do; 2.4 ppm - As residue in uncooked edible cattle fat - do

- **Alcohol, Denatured Formula 23A** - MISC, REG - 73.1 Diluent in color additive mixtures for coloring shell eggs
- **Alcohol, SDA-3A** - MISC, REG - 73.1 - Diluent in color additive for marking food
- **Alcohols/Phosphate Esters of Same Mixture** - MISC, REG - 173.315, May be used at a level not to exceed 0.2 percent in lye-peeling solution to assist in the lye peeling of fruit and vegetables.
- **Alfalfa, Extract** - GRAS - 182.20
- **Alfalfa herb and seed** - SP/ESO, GRAS - 182.10
- **Algae, brown (kelp), or red** - NAT, GRAS, REG -184.1120, 184.1121 and 172.365
- **Alginic Acid and Salts:**
  - **Ammonium alginate** - MISC, REG, Boiler Water Additive -173.310
  - **Calcium alginate** - GRAS - 184.1187
  - **Potassium alginate** - GRAS - 184.1610
  - **Sodium alginate** - GRAS, REG - 184.1724, Boiler Water Additive - 173.310
  - **Alginic acid** - GRAS, 184.1011
- **Algin** - STAB, GRAS/FS, Part 133, Cheeses; Part 135, Frozen Desserts; Part 150 Jellies and Preserves;
- **Alkanomide produced by condensation of coconut oil fatty acids and diethanolamine** - MISC, REG, < 0.2% by wt application rate - In delinting of cottonseeds - 173.322
- **n-Alkyl(C12-C18)benzyltrimethylammonium chloride** -cpds, av mol wt 351-380 - SANI, REG, < 200ppm or 150-400 ppm - Of active quaternary compound in the sanitizing solution - 178.1010
- **n-Alkyl(C12-C14)dimethylethylbenzylammonium chloride** - SANI, REG, 200 ppm - Of active quaternary compound in the sanitizing solution - 178.1010
- **alpha-Alkyl-omega-hydroxypoly(oxyethylene)** - MISC, REG, < 3 ppm in the flume water - In flume water for washing sugar beets prior to slicing operations - 173.315; < 0.3% by wt application rate - In delinting of cottonseeds - 173.322
- **Alkylene Oxide Adducts of Alkyl Alcohols** - MISC, REG, <0.2% in lye peeling - Assist in lye peeling of fruits and vegetables - 173.315
- **Allspice**-SP/ESO, GRAS - 182.10 and 182.20
- **Allspice oil and oleoresin** - ESO, GRAS - 182.20



- **Almond, bitter** - ESO, GRAS, Free from prussic acid -182.20
- **Aloe** - FL/ADJ, REG, GMP, Used only in conjunction w/flavors - 172.510
- **Alpha-acetolactate decarboxylase** - ENZ, REG.GMP enzyme preparation (derived from Bacillus subtilis modified by recombinant methods to contain gene coding for enzyme from B. brevis), Used as a processing aid in the production of alcoholic malt beverages and distilled liquors -173.115.
- **Alpha-amylase** - ENZ, REG, used to modify food starch -172.892
- **Althea flowers or root (marshmallow root)** - FL/ADJ, REG, GMP - Used only in conjunction w/flavors - 172.510
- **Aluminum ammonium sulfate** - B&N, GRAS - 182.1127
- **Aluminum calcium silicate** - AC, GRAS/FS - 182.2122 -< 2% by wt - Table salt; Part 169.179, Vanilla Powder
- **Aluminum nicotinate** - DS, REG, As a source of niacin in foods for special dietary use - 172.310
- **Aluminum potassium sulfate** - B&N, GRAS
- **Aluminum salts of fatty acids** - MISC, REG, GMP - Binder, emul, and AC agent - 172.863
- **Aluminum sodium sulfate** - B&N, GRAS
- **Aluminum stearate** - AF, REG, X-ref - Defoaming agent comp - 173.340 (Used in processing beet sugar & yeast)
- **Aluminum sulfate** - MISC, GRAS, Part 582 - Animal feed; REG, <2.0% in combo. w/<2.0% of 1-octenyl succinic anhydride -In modifying food starch -172.892; FEED,GMP/GRAS - 582.1125
- **Ambergris** - MISC, GRAS
- **Ambrette (seed)** - SP/ESO, GRAS - 182.10 and 182.20
- **Amino Acids** - 172.320
- **p-Aminobenzoic acid** - MISC, GRAS, <30 mg per day
- **Aminoglycoside 3'-phosphotransferase II** - 173.170
- **Aminopeptidase from Lactococcus lactis** - MISC, GRAS - To make cheddar cheese and protein hydrolysates -184, 1985
- **Ammoniated cottonseed meal** - FEED, REG, <20% of total ration - In feed of ruminants as source of protein and non- protein nitrogen - 573.140; <10% of total ration for laying chickens - In feed of chickens as source of protein and non-protein nitrogen (573.140)

- **Ammoniated glycyrrhizin, licorice, or glycyrrhiza** - MISC, FS, GMP, See Licorice
- **Ammoniated rice hulls** - FEED, REG, <20 % of total ration - In feed of beef cattle as source of crude fiber and sole source of non-protein nitrogen - 573.160
- **Ammonium alginate** - STAB, GRAS; BC, REG, GMP - In boiler water - 173.310
- **Ammonium bicarbonate** - B&N, GRAS/FS, Part 163, Cacao Pdts; Part 582 - Animal feeds - 184.1135
- **Ammonium carbonate** - B&N, GRAS/FS, Part 163, Cacao Pdts; Part 582 - Animal feeds - 184.1137
- **Ammonium caseinate** - MISC, FS, Part 136, Bakery Products
- **Ammonium chloride** - MISC, FS/GRAS, Part 136, Bakery Pdts - 184.1138
- **Ammonium hydroxide** - B&N, GRAS/FS, Part 163, Cacao Pdts; Part 582 - Animal feeds - 184.1137, 184.1139
- **Ammonium persulfate** - MISC, REG, <0.075% - Modifier for food starch - 172.892; <0.05% sulfur dioxide
- **Ammonium phosphate (mono- and dibasic)** - B&N, GRAS/FS, Part 136, Bakery Pdts; Part 582 - Animal feeds -184.1139, 184.1141, 184.1141a, 184.1141b
- **Ammonium saccharin** - NNS, See Saccharin
- **Ammonium sulfate** - MISC, GRAS, GMP - 184.1143
- **Amoxicillin** -VET, REG, 0.01 ppm - In uncooked edible tissues of cattle - 556.38; In milk - 556.38; Use: As Powder & Bolus
- **Ampicillin** -VET, REG, 0.01 ppm neg residues - In uncooked edible tissues of cattle & swine; In milk - 556.40;
- **Amprolium (1-(4-amino-2-n-propyl-5-pyrimidinylmethyl)-2-picolinium chloride hydrochloride) alone or comb/w other drugs and antibiotics** - FEED/VET, REG, 1 ppm - In uncooked liver and kidneys of chickens, turkeys, and pheasants as a residue - 556.50; 0.5 ppm - In uncooked muscle meat of chickens, turkeys, calves, pheasants as a residue - 556.50; 8 ppm - In egg yolks as a residue - 556.50; 4 ppm - In whole eggs as a residue -556.50; 2 ppm - In uncooked fat of edible tissues of calves - 556.60; Use in drinking water - 520.100; REG - Coccidiostats for feed uses, See 558.55, 558.58, 558.60, 558.62, 558.76, 558.78, 558.128, 558.248, 558.274, 558.460, 558.530
- **Amylase from Aspergillus Oryzae** - ENZ, REG -137.105, 137.155, 137.160, 137.165, 137.170, 137.175, 137.180, 137.185, 137.200, 137.205
- **Amyloglucosidase Enzyme Product** - ENZ, REG, <0.1% by Wt. of gelatinized starch - 173.110 - Degrading gelatinized starch into constituent sugars, in the production of distilled spirits & vinegar

- **Amyris** - FL/ADJ, REG, GMP, Used in conjunction w/flavors - 172.510
- **Angelica (root, stem, seed)** - SP/ESO, GRAS - 182.10 and 182.20
- **Angola weed** - FL/ADJ, REG, GMP, In alcoholic bev only -172.510
- **Angostura (cusparia bark)** - ESO/SP, GRAS - 182.10 and 182.20
- **Anhydrous ammonia** - FEED, REG, > 16% but < 17% ammonia in feed premix - Source of crude fiber & non-pro-tein nitrogen - 573.180
- **Animal protein hydrolysate, cond** - FEED, REG, Source of animal protein - 573.200
- **Anise, Star Anise** - SP/ESO, GRAS
- **Anoxomer** - AOX, REG, 5000 ppm - 172.105
- **Antibiotics for growth promotion and feed efficiency** -FEED, REG, See Bacitracin Methylene Disalicylate; See Bacitracin Zinc, Bambermycins, Chlortetracycline, Erythromycin thiocyanate, Lincomycin, Monensin, Oleandomycin, Oxytetracycline, Tylosin, Virginiamycin;
- **Anthracite Coal, Sulfonated** - MISC, REG - 173.25 - Ion Exchange Resins, Meeting requirements of ASTM method D388-38, Class 1, Group 2
- **Apramycin** - REG, 0.1 ppm - In uncooked muscle of swine - 556.52; 0.3 ppm - In swine liver - do; 0.4 ppm - In kidney & fat of swine - do; Use: Drinking water -520.110
- **Apricot kernel (persic oil)** - NAT, GRAS
- **Arabinogalactan** - EMUL, REG, GMP, In essential oils, non-nutritive sweeteners, flavor bases, non-standardized dressings, and pudding mixes - 172.610; MISC, REG, GMP, Comp of microcapsules for flavoring oils - 172.230
- **Arginine (L form only)** - NUTR/DS, REG - 172.320
- **Arnica flower extract** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Arsanilic acid** - FEED, REG, (See Arsenic) In poultry feed - 558.55; 558.58; 558.62; 558.248; 558.680
- **Arsenic** - FEED, REG, 2 ppm - As residue in liver & kidney of swine - 556.60; 2 ppm - As residue in edible bypdt of chickens & turkeys - do; 0.5 ppm - As residue in muscle meat of chickens & turkeys, in eggs, & in muscle meat and by-products (other than kidney & liver) of swine - do
- **Artemisia** - FL/ADJ, REG, GMP, Finished food thujone free - 172.510
- **Artichoke leaves** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Asafoetida** - ESO, GRAS - 182.20
- **Ascorbic acid** - PRES, GRAS, GMP - 182.3013; DS, GRAS, GMP - 182.5013; NUTR, GRAS, GMP - 182.8013; MISC, GRAS/FS, Part 137, Cereal Flours; 150.141, 150.161, Art Sw

## Jellies &amp; Preserves; 155.200 - Canned Mushrooms &amp; Artichokes

- **Ascorbyl palmitate** - GRAS - For use as a preservative in foods - 182.3149
- **Asparagine (L-form)** - NUTR/DS, REG - 172.320
- **Aspartame** - NUTRS, REG, GMP, Sweetening agent, sugar substitute uses stated in - 172.804. Sugar substitute tablets, breakfast cereals, chewing gum, dry bases for beverages, instant coffee and tea beverages, gelatins, puddings, fillings, and dairy product analog toppings, ready-to-serve nonalcoholic flavored beverages, tea beverages, fruit juice based drinks where food standards permit such use, fruit flavored drinks and ades, imitation fruit flavored drinks and ades, frozen stick-type confections and novelties, breath mints, hard and soft candy, refrigerated ready-to-serve gelatins, puddings, and fillings, fruit wine beverages with EtOH <7%, yogurt-type products where aspartame is added after pasteurization and culturing, refrigerated flavored milk beverages, frozen desserts, frostings, toppings, fillings, glazes and icings for precooled baked goods, frozen, ready-to-thaw-and-eat cheesecakes, fruit and fruit toppings, frozen dairy and nondairy frostings, toppings, and fillings, fruit spreads, fruit toppings, and fruit syrups, malt beverages with <7% EtOH and containing fruit juice, baked goods and baking mixes 0.5 wt.-% of ready-to-bake products or of finished formulation and prior to baking.
- **Aspartic acid (L-form)** - NUTR/DS, REG - 172.320
- **Aspergillus Niger** - MISC, REG, For Fermentation Production of Citric Acid - 173.280
- **Azaperone** - VET, REG, Use: Swine (Injection) - 522.150
- **Azodicarbonamide** - BL, REG/FS, 45 ppm in flour - Part 137, Cereal Flours & 172.806

**B**

- **Bacitracin, manganese bacitracin, zinc bacitracin, Bacitracin methylene disalicylate** - FEED/VET, REG, 0.5 ppm (neg res) - As residue in meat and meat by-products of cattle, poultry, pheasants, quail, and swine and in milk & eggs - 556.70; For feed use see 558.55, 558.58, 558.62, 558.76, 558.78, 558.274, 558.430, 558.460, 558.530, 558.680
- **Bacteria (harmless, lactic acid producing; propionic acid producing)** - MISC, FS, Part 133, Cheeses; Part 166, Margarine
- **Bacterial Catalase** - See Catalase, Bacterial **Bakers Yeast Glycan** - EMUL/STAB, REG, <10,000 organisms/gm by APC - 169.150, Salad Dressings; 172.898 as emulsifier; <10 yeast & molds/gm - Thickener, stabilizer or texturizer; < 5% - In salad dressings, 172.898; GMP, In frozen dessert analogs, sour cream analogs, cheese spread analogs, and in cheese-flavored and sour cream-flavored snack dips - 172.898
- **Bakers Yeast Protein (*Saccharomyces Cerevisiae*)** -NUTR, REG, <10,000 organisms/gm by APC - In foods as Nutrient supplement, 172.325; <10 yeast and

mold/gm in final product

- **Balm (lemon balm)** - SP/ESO, GRAS - 182.10 and 182.20
- **Balsam of Peru** - ESO, GRAS - 182.20
- **Bambermycins** - FEED, REG, For feed uses in chickens, turkeys, & swine - 558.95
- **Basil** - ESO, GRAS - 182.20
- **Basil (bush and sweet)** - SP, GRAS - 182.10
- **Bay, Bay leaves** - SP/ESO, GRAS - 182.10 and 182.20
- **Bay, (Myrcia Oil)** - ESO, GRAS - 182.20
- **Beeswax (bleached, white wax)** - MISC, GRAS
- **Beeswax (yellow wax)** - MISC, GRAS - 184.1973
- **Beeswax, white (cire d'abeille)** - FL/ADJ, REG, GMP, In conjunction with flavors - 172.510
- **Bentonite** - FEED, GRAS, GMP 21CFR 582.1155
- **Benzathine cloxacillin** -VET, REG, 0.02 ppm - As residues in milk - 556.115; Use: Infusion - 526.363
- **Benzene** - MISC, REG, 1.0 ppm - In modified hop extract for beer - 172.560
- **Benzoic Acid** - PRES, GRAS, 0.1%
- **Benzoin Resin** - FL/ADJ, REG, GMP, In conjunction with flavors - 172.510, 73.1
- **Benzophenone**
- **Benzoyl Peroxide** - BL, FS, Part 137, Cereal Flours; Part 133 for milk to be used in certain cheeses
- **Bergamot (bergamot orange)** - ESO, GRAS - 182.20
- **Beta-carotene** - NUTR, GRAS, GMP, Use: Direct human food ingredient - 184.1245
- **BHA (butylated hydroxyanisole)** - AOX/FS, GRAS, 0.02% - Of fat or oil content, incl essential (volatile) oil, or food, incl oleomargarine - Part 166, Margarine; AOX, REG, 10 ppm, alone or w/BHT - In potato granules - 172.110; 32 ppm - In mixed diced, glazed fruits - 172.110; 50 ppm, alone or w/BHT - In dry breakfast cereals, sweet potato flakes, dehydr potato flakes or shreds - 172.110; 90 ppm in mix or <2 ppm in prep food - In dry mixes for beverages and desserts - 172.110; 200 ppm alone or w/BHT - In emulsion stabilizers for shortenings; 0.1% - In active dry yeast -172.110; AOX, REG, 0.1% alone or w/BHT and/or propyl gallate - In chewing gum base - 172.615; AOX, REG, 0.1% of defoamer - For proc. Beet sugar & yeast - 173.340; AOX, REG, 0.5% of essential volatile oil - For use in flavoring substances - 172.515; AOX, REG, In mastitis form, for dairy cattle - 526.820

- **BHT (butylated hydroxytoluene)** - AOX, GRAS, 0.02% -Of fat or oil content, incl essential oil, of food, incl oleomargarine Part 166 - Margarine; FS, 33 ppm in rice - In enriched parboiled rice - Part 137.350; FS, <0.02% in oleomargarine - In any animal fat ingredient permitted in oleo-margarine not to exceed 0.02% by wt of such animal fat content, Part 166 - margarine; AOX, REG, 10 ppm alone or w/BHA - In potato granules - 172.115; 50 ppm alone or w/BHA - In dry breakfast cereals, sweet potato flakes, dehydr potato flakes or shreds - 172.115; 200 ppm alone or w/BHA - in emul stab for shortenings - 172.115; REG, 0.1% alone or w/BHA and/or propyl gallate - In chewing gum base - 172.615; REG, 0.1% of defoamer - For Proc. Beet sugar & yeast - 173.340; REG, In mastitis form, for dairy cattle - 526.820
- **Bicarbonate of soda** - B&N, GRAS/FS - 137.270, Self-rising Cornmeal
- **Bile salts & Ox Bile Extract** - SDA, GRAS - 184.4560
- **Bioflavonoids, citrus - DS, ILL, Any claim for special dietary use renders the food misbranded (VitaSafe case)**
- **Biotin** - NUTR/DS, GRAS, GMP - 182.5159; 182.8159
- **Bitter almond** - ESO, GRAS, Free of prussic acid - 182.20
- **Biuret, feed grade** - NUTR, REG, GMP, In feed for ruminants except those producing milk for human consumption - 573.220
- **Blackberry bark extract** - FL/ADJ, REG, In conjunction w/flavors only - 172.510
- **Boiler water additives - Ammonium alginate, cobalt sulfate, lignosulfonic acid, monobutyl ether of polyoxyethylene glycol or potassium tripolyphosphate, sodium carboxymethylcellulose, sodium glucoheptonate, sodium humate, sodium metasilicate, sodium metabisulfite, polyoxypropylene glycol, polyoxyethylene glycol, potassium carbonate, sodium acetate, sodium alginate, sodium aluminates, sodium carbonate, sodium hexametaphosphate, sodium hydroxide, sodium lignosulfonate, sodium nitrate, sodium phosphate (mono-, di-, tri-), sodium polyacrylate, sodium polymethacrylate, sodium silicate, sodium sulfate, sodium sulfite (neutral or alkaline), sodium tripolyphosphate, tannin (incl quebracho extract), tetrasodium EDTA, tetrasodium pyrophosphate, 1-hydroxyethylidene-1,1-diphosphonic acid and its sodium & potassium salt** - BC, REG, GMP, In steam contacting food - 173.310
  - **Hydrazine** - BC, REG, In steam contacting food
  - **Acrylamide-sodium acrylate resin** - BC, REG, 0.05% of acrylamide monomer - In steam contacting food
  - **Cyclohexylamine or Morpholine** - BC, REG, <10 ppm - In steam contacting food except milk and milk products

- **Octadecylamine** - BC, REG, <3 ppm - In steam contacting food except milk and milk products
- **Diethylaminoethenol** - BC, REG, 15 ppm - In steam contacting food except milk and milk products
- **Trisodium nitrilotriacetate** - BC, REG, <5 ppm in feed water - In steam contacting food except milk and milk products
- **Polymaleic acid and/or its sodium salt** - BC, REG, Total < 1 ppm in feed water - In steam contacting food
- **Sorbitol anhydride esters (a mixture of sorbitan monostearate, polyoxyethylene (20) sorbitan mono stearate (polysorbate 60) and polyoxyethylene (20) sorbitan monolaurate (polysorbate 20))** - BC, REG, Each component < 15 ppm in steam contacting food
- **Bois de rose** - ESO, GRAS - 182.20
- **Boldus leaves** - FL/ADJ, REG, In alcoholic beverages only - 172.510
- **Borax** - *MISC, ILL, No petition filed, Illegal for use in foods incl. wax ctg for fruits and vegetables. MID permits use in export meats.*
- **Boron** - MISC, REG, <310 ppm - In modified hop extract from sodium borohydride - 172.560
- **Boronia flowers** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Bromelin or Bromelain (spelling optional)** - MISC, MIA, To soften tissue of meats; ENZ, REG, As an enzyme preparation (optional ingredient) in bakery products - 136
- **Brominated vegetable oil** - STAB, INTERM/REG, <15 ppm - In fruit flavored beverages where not precluded by a standard - 180.30
- **Bryonia root** - FLA/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Bucha leaves oil** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Buckbeen leaves** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Buquinolate** - FEED, REG, 0.4 ppm - In liver, kidney & skin of chickens - 556.90; 0.1 ppm - Residue in muscle of chickens - do; 0.5 ppm - Residues in uncooked yolk of eggs - do; 0.2 ppm - Residues in uncooked whole eggs - do; Feed use in chickens, see 558.62, 558.530 & 558.105
- **Butadiene styrene rubber** - MISC, REG, In chewing gum base - 172.615
- **Butane, n-butane, isobutane** - MISC, GRAS - 184.1165
- **Butoxy monoether of mixed (ethylene-propylene) polyalkylene glycol** - SANI, REG, GMP, Adequate drainage - 178.1010

- **n-Butoxypolyoxyethylene polyoxypropylene glycol** -AF, REG, GMP, X-ref - Defoaming agent component (used in processing beet sugar) - 173.340
- **Butter Starter distillate** - FLAV, FL/ADJ, GRAS, GMP -184.1848
- **Butyl acetate**
- **Butyl Alcohol** - MISC, REG - 73.1, 172.560 - Modified hop extract
- **1,3-Butylene glycol** - SOLV, REG, GMP, In nat & syn flavoring substances except where standards preclude use - 173.220, 573.225. Used in the manufacture of sausage casings as a formulation aid and processing aid - 172.712.
- **Tert-Butylhydroquinone** - AOX, REG, See TBHQ.
- **Butyl rubber** - MISC, REG, Component of chewing gum base - 172.615
- **Butyl stearate** - AF, REG, X-ref - Defoaming agent component (used in proc. beet sugar & yeast) - 173.340

## C

- **Cacao** - ESO, GRAS - 182.20
- **Cadmium sulfide** - *COLOR, ILL, Prior sanction for use as colorant in polystyrenes withdrawn - FD 1-8-69*
- **Caffeine** - MISC, GRAS, 0.02% - Cola-type beverages
- **Cajeput** - FL/ADJ, REG, GMP, In conjunction with flavors
- **Calamus, root, oil or extract** - FLAV, ILL, **Illegal in foods**
- **Calcium acetate** - SEQ, GRAS - 184.1185
- **Calcium alginate** - STAB, GRAS - 184.1187
- **Calcium ascorbate** - PRES, GRAS - 182.3189
- **Calcium bromate** - BL, FS, <0.0075 part for each 100 parts by wt of flour used - Part 136 - Bakery Products
- **Calcium bromide** - SANI, REG, <200 ppm avail halogen - Adequate drainage - 178.1010
- **Calcium carbonate** - MISC, GRAS/FS, Part 137, admixed w/benzoyl peroxide for bleaching flour; Part 136, Bakery Pdts; Part 135, Frozen Desserts; Part 582, Animal feeds; 184.1191; EMUL, REG, Comb w/any other optional emulsifying ingredients listed in 169.115 including sodium hexametaphosphate; DS/NUTR, GRAS, GMP - 182.5191, 182.8191
- **Calcium caseinate** - MISC, FS, Part 135, Frozen Desserts except water ices; Part 133, Creamed Cottage Cheese



- **Calcium chloride** - MISC, GRAS/FS, 184.1193, Parts 131, 133, 150, 155 & 156 in Evaporated Milk; Cheese & Cheese Products; Part 133; VET, REG, For use in mastitis formulations for treating dairy animals - 526.820
- **Calcium citrate** - MISC, GRAS/FS, Part 133, Process Cheese, Cheese Food & Spread, Part 150, Art Sw Fruit Jelly Preserves & Jam, Parts 155 & 156, certain canned vegetables; Part 31; Part 582 - Animal feeds; DS/NUTR, GRAS,GMP - 182.5195, 182.8195
- **Calcium cyclamate** - NNS, ILL, Removed from GRAS List 10-21-69. Legal only in products complying with drug provisions of the law.
- **Calcium diacetate** - SEQ, GRAS, See calcium acetate
- **Calcium dioxide (Ca peroxide)** - MISC, FS, Part 136
- **Calcium disodium ethylenediamine-tetraacetate [(calcium ethylenedinitrilo) tetraacetate]; calcium disodium EDTA** - AF, REG, 25 ppm - Fermented malt beverages - 172.120; Antigushing agent; MISC, 60 ppm - Spice extractives in soluble carriers; Color & flavor; 100 ppm - Pecan pie filling, promote color retention; 340 ppm - Clams (cooked-canned), promote color retention; 800 ppm - Dry Pinto beans, promote color retention; 310 ppm - Promote color retention in dried lima beans (cooked, canned); 275 ppm - Crabmeat (cooked- canned), retard struvite formation, promote color retention; 250 ppm - Shrimp (cooked-canned), retard struvite formation, promote color retention; 33 ppm - Promote flavor in carbonated soft drinks; 110 ppm - Promote color retention in canned white potatoes; 200 ppm - Mushrooms (cooked, canned); 220 ppm - In pickled cucumbers or pickled cabbage; To promote color, flavor & texture retention; 100 ppm - Promote color retention in artificially colored lemon-flavored and orange-flavored spreads; 100 ppm - Potato salad, preservative; 75 ppm alone or comb with disodium EDTA - French dressing, mayonnaise, and salad dressing; non-standardized dressings and sauces, preservative; 100 ppm alone or comb /w disodium EDTA - Sandwich spread, preservative; 200 ppm by wt of egg yolk portion - Egg product that is hard-cooked & consists, in a cylindrical shape, of egg white w/an inner core of egg yolk, preservative; 25 ppm - In distilled alcoholic beverages - 172.120, promote stability of color, flavor and or product clarity; PRES, REG/MIA, 75 ppm - Oleomargarine - Part 166; 365 ppm - Promote color retention in legumes (all cooked canned, other than dried lima beans, pink beans and red beans) - 172.120
- **Calcium gluconate** - MISC, GRAS/FS, GMP - 184.1199; Part 150, Art Sw Jelly & Preserves; Part 582, Animal feeds Calcium glycerophosphate - NUTR/DS, GRAS, GMP -182.8201, 182.5201
- **Calcium hexametaphosphate** - SEQ, GRAS status under review
- **Calcium hydroxide** - MISC/B&N, GRAS/FS, Part 155, Canned Peas; Part 135, Frozen Desserts; Part 582, Animal feeds - 184.1205

- **Calcium hypochlorite** - SANI, REG, <200 ppm avail Cl - Adequate drainage - 178.1010; MISC, REG, < 0.036% Cl of dry starch - In modifying food starch for use in batter for commercially processed foods - 172.892
- **Calcium iodate** - MISC, FS, <0.0075 parts for each 100 parts by wt. of flour used - Part 136, Bakery Pdts; NUTR. GRAS - 184.1206
- **Calcium iodobenenate** - DS, GRAS, Animal Feed - 582.80
- **Calcium lactate** - MISC, GRAS/FS, Parts 136, Bakery Pdts; Part 150, Art Sw Jelly & Preserves; Part 155, Canned Veg; Part 582, Animal Feeds - 184.1207; MISC, GRAS/FS, < amount which yields 0.051% calcium by wt in finished food - Improve crispness in canned bean sprouts, See Part 155.200
- **Calcium lactobionate** - MISC, REG, GMP, Firming agent in dry pudding mixes - 172.720
- **Calcium lignin sulfonate (and/or sodium salt)** - FEED, REG, <4 % of finished pellets - As sole pelleting aid in animal feeds - 573.600; < 11% - Surfactant in molasses used in feeds as a source of metabolizable energy - 573.600
- **Calcium lignosulfonate** - SP/ADJ, REG, GMP, Dispersing agent and stabilizer in pesticides for pre- or post-harvest use on bananas - 172.715
- **Calcium orthophosphate** - B&N, FS, GMP GRAS - See calcium phosphate (tribasic)
- **Calcium oxide** - MISC, GRAS/FS, Part 135 Frozen Desserts; Part 582, Animal feeds; DS/NUTR, GRAS, GMP -182.5210, 182.8210, 184.1210
- **Calcium pantothenate** -NUTR/DS, GRAS, GMP, 182.5212, 184.1212
- **Calcium pantothenate (calcium chloride double salt of) d- or dl-form** - DS, REG, GMP, Label of additive container or any intermediate premix prepared there-from shall contain name of the additive and the concentration of additive expressed as pantothenic acid - 172.330
- **Calcium periodate** - FEED, REG, Nutr source of iodine in salt for livestock - 573.240
- **Calcium peroxide (Same as calcium dioxide)** - MISC, FS, <0.0075 parts for each 100 parts wt. of flour used -Parts 136, Bakery Pdts
- **Calcium phosphate (mono-)** - MISC, GRAS/FS, Part 150, Art Sw Jelly & Preserves; Part 155.200, Cnd Potatoes, Cnd Green or Red Sw Peppers, Canned Carrots; Part 155.190(a), Canned Tomatoes; Part 136, Bread; Part 582, Animal feeds
- **Calcium phosphate (mono-, di-)** -NUTR/MISC, GRAS/FS, Part 137, Cereal Flours and other standardized foods
- **Calcium phosphate (mono-, di, or tribasic)** - MISC, GRAS/FS, Part 150, Art Sw Jelly and Preserves; Part 136, Bread; DS/NUTR, GRAS, GMP - 182.5217, 182.8217

- **Calcium propionate** - PRES, GRAS/FS, Part 136 Bakery Pdts; Part 133, Cheeses; Part 150, Art Sw Fruit Jelly & Preserves -184.1221, 184.1784
- **Calcium pyrophosphate** - NUTR/DS, GRAS, GMP -182.5223, 182.8223
- **Calcium saccharin** - NNS, INTERIM, See Saccharin
- **Calcium salt of partially dimerized rosin** - CTG, REG, GMP, X-ref - Coating on fresh citrus fruit - 172.210
- **Calcium salts** - MISC, FS, 0.026% - Part 155.190(k), Cnd Tomatoes; Part 155.200, Canned Potatoes, Green or Red Sweet Peppers, Lima Beans, Carrots; Part 136, Enriched Bread, Rolls & Buns
- **Calcium salts of fatty acids** - MISC, REG, GMP - Binder, emul, and AC agent - 172.863
- **Calcium silicate (including synthetic)** - AC, FS, <2% -Part 169.179 Vanilla Powder; AC, REG, GMP, Max 2% in foods except 5% in baking powder - 172.410; <2% - In animal feeds - 573.260
- **Calcium sorbate** - PRES, GRAS - 182.3225
- **Calcium stearate** - AC, REG/FS, <2% by wt. - Part 169.179, Vanilla Powder; AF, REG, GMP, In beet sugar and yeast - 173.340; MISC, GRAS, GMP - 184.1229
- **Calcium stearate, feed grade** - FEED, REG, GMP, As anti-caking agent in feeds - 573.280
- **Calcium stearoyl-2-lactylate** - MISC, REG/FS, <0.5 part/100 parts flour - Part 136, Bakery Pdts - 172.844; MISC, REG, <0.05% - As a whipping agent in liquid & frozen egg whites; MISC, REG, <0.5% - As a whipping agent in dried egg whites; MISC, REG, <0.3% by wt of finished pdt - As whipping agent in whipped vegetable oil topping; REG, <0.5% - As conditioning agent in dehyd potatoes - do
- **Calcium sulfate** - MISC, GRAS/FS; Part 133, Cheese and Related Cheese Pdts; Part 137, Cereal Flours; Part 136, Bakery Pdts; Part 135, Frozen Desserts; Part 150, Art Sw. Jelly & Preserves; Part 155, Cnd Vegetables; Part 156, Cnd Tomatoes - 184.1230
- **Calendula** - SP, GRAS - 182.10
- **Calumba root** - FL/ADJ, REG, GMP - In alcoholic beverages only - 172.510
- **Camomile, camomile flowers English, Roman, German, Hungarian** - SP/ESO, GRAS - 182.10 and 182.20
- **Camphor tree** - FL/ADJ, REG, GMP, Comp of flavors - safrole free - 172.510
- **Cananga** - ESO, GRAS - 182.20
- **Candida lipolytica** - ENZ, REG, Fermentation organism for production of citric acid - 173.165

- **Candida guilliermondii** - ENZ, REG, Complete absence - Fermentation production of citric acid - 173.160
- **Candelilla Wax** - CTG, GRAS, GMP - 184.1976
- **Canola oil** - MISC, GRAS, X-Ref - Rapeseed oil, Raw Erusic Acid
- **Capers** - SP, GRAS - 182.10
- **Caproic acid** - MISC, REG, <1% aliphatic acids - In peeling soln for fruits & veg - 173.315
- **Caprylic acid** - PRES, GRAS, In cheese wraps; MISC, REG, <1% aliphatic acids - In peeling soln for fruits & vegs -173.315
- **Capsicum** - SP/ESO, GRAS - 182.10 and 182.20
- **Caramel** - MISC, GRAS - 182.1235
- **Caraway** - SP/ESO, GRAS - 182.10 and 182.20
- **Caraway, black (black cumin)** - SP, GRAS - 182.10
- **Carbadox** - FEED, REG, ZERO - Residues in uncooked edible tissue of swine using procedures in 556.100; FEED, REG, Feed Use: 558.115
- **Carbarosone (not USP)** - FEED, REG, 0.025% to 0.0375% in the feed - In feed for turkeys - 558.680, 558.120; FEED, REG, 2 ppm - As residue in edible byproducts of chicken & turkeys - 556.60; 0.5 ppm - As residue in muscle meat of chickens & turkeys & eggs - do
- **Carbohydrase enzyme derived from *Aspergillus niger*** - ENZ, REG. GMP, For removal of visceral mass in clam processing or shell from shrimp - 173.120
- **Carbohydrase enzyme derived from *Rhizopus Oryzae*** - ENZ, REG. Used in the production of dextrose - 173.130
- **Carbomycin** - FEED, REG, ZERO - Residues in edible tissues of chickens - 556.110; Use in comb/w oxytetracycline HCl - 520.1660a (Drinking Water)
- **Carbon dioxide** - MISC, GRAS - 184.1240
- **Carbon monoxide** - MISC, REG, 4.5% by volume - In gas combustion product - 173.350
- **Carboxymethylcellulose** - STAB, FS, Part 133, Cheeses; Part 135, Frozen Desserts; Part 169, Dressings for Foods & Flavorings; GRAS
- **Cardamom (cardamon)** - SP, GRAS - 182.10
- **Cardamom Oleoresin** - ESO, GRAS, 182.20
- **Cardamom seed (cardamon)** - ESO, GRAS - 182.20
- **Carnauba wax** - MISC, GRAS - 184.1978
- **Carob bean** - ESO, GRAS - 182.20

- **Carob bean extract** - ESO, GRAS - 182.20
- **Carob bean gum (locust bean gum)** - STAB/EMUL, FA/FS, Part 133, Cheeses; Part 135, Frozen Desserts; Part 169 Dressings for Foods; Part 150, Art Sw Jelly & Preserves; GRAS - 184.1343
- **Carotene** - NUTR/DS, GRAS, GMP, 182.5245 - 182.8245
- **Carrageenan and its ammonium, calcium, potassium, or sodium salts** - STAB, REG, GMP, In foods, except for those standardized food that do not provide for such use - 172.620, 172.626; STAB, REG/FS, <0.8% by wt of finished cheese - Part 133, various sections, Cheese Prdts
- **Carrageenan or carrageenan salts with Polysorbate 80** - MISC, REG, 500 ppm polysorbate 80 in final food containing the additives - For producing foods in gel form - 172.623 (See 172.620, 172.626, & 172.840 for specifications)
- **Carrot** - ESO, GRAS - 182.20
- **Cascara sagrada** - FL/ADJ, REG, GMP, In conjunction with flavors - 172.510
- **Cascarilla bark** - ESO, GRAS - 182.20
- **Cassia, cassia bark (Chinese, Padang or Batavia, Saigon)** - SP/ESO, GRAS - 182.10 and 182.20
- **Cassie flowers** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Castoreum** - MISC, GRAS - 182.50
- **Castor Oil** - MISC, REG, < 500 ppm in hard candy - A release and anti-sticking agent - 172.876; GMP, Comp. protect ctg vit & min tabs. Meet Specs in USP XIX; FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Catalase, Bacterial (derived from *Micrococcus lysodeikticus*)** - ENZ, REG/FS, < 20 ppm of the wt of the milk treated - To destroy hydrogen peroxide in mfr of cheese - 173.135; 133.113;
- **Catechu, black** - FL/ADJ, REG, GMP, In conjunction with flavors - 172.510
- **Cayenne pepper** - SP, GRAS - 182.10
- **Cedar, White (arborvitae) leaves and twigs** - FL/ADJ, REG, GMP, Finished food thujone free, Used in conjunction with flavors - 172.510
- **Ceftiofur** - VET, REG, 3.0 ppm - Use as sterile powder - 522.313; Residue in muscle - 556.113; 9.0 ppm - Residue in kidney - do; 6.0 ppm - Residue in liver - do; 12.0 ppm - Residue in fat - do
- **Celery seed** - SP/ESO, GRAS - 182.10 and 182.20

- **Cellulase enzyme derived from *Aspergillus niger*** - ENZ, REG, GMP, For removal of visceral mass in clam processing and shell from shrimp - 173.120
- **Cellulose gum** - STAB, GRAS/FS, X-ref - Sodium Carboxymethylcellulose
- **Cellulose triacetate** - MISC, GMP, Fixing agent for the immobilization of lactase for use in reducing the lactose content of milk - 173.357
- **Centaury (centrurium) herb** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Cephapirin, sodium** - VET, REG, 0.02 ppm - Residues in milk, 556.115; Use - 529.365; 0.1 ppm - Residues in uncooked edible tissues of cattle - 556.115; Use: Infusion -529.365
- **Cephapirin benzathine** - VET, REG, 0.02 ppm - As residue in milk - 556.115; Use: Infusion - 526.363
- **Cetyl Alcohol, synthetic** - MISC, REG, GMP, See Fatty alcohols, synthetic - 172.864
- **Cetylpyridinium chloride** - REG, Used as an antimicrobial agent in a fine mist spray to treat the surface of raw poultry carcasses prior to immersion in a chiller at a level not to exceed 0.3 gram cetylpyridinium chloride per pound of raw poultry carcass. The solution shall also contain propylene glycol at a concentration of 1.5 times that of the cetylpyridinium chloride-173.375
- **Chamomile Flower** - SP, REG - 182.10
- **Chamomile Flower, English, Oil** - ESO, REG - 182.20
- **Chemicals for controlling micro-organisms in cane sugar and beet sugar mills**-REG 173.320
- **Chemicals used in delinting cottonseed** - 173.322
- **Chemicals used in washing fruits & vegs. or to assist in peeling fruits and vegs.** Polyacrylamide, Potassium bromide, Sodium dodecylbenzenesulfonate, Sodium hypochlorite, sodium 2-ethyl-1- hexylsulfate, sodium n-alkylbenzene sulfonate, sodium mono- and dimethyl- naphthalene sulfonates- mol wt 245-260, Alkylene oxide adducts of alkyl alcohols and phosphate esters of alkylene oxides. Adducts of alkyl alcohols mixtures - MISC, REG, Use of chemicals followed by rinsing to remove residues. X-ref - Individual chemicals, 173.315 limits amounts of some in wash water
- **Cherry-laurel leaves** - FL/ADJ, REG, GMP, In conjunction w/flavors only; <25 ppm prussic acid - 172.510
- **Cherry-laurel water** - FL/ADJ - 172.510
- **Cherry, pits, extract** - FL/ADJ, REG, GMP, In conjunction w/flavors only; <25 ppm prussic acid - 172.510
- **Cherry, wild, bark** - ESO, GRAS - 182.20

- **Chervil** - ESO/SP/FLAV, GRAS - 182.10
- **Chervil extract** - ESO, GRAS - 182.20
- **Chestnut leaves/extract** - FL/ADJ, REG, In conjunction w/flavors - 172.510
- **Chewing gum base** - MISC, REG, GMP, Chicle, chiquibul, crown gum, gutta hang kang, jelutong, massaranduba balata, massaranduba chocolate, nispero, lechi caspi, pendare, perillo, rosidinha, Venezuelan chicle, Leche de vaca, Niger gutta, tunu, chilte, natural rubber, glycerol ester of tall oil resin, etc. - 172.615
- **Chicle** - MISC, REG, Comp of chewing gum base - 172.615
- **Chicory** - ESO, GRAS - 182.20
- **Chilte** - MISC, REG, Chewing gum base - 172.615
- **Chilquibul** - MISC, REG, Comp of chewing gum base - 172.615
- **Chirata (Chiretta, East Indian Bolonong) & herb extract** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510 Chives - SP, GRAS - 182.10
- **Chloramphenicol** - VET, REG, ZERO - Drug in any form may not be used in food (meat, milk, and egg) producing animals
- **Chlorhexidine dihydrochloride** - VET, REG, ZERO Residue in edible tissues of calves - 556.120
- **Chlorine & chlorine dioxide** - BL, FS, GMP, Part 137, Cereal Flours
- **Chlorine dioxide** - MISC, REG, Used as an antimicrobial agent in poultry process water at a concentration not to exceed 3 ppm residual chlorine dioxide. Used as an antimicrobial agent in water used to wash fruits and vegetables that are not raw agricultural commodities at a level not to exceed 3 ppm residual chlorine dioxide - 173.300
- **Chlorine dioxide, stabilized** - SANI, REG, For use as rinse for food processing equipment - 178.1010
- **Chlorobutanol** - VET, REG, ZERO - In milk from dairy animals from use of mastitis formulations - 526.820; As residues - 556.140
- **Chlorofluorocarbon-113** - MISC, REG, GMP, To cool or freeze chickens - 173.342
- **Chloromethylated aminated styrene di-vinylbenzene resin** - MISC, REG, 500 ppm in sugar liquor - To clarify sugar liquor - 173.70
- **2-Chloro-4-nitrobenzamide** - FEED, REG, See Aklomide
- **Chloropentafluoroethane alone or comb/w carbon dioxide nitrous oxide, propane, or octafluorocyclobutane** - MISC, REG, Used as a propellant and aerating agent in food except where food standards preclude use - 173.345

- **Clorsulon** -VET, REG, Use: As a drench for cattle -520.462; 1.0 ppm - As residue in uncooked edible muscle tissue of cattle - 556.163; 2.0 ppm - As residue in uncooked liver - do; 3.0 ppm - As residue in kidney - do; 4.0 ppm - As residue in uncooked cattle fat - do; As injection for cattle; combination with Ivermectin - 522.1193
- **Chlortetracycline** - FEED/VET, REG, 4 ppm - Residues in uncooked kidneys of chickens & turkeys; 1 ppm - In uncooked muscle, liver, fat & skin of chickens and turkeys as residue - 556.150; ZERO - Residues in eggs - 556.150; 4 ppm - Residues in uncooked kidney of swine - 556.150; 2 ppm -Residues in uncooked liver of swine - 556.150; 1 ppm - Residues in uncooked muscle of swine - 556.150; 0.2 ppm - Residues in uncooked fat of calves - 556.150; 4 ppm Residues in uncooked liver & kidneys of calves - 556.150; 1 ppm - Residues in uncooked muscle & fat of calves -556.150; 0.1 ppm - In uncooked kidney, liver, and muscle of beef cattle & non-lactating dairy cows as residue; ZERO -Residue in uncooked fat - 556.150; ZERO - Residue in milk - 556.150; 1 ppm - Residues in uncooked kidney of sheep -556.150; 0.5 ppm - Residues in uncooked liver of sheep -556.150; 0.1 ppm - Residues in uncooked muscle of sheep - 556.150; For feed use: 558.55, 558.58, 558.105, 558.128, 558.175, 558.274, 558.368, 558.430, 558.530, 558.680
- **Chlortetracycline** - FEED, REG, Sulfa: 0.1 ppm (neg residue) - Residue in uncooked edible tissues of swine, 556.690;  
 +**Procaine Penicillin** - Penicillin: 0 - Residue in uncooked edible tissues of swine, 556.510;  
 +**Sulfathiazole** - Chlortetracycline: 4 ppm - Residue in uncooked edible tissue of swine kidney - 556.150; 2 ppm -Residue in uncooked edible tissue of swine liver - 556.150; 1 ppm - Residue in uncooked edible tissue of swine muscle - do;0.2 ppm - Residue in uncooked edible tissue of swine fat - do; Uses & other information - 558.155
- **Chlortetracycline** - FEED, REG, Sulfa: 0.1 ppm (neg residue) - Residues in uncooked edible tissues of cattle & swine - 556.670  
 +**Procaine Penicillin** - Penicillin: 0 - Residue in uncooked edible tissues of swine - 556.510  
 +**Sulfamethazine** - Chlortetracycline: - 4 ppm - Residue in uncooked kidney of swine, 556.150; 2 ppm - Residue in uncooked liver of swine, 556.150; 1 ppm - Residue in uncooked muscle of swine, 556.150; 0.2 ppm - Residue in uncooked fat of swine - 556.150; Uses & other information, 558.145
- **Choline bitartrate** - NUTR/DS, GRAS, GMP - 182.5250, 182.8250
- **Choline chloride** - NUTR/DS, GRAS, GMP - 182.5252. 182.8252
- **Choline xanthate** - FEED, REG, GMP, For poultry, swine & ruminants - 573.300
- **Chymosin enzyme preparation derived from E. Coli K12** - ENZ, GRAS, GMP, As a stabilizer & thickener -184.1685; derived from Aspergillus niger - ditto.



- **Cinchona bark, red or yellow** - FL/ADJ, REG, < 83 ppm total - Cinchona alkaloids in finished beverage - 172.510
- **Cinnamon & bark & leaf, Ceylon, Chinese, and Saigon** -O/SP, GRAS, 182.10 and 182.20
- **Cinnamyl anthranilate** - SYL/FL, BAN, ZERO - 189.113
- **Cinnamyl formate**
- **Cire d'abielle** - FL/ADJ, REG, GMP, X-ref Beeswax, white -172.510
- **Citric acid** - SEQ/B&N, GRAS/FS - 182.1033, 182.6033 -GMP, Part 169, Dressings; Part 133, Part 146 Canned Fruit Juices; Cheese; Part 166, Oleomargarine; FEED, GRAS, GMP, Part 582.1033 - Animal feeds; REG - 172.755, 173.165
- **Citronella** - ESO, GRAS - 182.20
- **Citrus bioflavonoids** - DS, ILL, *Any claim for special dietary use renders the food misbranded (Vitasafe Case)*
- **Citrus peels** - ESO, GRAS - 182.20
- **Civet (zibeth, zibet, zibetum)** - ESO, GRAS - 182.20
- **Clary (clary sage)** - SP/ESO, GRAS - 182.10 and 182.20
- **Clopidol (3,5-Dichloro-2,6-dimethyl-4-pyridinol)** - FEED, REG, 0.02 ppm - Residues in milk - 556.160; 0.2 ppm -Residues in cereal grains, vegs, fruits, meat of cattle, sheep and goats, and in edible tissues of swine - 556.160; 1.5 ppm - Residues in liver of cattle, sheep & goats - 556.160; 5 ppm - Residues in muscle of chicken & turkeys - 556.160; 5 ppm - Residues in liver & kidneys of chickens & turkeys -556.160; Uses in chicken & turkey feeds - 558.175
- **Cloxacillin** -VET, REG, 0.01 ppm - Residues in milk; uncooked edible tissue of cattle - 556.165
- **Clove, bud, leaf, and stem** - ESO, GRAS - 184.1257
- **Clover** - SP/ESO, GRAS - 182.10 and 182.20
- **Cloves** - SP, GRAS - 184.1257
- **Coatings on fresh citrus fruits** - CTG, REG, GMP -172.210
- **Cobalt (acetate, carbonate, chloride, oxide, sulfate)** -NUTR, GRAS, As nutritional dietary supplement in animal feed - 582.80
- **Cobaltous salts (acetate)** - MISC, ILL, *Illegal for use, 172.260 revoked chloride, sulfate) 8/12/66*
- **Coca (decocainized)** - ESO, GRAS - 182.20

- **Cocoa butter substitute from palm oil** - GRAS, GMP - In the following food categories: confections and frostings; coatings of soft candy; sweet sauces and toppings -184.1259
- **Cocoa butter substitute from coconut oil, palm kernel oil or both** - ESO, REG, Coating material for vitamins, citric acid, succinin acid and spices. In lieu of cocoa butter in sweets - 172.861
- **Cocoa with dioctyl sodium sulfosuccinate for manufacturing** -FLV,REG, 75 ppm of finished beverage -0 172.520
- **Coffee** - ESO, GRAS - 182.20
- **Cognac oil, white and green** - MISC, GRAS - 182.50
- **Cola nut** - ESO, GRAS - 182.20
- **Colloidal Silicon dioxide** - AC, REG, X-ref - Silicon dioxide
- **Combustion product gas** - MISC, REG, GMP, To displace or remove oxygen in processing, stg, or pkging of beverage pdts and other foods, except fresh meats - 173.350
- **Condensed animal protein hydrolysate** - FEED, REG, < 5% poultry feed - For use - 573.200; < 10% cattle feed
- **Copaiba** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Copals, Manila** - MISC, REG, 73.1 - Diluents in color additive mixtures
- **Copolymer condensates of ethylene oxide and propylene oxide** - STAB, REG, GMP, Stabilizing agent in flavor concentrates; processing aid and wetting agent w/DSS for fumaric acid - 172.808; MISC, REG, 0.5% by weight of flour - In yeast leavened bakery products as a dough conditioner, if Standards permit its use - 172.808; Part 136 - Bakery Products; < 0.05% - Surfactant and defoaming agent in scald baths for poultry defeathering - 172.808
- **Copper (carbonate, chloride, gluconate, hydroxide, orthophosphate, oxide, pyrophosphate, sulfate)** - NUTR, GRAS, As nutritional dietary supplement in animal feed -582.80
- **Copper gluconate** - NUTR/DS, GRAS, GMP, In any food -182.5260, 182.1260
- **Copper (cuprous) iodide** - NUTR/DS, GRAS, <0.01% - In table salt as a source of dietary iodine - 184.1265
- **Copper sulfate** - NUTR/SUPPL, GRAS, GMP, Processing aid - 184.1261
- **Coriander** - SP/ESO, GRAS - 182.10 and 182.20
- **Cork, oak** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Corn dextrin** - NUTRS, GRAS, GMP - 184.1277

- **Corn gluten** - GRAS, GMP - 184.1321
- **Corn silk** - ESO, GRAS - 182.20
- **Corn sugar** - NUTRS, GRAS, GMP - 184.1857
- **Corn syrup** - NUTRS, GRAS, GMP - 184.1865
- **Corn Syrup, High Fructose** - NUTRS, GRAS, GMP -182.1866
- **Costmary** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Costus root** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Cottonseed & soybean fatty acids** - MISC, REG, GMP In foods as a lubricant, binder, defoaming agent & component in manufacture of other food grade additives - 172.860
- **Cottonseed flour (cooked and partially defatted)** -MISC, REG, See 172.894 for specifications
- **Cottonseed Products (modified)** - MISC, REG, 60 ppm N-hexane < 1% fat by wt of finished product - Decorticated ground cottonseed kernels - 172.894
- **Coumaphos (O,O-Diethyl O-(3-chloro-4-methyl-2-oxo-2H-1-benzopyran-7-yl) phosphorothioate)** - Uses in cattle & chicken feeds -558.185
- **Coumarin** - *SY/FS, BAN, Any food containing coumarin added as such or as a constituent of tonka beans or tonka extract is adulterated.*
- **Coumarone-indene resin** - CTG, REG, < 200 ppm fresh wt basis on fruit - As protective coating for fruit - 172.215
- **Crambe meal, heat toasted** - 573.310
- **Cubeb** - FL/ADJ, REG, MP, In conjunction w/flavors - 172.510
- **Cumin (cummin)** - SP/ESO, GRAS - 182.10 and 182.20
- **Cumin, black (black caraway)** - SP, GRAS - 182.10
- **Cuprous iodide** - NUTR/DS, GRAS, 0.01% - In table salt as a source of dietary iodine -184.1265
- **Curacao orange peel (orange, bitter, peel)** - ESO, GRAS -182.20
- **Curdlan** - MISC, EMUL, STAB, REG/FS, GMP - 172.809
- **Currant black, buds & leaves** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Cusparia bark** - ESO, GRAS - 182.20
- **Cyclamates** - *NNS, ILL, NOT LEGAL IN FOOD*
- **Cyclohexane** - MISC, REG, 73.1 - Diluents in color additive mixtures

- **Cyclohexylamine** - BC, REG, 10 ppm in steam - Except in steam in contact with milk and milk products - 173.310
- **Cyfluthrin** - INSECT, REG, Tolerances for Residues 180.436
- **Cysteine (l-form)** - MISC, FS, 0.009 parts per 100 parts flour by wt. - Part 136 - Bakery Products; 184.1271; 184.1272; NUTR/DS, REG - 172.320
- **Cysteine (l-form) monohydrochloride** - MISC, GRAS -184.1272 - Used to supply up to 0.009 part of total L-cys-teine per 100 parts of flour in dough as a dough strengthener
- **Cystine (l form)** - NUTR/DS, REG - 172.320

## D

- **Damar Gum (Shorea dipterocarpaceae)** - Diluents in color additives - 73.1
- **Damiana leaves** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Dandelion, dandelion root** - ESO, GRAS,
- **Dandelion, fluid extract (Taraxacum spp.)** - GRAS -182.20
- **DDVP** - FEED, REG, See Dichlorvos
- **Decalactone alone or comb/w dodecalactone** - FLAV, REG, <10 ppm alone or <20 ppm comb - As artificial flavoring in oleomargarine. Part 166 - 172.515
- **Decanoic Acid** - SANI, REG, 109 - 218 ppm total fatty acids - Component of sanitizing solution - 178.1010, Coating for fruits and vegetables - 172.210, Fatty acids -172.860, Defoaming agents - 173.340
- **1-Decanol - SYN fatty alcohol** - 172.864
- **Decoquinat** - FEED, REG, 2 ppm - In uncooked edible tissue, other than skeletal muscle, of chicken and goats as a residue - 556.170; 1 ppm - In skeletal muscle of chickens as a residue - 556.170; Use: In dry and liquid medicated feed - 558.195
- **Decyl alcohol, synthetic** - MISC, REG, GMP, See Fatty alcohols, synthetic - 172.864
- **Defoaming agents and components Dimethylpolysiloxane, polyoxyethylene 40 monostearate, Polysorbate 60, Polysorbate 65, propylene glycol alginate, silicon dioxide, sorbitan monostearate, aluminum stearate** (For use in processing beet sugar and yeast only - 173.340); **butyl stearate, BHA, BHT, calcium stearate, fatty acids, hydroxylated lecithin, isopropyl alcohol, magnesium stearate, mineral oil, petrolatum, odorless light petroleum hydrocarbons, Petroleum waxes, Synthetic isoparaffinic petroleum hydrocarbons, Oxystearin, Polyethylene glycol, Poxoxyethylene (600) dioleate, Poxoxyethylene (600) mono-ricinoleate, polypropylene glycol, polysorbate 80, potassium stearate, propylene glycol mono & diesters of fats and fatty acids, soybean oil fatty acids - hydroxylated; tallow - hydrogenated, oxidized,**

- or sulfated; hydrogenated tallow alcohol. n-Butoxypolyoxyethylene** (AF, REG, For use in processing beet sugar only - 173.340); **polyoxypropylene glycol formaldehyde, sodium polyacrylate, synthetic petroleum wax, oleic acid from tall oil fatty acids** - AF, REG, In foods. See individual chemicals for uses and limitations - 173.340
- **Defoaming agents, butter, oleomargarine, lard, corn oil, coconut oil, cottonseed oil, mono- and diglycerides of fat-forming fatty acids** - AF, REG/FS, GMP, In fruit butters, jellies, preserves and related products - Part 150
  - **Dehydroacetic acid or its Na salt** - PRES, REG, 65 ppm as the acid - In cut or peeled squash - 172.130
  - **Dextrans (avg mol wt <100,000)** - MISC, GRAS
  - **Diacetyl** - SY/FL, GRAS, GMP - 184.1278
  - **Dextrin** - GRAS - 184.1277
  - **Dextrose** - GRAS - 184.1857
  - **Diacetyl tartaric acid esters of mono- and diglycerides of edible fats or oils, or edible fat-forming fatty acids** EMUL, GRAS/FS, Part 136, Bakery Products - 184.1101
  - **2,4-Diamino-5-(6-methylveratryl)pyrimidine** -FEED, REG, See Ormetoprim
  - **Di-n-alkyl(C8-C18-from coconut oil)dimethylammonium chloride** - PEST, REG, 5% by weight - 172.710
  - **Dialkanolamide (1 mole of methyl laurate w/ 1.05 mole of diethanolamine)** - MISC, REG, < 2 ppm in flume - Used in flume water for washing sugar beets prior to slicing operation - 173.315
  - **Diammonium phosphate** - FEED, REG, < 2.0% of crude protein in total daily ration - Source of non-protein nitrogen & phos in ruminant feeds. See 573.320
  - **Diatomaceous earth** - FEED, REG, 2% - As an inert carrier or anti-caking agent in animal feed - 573.340
  - **2,2-Dibromo-3-nitrilopropionamide** - PRES, REG, 2.0 -10.0 ppm in raw cane or beets - Used alone for control of microorganisms in cane and beet sugar mills, byproducts not for use in animal feeds - 173.320
  - **Dicalcium phosphate** - NUTR/FS, GRAS/FS, Part 137; XREF calcium phosphate
  - **Dichlorodifluoromethane** - MISC, REG, GMP, Direct contact freezing agent for foods - 173.355; With ethylene oxide as fumigant for ground spices
  - **3,5-Dichloro-2,6-dimethyl-4-pyridinol** - See Clopidol
  - **Dichloroisocyanuric acid** - SANI, REG, <100 ppm avail halogen - Adequate drainage - 178.1010

- **Dichlorvos (2,2-dichlorovinyl dimethyl phosphate or DDVP)** - FEED, REG, 0.1 ppm - In edible tissues of swine -556.180; Use & other information - 558.205: 520.600
- **Diethanolamide condensate from soybean oil fatty acids (C16-C18)** - Adjuvants for pesticide use dilution -172.710
- **Diethanolamine condensate from stripped coconut oil fatty acids (C10-C18)** - Adjuvants for pesticide use dilution - 172.710
- **Diethylaminoethanol** - BC, REG, 15 ppm - X-ref; Boiler water additives - 173.310
- **Diethylene glycol monoethyl ether** - SANI, REG, GMP, Adequate drainage - 178.1010
- **Diethylenetriamine** - Ion-exchange membranes - 173.20
- **Diethylenetriamine crosslinked with epichlorohydrin** - Ion-exchange resins - 173.25
- **Diethylamino-cellulose** - MISC, GMP, Fixing agent for the immobilization of glucose isomerase for use in the manufacture of high fructose corn syrup, in accordance with Sec. 184.1372 - 173.357
- **Diethylstilbestrol (DES)** - FEED, BAN, Not legal for animal use (drug or feed)
- **Diethyl pyrocarbonate (DEPC)** - INH, ILL, Not legal in food
- **Diethyl tartrate**
- **Dihydrosafrole** - SY/FL, PD/ILL, Not legal in food
- **3,5-Diiodosalicylic acid** - DS, GRAS, Animal feed - 582.80
- **Dilauryl thiodipropionate** - AOX, GRAS, 0.02% of fat or oil incl essential oil content of food - 182.3280
- **Dill** - SP/ESO, GRAS - 184.1282
- **Dill, Indian** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Dimethylamine-Epichlorohydrin Copolymer** - REG, 150 ppm - Decolorizing agent in clarification of sugar liquors and juices - 173.60
- **Dimethylamine-epichlorohydrin resin** - MISC, GMP, Fixing agent for the immobilization of glucose isomerase for use in manufacturing high fructose corn syrup - 173.357
- **Dimethyldialkyl(C14-C18)ammonium chloride** - MISC, REG, <700 ppm by wt of sugar solids - Decoloring agent in the manufacture of sugar, alkyl groups (C14-C18) derived from tallow - 173.400
- **Dimethyl dicarbonate** - MISC, REG, Microbial control agent in the following beverages under normal circumstances of bottling, canning, or other forms of final packaging, where the viable microbial load has been reduced to 500 microorganisms per milliliter or less by

current good manufacturing practices such as heat treatment, filtration, or other technologies prior to the use of dimethyl dicarbonate:; 1) In wine, dealcoholized wine, and low alcohol wine in an amount not to exceed 200 parts per million. (2) In ready-to-drink teas in an amount not to exceed 250 parts per million. (3) In carbonated or noncarbonated, nonjuice-containing (less than or equal to 1 percent juice), flavored or unflavored beverages containing added electrolytes (5-20 milliequivalents/liter sodium ion (Na<sup>+</sup>) and 3-7 milliequivalents/liter potassium ion (K<sup>+</sup>)) in an amount not to exceed 250 parts per million. (4) In carbonated, dilute beverages containing juice, fruit flavor, or both, with juice content not to exceed 50 percent, in an amount not to exceed 250 parts per million - 172.133

- **Dimethylethanolamine** - Component of Ion-exchange membranes - 173.20
- **Dimethylpolysiloxane** - AF, REG, ZERO - In milk -173.340; 110 ppm - In dry gelatin dessert mixes; 250 ppm In salt for cooking purposes; 10 ppm - In other food in its ready-for-consumption state, 145.180(a), Cnd Pineapple; 146.185(a), Cnd Pineapple Juice
- **Dimetridazole** - *FEED/VET, REG, ZERO - NOT LEGAL FOR ANIMAL USE*
- **Di-n-alkyl(C8-C10)dimethyl-ammonium chloride** -SANI, REG, 150 ppm - Of active quaternary compound in the sanitizing solution - 178.1010
- **Di-n-alkylC8-C10)dimethylammonium chloride, n-alkyl(C12-C18)benzyl dimethylammonium chloride, ethyl alcohol and alpha-(p-nonylphenyl)-omega-hydroxypoly(oxyethylene)** - SANI, REG, 150 - 400 ppm -For use as components of sanitizing solution to be used on food contact surfaces - 178.1010
- **3,5-Dinitrobenzamide** - FEED, REG, ZERO - In edible tissues and by-products of chickens; As residue 556.220; Feed use - 558.376
- **Diocetyl sodium sulfosuccinate** - SDA, REG/FS, <0.5% of wt of gums or hydrophilic colloids - As solubilizing agent for gums & hydrophilic colloids used in food as stabilizing or thickening agents - 172.810; <0.4% by wt - In cocoa for manufacturing - 163.117, 172.810; 75 ppm - In finished beverage made with cocoa with DSS - 172.520; 15 ppm in finished gelatin - Wetting agent in fumaric acid acidulated gelatin desserts, including: Dry Gelatin Desserts; 10 ppm in finished beverage or fruit juice drink - dry beverage base, and fruit juice drinks when standards of identity do not preclude such use - 172.810; 25 ppm of finished beverage - As emulsifying agent for cocoa fat in non-carbonated bev containing cocoa - do; REG, <0.5 ppm per percent of sucrose -Processing aid in mfr of sugar - 172.810 <25 ppm in final molasses - Diluents in color additives, 73.1 - Copolymer condensates of ethylene oxide and propylene oxide, 172.808
- **Dipotassium phosphate** - SEQ, GRAS/FS, Part 133.169, Past Process Cheese - 182.6285

- **Disodium cyanodithioimidocarbonate** - MISC, REG, 2.5 ppm in raw cane - For control of micro-organisms in cane sugar mills - 173.320; <2.9 ppm in raw cane or sugar beets with potassium N-methyldithiocarbamate for control of microorganisms in cane sugar and beet sugar mills - 173.320
- **Disodium EDTA (Disodium ethylenediaminetetraacetate)** - MISC, REG/FS, 100 ppm - Promote color retention in frozen white potatoes, incl cut potatoes - 172.135; 110 ppm - Canned potatoes 155.200; 165 ppm - For color retention in cnd cooked legumes (all cooked, canned other than black-eyed peas) or kidney beans; 315 ppm - Promote color retention in dried banana comp of ready-to-eat cereal pdts; 145 ppm - Promote color retention in canned black-eyed peas, 155.200; 500 ppm - Promote color retention in canned strawberry pie filling, Part 145; 150 ppm - w/iron salts as a stabilizer for Vitamin B12 in liquid multivitamin preparations; 50 ppm - In gefilte fish balls; 36 ppm - As cure accelerator in cooked sausage; MISC, REG, 75 ppm alone or w/Ca disodium EDTA - In non-standardized dressings, sauces; French dressings, mayonnaise, salad dressing -172.135; 100 ppm alone or w/Ca disodium EDTA - In sandwich spread; 0.1% by wt of the dry sweeteners - As a sequestrant in non-nutritive sweeteners; FEED, REG, <240 ppm in feed - Used to solubilize trace minerals which are added to animal feeds - 573.360
- **Disodium cyanodithioimidocarbonate** - For control of micro-organisms in cane sugar and beet sugar mills -173.320
- **Disodium ethylenebisdithiocarbamate** - PRES, REG, 3.0 ppm in raw cane - w/Na dimethyldithiocarbamate for control of microorganisms in mills - 173.320; 3.0 ppm in raw cane or sugar beets - w/ethylenediamine and Na dimethyldithiocarbamate for control of micro- org. in cane sugar and beet sugar mills - ibid
- **Disodium guanylate** - MISC, REG/FS, GMP, Part 155, Cnd Veggies - 172.530
- **Disodium inosinate** - FL/ADJ, REG, GMP, Part 155, Cnd Veggies - 172.535
- **Disodium phosphate (X-ref - Sodium phosphate, mono-, di-, & tri-)** - SEQ, GRAS/FS, Part 137.305, Enriched Farina; 136.3, Bakery Pdts; EMUL, GRAS/FS, 139, Alimentary Pastes; 131.130 NFDM; 133, Cheeses, Various; 135.30, Ice Cream; 150, Art Sw Jelly
- **Dodecylbenzenesulfonic acid** - SANI, REG, <400 ppm in soln - Adequate drainage; May be used on glass containers for holding milk - 178.1010
- **alpha-(p-Dodecylphenyl)-omega-hydroxypoly(oxyethylene)** - PEST, REG, GMP, Adj for pesticide use - 172.710
- **Dog grass (quackgrass, triticum)** - ESO, GRAS - 182.20
- **Dulcin** - NNS, ILL - *Not legal in food*
- **Dulse** - NAT, GRAS



**E**

- **EDTA** - See Calcium disodium EDTA and Disodium EDTA
- **EDTA, Tetrasodium** - Components of boiler water additives - 173.310 - washes for peeling fruits and vegetables, 173.315
- **Efrotomycin** -VET, FEED, - Swine to improve feed efficiency - 558.235
- **Elder Flowers** - SP/ESO, GRAS - 182.20, 182.10
- **Enanthic acid** - MISC, REG, <1% aliphatic acids - In peeling soln for fruits & vegs - 173.315
- **Enzyme-modified soy protein** - MISC, FD, GMP, Foaming agent in soda water
- **Enzymes, carbohydrase & cellulase, from *Aspergillus niger*** - ENZ, REG, GMP, For removal of visceral mass in clam processing - 173.120
- **Enzymes from *Aspergillus oryzae*** - ENZ, FS, Part 136, Bakery Pdts
- **Enzymes from plant and animal sources** - ENZ, GRAS, GMP - GRAS affirmation of the following: bromolein -184.1024, catalase - 184.1034, ficin - 184.1316, animal lipase - 184.1415, malt - 184.1443a, pancreatin 184.1583, pepsin - 184.1595, trypsin - 184.1914
- **Enzymes (for milk clotting) from *Endothis parasitica*, *Bacillus cereus*, *Mucor pusillus*, *Mucor miehei* Cooney et Emerson, or *Aspergillus oryzae* modified by recombinant aspartic proteinase enzyme from *Rhizomucor miehei*** - ENZ, REG, GMP, For use in preparation of standardized cheese or cheese products, except enzyme from *B cereus* is not suitable for cheese in Sec. 133.195, 133.196 - 173.150
- **Enzyme-Modified Fats** - FLAV/ADJ, GRAS, GMP -184.1287
- **Epichlorohydrin** - MISC, REG, < 0.1% with propylene <10% added in combination or in any sequence - Residual propylene chlorohydrin < 5 ppm in food starch modified -172.892; < 0.1% followed by propylene oxide < 25% -172.892
- **Epoxidized soybean oil** - STAB, REG, Not to exceed 1 percent - Use as a halogen stabilizer in brominated soybean oil - 172.723
- **Erythorbic acid** - PRES, GRAS/FS, X-ref - Isoascorbic acid
- **Erythromycin, Erythromycin thiocyanate or phosphate** - FEED, REG, ZERO - In uncooked edible tissues of chickens, turkeys - 556.230; 0.125 ppm - In uncooked edible tissue of beef cattle, and in milk - 556.230; Use: In drinking water as phosphate - 522.842; 0.1 ppm (neg res) - In uncooked edible tissues of swine; 0.025 ppm - In uncooked eggs as residue - 556.230; Use: 558.55, 558.58, 558.62, 558.248, 558.680
- **Esterase-lipase from *Mucor miehei*** - ENZ, REG, GMP, Flavor enhancer in cheese, fat, oils, milk products - 173.140
- **Estradiol** - VET, REG, Use: Implant in cattle (steers/heifers) - 522.840

- **Estradiol benzoate** - VET, REG, ZERO\*\*\* - In uncooked edible tissues and by-products of heifers, lambs & steers as residue - 556.240; Use as implants - 522.842; In combination w/testosterone propionate - 522.842; In combination w/progesterone - 522.19406; \*\*\*Tolerances in the Part Per Trillion (ppt) range have been established for these residues - See 556.240
- **Estradiol valerate** - VET, REG, ZERO - Use: As implant in combination with progesterone - 522.1940; **NOT TO BE USED WITH VEAL CALVES**
- **Estragole (or esdragol, estragon, esdragon, tarragon)** -SP/ESO, GRAS - 182.20
- **Ethopabate** - FEED, REG, 1.5 ppm - In uncooked liver & kidneys of chickens as residue - 556.260; 0.5 ppm - In uncooked muscle of chickens as residue - 556.260; Feed uses - 558.55, 558.58, 558.62, 558.76, 558.78, 558.248, 558.460, 558.530
- **Ethoxylated mono- and diglycerides** - MISC, REG, Total not to exceed 0.5% of flour used - In yeast leavened bakery products as a dough conditioner and as an emulsifier in pan-release agents for yeast-leavened bakery products -172.834; EMUL, REG, Not to exceed 0.45% by wt. of finished topping - In whipped vegetable oil toppings and topping mixes - 172.834; Not to exceed 0.5% by wt. of finished icing - In icing & icing mixes - 172.834; Not to exceed 0.2% by wt of finished dessert - Emulsifier in frozen desserts, 172.834; Part 135, Frozen Desserts; Not to exceed 0.4% by wt of finished vegetable fat-water emulsions - In solid state, edible fat water emulsions as Coffee Creamer Substitute -172.834; Not to exceed 5% of dry ingredients - In cakes & cake mixes - 172.834
- **Ethoxyquin** - FEED/AOX, REG, 5 ppm from use in forage crops - In uncooked fat of meat from animals except poultry - 172.140; AOX, REG, 100 ppm - For preserving of color in prod of chili powder, ground chili, and paprika - 172.140; 3.0 ppm (0.0003%) - In or on uncooked liver & fat of poultry; 0.5 ppm (0.00005%) - In or on uncooked muscle meat of animals; 0.5 ppm (0.00005%) - In poultry eggs; Zero - In milk - 172.140; 150 ppm - In animal feed, fish food, and canned pet food - 573.380, 573.400
- **Ethyl acetate** - SY/FS, MISC, REG, GMP, GRAS - 182.60, In decaffeination of coffee & tea - 173.228
- **Ethyl Alcohol (Ethanol)** - INH, GRAS - 184.1293, 2.0% by wt - On pizza crusts prior to baking - 170.3; SANI, REG, GMP, Adequate drainage - 178.1010
- **Ethyl cellulose** - MISC, REG, GMP, As binder or filler in dry vitamin prepn or component of protective ctg for vit & min tabs, or as fixative in flavor compounds - 172.868; 573.420; In anima diamine dihydroiodide - DS, GRAS, Animal feed
- **Ethylene dichloride** - SOLV, REG, 30 ppm - In pdtn of spice oleoresins - 173.230; MISC, REG, < 0.2 ppm in flume water - Used in flume water for washing sugar beets prior to slicing operation - 173.315; SOLV, REG, 300 ppm in extracted by-products - In

- extraction processing of animal by-products for use in animal feeds - see section 573.440; PEST, REG, GMP, Adjuvant for pesticide use - 172.710
- **Ethylene glycol monobutyl ether** - SANI, REG, GMP, Adequate drainage - 178.1010; MISC, REG, < 1 ppm in flumewater - Used in flume water for washing sugar beets prior to slicing operation - 173.315
  - **Ethylene oxide copolymer condensates** - REG, 172.808; STAB, REG- 300 ppm by wt - Foam stabilize in fermented malt beverages - 172.770
  - **Ethylene oxide polymer, alkyl adduct** - MISC, REG, NTE
  - 0.2 percent in lye-peeling solution to assist in the lye peeling of fruits and vegetables - 173.315
  - **Ethylene oxide polymer, alkyl adduct, phosphate ester** -MISC, REG, NTE 0.2 percent in lye-peeling solution to assist in the lye peeling of fruits and vegetables - 173.315  
Ethylene oxide/propylene oxide copolymer REG, SDA - See specs section 172.808; MISC, Defoaming agent - 173.340 for use as prescribed in 172.808
  - **Ethylene oxide/propylene oxide copolymer, alkyl adduct** - MISC, REG, NTE 0.2 percent in lye-peeling solution to assist in the lye peeling of fruits and vegetables -173.315
  - **Ethylene oxide/propylene oxide copolymer, alkyl adduct, phosphate ester** - MISC, REG, NTE 0.2 percent in lye-peeling solution to assist in the lye peeling of fruits and vegetables - 173.315
  - **Ethyl 4,4'-dichlorobenzilate** - INSECT, REG, 5.0 ppm - As residue in/on citrus fruits - 180.109; 0.5 ppm - As residue in fat, meat, meat by-products of sheep & cattle - do
  - **Ethyl ester of fatty acids** - MISC, REG, Comp of coatings for raisins - 172.225
  - **Ethyl formate** - SY/FL, GRAS, GMP, (See specs 184.1295); FL/ADJ
  - **Ethyl methylphenylglycidate** - GRAS, SY/FL, GMP -
  - **Ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate** - FEED, REG, X-ref - Buquinolate
  - **Ethyl vanillin** - SY/FL, GRAS/FS, Part 163, Chocolate and Cacao Pdts; Part 169, Vanilla Extract and Related Pdts - 182.60, 182.90
  - **Eucalyptus globulus leaves** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
  - **Eucheuma cottonii extract** - MISC, EMUL, STAB, REG, GMP, FS, See carrageenan - 172.620
  - **Eucheuma spinosum extract** - MISC, EMUL, STAB, REG, GMP, FS - 172-620
  - **Eugenol** - SY/FL, GRAS - 184.1257

- **Exfoliated hydrobiotite (Verxite)** - FEED, REG, <5% wt. finished feed - In poultry, swine or ruminant feed as anti-caking, blending agent, pelleting aid or nonnutritive carrier for incorporation of nutrients - 573.1000; <1.5% -Anticaking, blending agent, etc. in dog feed - 573.1000

## F

- **Famphur (O,O-dimethyl O-[p-(dimethylsulfamoyl)phenyl] phosphorothioate)** - PEST/VET, REG, Use: In animal feed - 558.254; As pour on liquid - 524.900; As paste in combination with Levamisole - 520.1242g
- **Fatty acids** - one or any mixture of straight chain monobasic carboxylic acids & assoc. fatty acids from edible fats and oils (capric, caprylic, lauric, myristic, oleic, palmitic, and stearic acids) - MISC, REG, GMP, In foods as a lubricant or binder; comp in mfr of other food-grade additives - 172.860; REG, GMP, Defoaming agent comp used in processing beet sugar and yeast - 173.340
- **Fatty acids, salts of (aluminum, calcium, magnesium, potassium, and sodium)** - MISC, REG, In foods as binder, emulsifier, and anticaking agent - 172.863; FEED, REG, GMP, 573.640; CTG, REG, X-ref - coatings on fresh citrus fruit - 172.210
- **Fatty alcohols, synthetic hexyl, octyl, decyl, lauryl, myristyl, cetyl, and stearyl alcohols** - MISC, REG, As substitutes for the corresponding naturally derived fatty alcohols permitted in foods by existing regulations - 172.864
- **Fenbendazole** - VET, REG, 0.8 ppm - Residues in Cattle liver - 556.275; Use: Cattle (Suspension) - 520.905a; (Powder) - 520.905d; (Block) - 520.905e; (Feed) - 558.258
- **Fennel, common** - SP, GRAS - 182.10
- **Fennel, sweet (Finochio, Florence)** - SP/ESO, GRAS -182.10, 182.20
- **Fenprostalene** -VET, REG, 10 ppb - Residues in uncooked edible muscle - 556.277; 20 ppb - Residues in uncooked edible liver - do; 30 ppb - Residues in uncooked edible kidney - do; 40 ppb - Residues in uncooked edible fat - do;100 ppb - Residues at the injection site - do; Use as injection: Induce abortion: Feedlot heifers - 522.914; Estrus control: Beef/non-lactating dairy cattle - 522.914
- **Fenthion** - PEST/VET, REG, As pour on liquid-524.920
- **Fenugreek** - SP/ESO, GRAS - 182.10, 182.20
- **Fermentation derived milk-clotting enzyme** - ENZ, REG, In production of cheese for which permitted by standards of identity - Part 133; Limited to certain organisms, (See specs in 173.150)
- **Fermented ammoniated condensed whey** - See Whey, fermented ammoniated condensed

- **Ferric ammonium chloride** - NUTR, GRAS, GMP - 184.1296
- **Ferric chloride** - NUTR, GRAS, GMP - 184.1297
- **Ferric citrate** - NUTR, GRAS, GMP - 184.1298
- **Ferric phosphate** - NUTR/DS, GRAS, GMP - 182.5301,184.1301
- **Ferric pyrophosphate** - NUTR/DS, GRAS, GMP - 182.5304, 184.1304
- **Ferric sodium pyrophosphate** - NUTR/DS, GRAS, GMP - 182.5306
- **Ferric sulfate** - NUTR, GRAS, GMP - 184.1307
- **Ferrous ascorbate** - NUTR, GRAS, GMP - 184.1307a
- **Ferrous carbonate** - NUTR, GRAS, GMP - 184.1307b
- **Ferrous citrate** - NUTR, GRAS, GMP - 184.1307c
- **Ferrous fumarate** - DS, REG, Consistent w/good nutrition practices - Used as source of dietary iron in special dietary foods - See section 172.350
- **Ferrous gluconate** - NUTR/DS, GRAS, GMP - 182.5308, 184.1308
- **Ferrous lactate** - NUTR/Color fixative for ripe olives, GRAS, GMP -184.1311, DS, GRAS, GMP - 182.5311
- **Ferrous sulfate** - NUTR/DS, GRAS, GMP - 182.5315, 184.1315
- **Fir ("pine" & "balsam") needles and twigs** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Fish protein concentrate, whole** - DS, REG, (See specs in 172.385)
- **Fish protein isolate** - DS, REG, (See specs in 172.340)
- **Flavoring substances, natural** - FLAV, REG, GMP -172.510
- **Fluorine - containing compounds (Sodium, potassium, or calcium fluoride) - MISC, PD, ILL - Petition for extension in dietary supplements terminated in of 7-1-73. Addition of fluorine compounds to foods limited to that from fluoridation of public water supplies and to that resulting from the fluoridation of bottled water within limits set in 103.35. Refer to section 170.45 for statement of policy.**
- **Folic acid (folacin)** - NUTR, REG, May be added to foods subject to a standard of identity when standard of identity provides for addition of folic acid. May be added 400 µg per serving to breakfast cereals, to infant formula 4 µg per 100 kcal of infant formula, 1 mg/1 lb. of corn grits, to foods represented as meal-replacement products 400 µg/serving if the food is a meal- replacement that is represented for use once/day or 200 µg/serving if the food is a meal-replace-ment that is represented for use more than once/day. May be added to medical food at levels not to exceed the amount necessary to meet the distinctive

nutritional requirements of the disease or condition for which the food is formulated, and for food for special dietary use not to exceed the amount necessary to meet the special dietary needs for which the food is formulated - 172.345.

- **Food additives for use in milk producing animals for treatment of bovine mastitis** - VET, REG, 528.820 - See BHA & BHT
- **Food starch, modified** - MISC, REG, GMP, See 172.892. Add "amylolytic enzymes" to various chemicals permitted in modifying food starch that are listed in the regulation.
- **Food starch esterified with n-octenyl succinic anhydride treated with beta - amylase**; For use as a stabilizer or emulsifier in non-alcoholic beverages and beverage bases
- **Formaldehyde (paraformaldehyde)** - PRES, REG, Comp of defoaming agent - 173.340; MISC, REG, GMP, In animal feeds composed of oilseed meals and animal fat - 573.460; See also formalin
- **Formalin** - FUNG, REG, Use: In water of salmon, trout, largemouth bass, catfish and bluegills - 529.1030; See also formaldehyde
- **Formic acid (x-ref - Ethyl formate)** - PEST, REG, 2.25% of Silage on a dry basis -or- 0.45% when direct cut, 573.480; Preservative for silage. Silage not to be fed to live stock within 4 weeks of treatment. GRAS, GMP - 186.1316
- **Fumaric acid and its calcium, magnesium, potassium, and sodium salts** - MISC, REG/FS, GMP, (See specs in 172.350); Part 150.140, Fruit jellies; Part 150.160, Fruit preserves
- **Fumaric acid-Ferrous salt** - DS, REG, Consistent w/good nutrition practices - X-ref Ferrous fumarate
- ***Furazolidone*** - VET, REG, **ZERO NOT PERMITTED FOR USE IN ANIMAL FEEDS - USE WITHDRAWN 8/23/91**
- **Furcelleran** - MISC, EMUL, STAB, REG/FS, GMP, 133.128; 172.655 Part 135.30, Ice Cream
- **Furcelleran, salts of ammonium, calcium, potassium, or sodium** - MISC, EMUL, STAB, REG/FS, GMP - 172.660 Part 135.30, Ice Cream

## G

- **alpha-Galactosidase from *Mortierella vinaceae* var. raffinoseutilizer** - ENZ, REG, No residue in finished product - Used in the production of sugar (sucrose) from sugar beets and increase sucrose yield in molasses - 173.145
- **Galanga (galangal root)** - SP/ESO, GMP, GRAS - 182.10,
- **Galanga, greater** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510

- **Galbanum** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Gambir (catechu, pale)** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Garlic** - SP/ESO, GRAS, GMP, 182.10, 182.20, 182.1317
- **Gas, combustion product** - MISC, REG, X-ref Combustion product gas - 173.350
- **Gellan Gum** - MISC, REG, As a stabilizer & thickener; (See specs in 172.665)
- **Genet Flowers** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Gentian rhizome & roots** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Gentian, stemless** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- ***GENTIAN VIOLET - FUNG, REG, VET, PROHIBITED FROM USE IN ANIMAL FEEDS - 589.1000***
- **Gentamicin Sulfate** -VET, REG, 0.1 ppm - Residues in uncooked edible tissue of turkey - 556.300; Residues in swine muscle - do; 0.3 ppm - Residues in swine liver - do; 0.4 ppm - Residues in swine fat & kidney - do; Use: Oral Solution, 520.1044a, 520.1044b; Soluble Powder 520.1044c; Injection, 524.1044;
- **Geraniol (3,7-dimethyl-2,6 and 3,6-octadien-1-ol)** -SY/FL, GRAS - 182.60
- **Geranium** - SP/FLAV/ESO, GRAS - 182.20
- **Geranium, East Indian or rose** - ESO, GRAS - 182.20
- **Geranyl acetate (geraniol acetate)** - SY/FL, GRAS - 182.60
- **Geranyl isobutyrate**
- **Germander, chamaedrys or golden** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Ghatti gum** - EMUL, GRAS, Limited to 0.2 percent of foods defined in § 170.3(n)(3) and 0.1 percent in all other foods; (See specs in 184.1333)
- **Gibberellic acid and its potassium salt** - MISC, REG, <2 ppm - In malt; <0.5 ppm - In finished malt beverage; ZERO - In distilled spirits - 172.725
- **Gigartina extracts** - MISC, EMUL, STAB, REG, FS, See Carrageenan - 172.620
- **Ginger** - SP/ESO, GRAS - 182.10, 182.20
- **Gluconate salts of Ca and Na** - MISC, FS, See limitations on use levels for Ca salt in 184.1199; GMP, Na salt 182.6757
- **Glucono delta-lactone** - MISC, GRAS, GMP, FS, As curing or pickling agent, leavening agent, sequestrant, or pH control agent (See specs in 184.1318)

- **Glutamic acid (or hydrochloride)** - NUTR/DS, REG, (See specs in 172.320); GRAS as a salt substitute in 182.1045 and 182.1047
- **Glutamic acid, condensed extracted fermentation product** - FEED, REG, <5% of total ration - Protein supplement in poultry feed - 573.500; <10% of feed - Protein supplement in cattle feed
- **Glutamine** - NUTR, REG, (See specs in 172.320)
- **Glutaraldehyde** - MISC, GMP, Fixing agent for the immobilization of glucose isomerase for use in the manufacture of high fructose corn syrup, in accordance with Sec. 184.1372 - 173.357
- **Glycerides and polyglycides of hydrogenated vegetable oils** - MISC, Used as an excipient in dietary supplement tablets, capsules, and liquid formulations - See 172.736 for specifications and limitations.
- **Glycerin** - MISC, GRAS/FS, GMP, Part 169, Food Flavorings, 182.1320; Part 582 - Animal feeds
- **Glycerin, synthetic** - MISC, REG, GMP, In food. (See 172.866 for specs)
- **Glycerol** - See glycerin
- **Glycerol ester of gum rosin** - MISC, REG, ≤100 ppm in beverages - 172.735; GMP, Softener for chewing gum base (See specs in 172.615)
- **Glycerol ester of partially dimerized rosin** - MISC, REG, GMP, Comp of chewing gum base (See specs in 172.615)
- **Glycerol ester of partially hydrogenated gum or wood rosin** - MISC, REG, GMP, Comp of chewing gum base (See specs in 172.615)
- **Glycerol ester of polymerized rosin** - MISC, REG, GMP, Softener for chewing gum base (See specs in 172.615)
- **Glycerol ester of tall oil rosin** - MISC, REG, GMP, Softener for chewing gum base (See specs in 172.615)
- **Glycerol ester of wood rosin** - MISC, REG, =100ppm in beverages-172.735; GMP, Softener for chewing gum base-172.615
- **Glycerol (glyceryl) tributyrates (tributylin, butylin)** -SY/FL, GRAS, GMP - as flavoring agent and adjuvant - 184.1903
- **Glyceryl behenate** - MISC, GRAS, GMP, As formulation aid in tablets - 184.1328
- **Glyceryl-lacto esters of fatty acids** - EMUL, MISC, REG, GMP - 172.852
- **Glyceryl monooleate** - MISC, GRAS, SY/FL, GMP, As flavoring agent and adjuvant - 184.1323



- **Glyceryl (glycerol) monostearate (monostearin)** - MISC, GRAS/FS, GMP, 184.1324; <2% of product - Macaroni products - 139.110; <3% of product - Noodle products -139.150
- **Glyceryl palmitostearate** - GRAS, GMP, Use as a formulation aid in excipients for tabs - 184.1329
- **Glyceryl triacetate (triacetin)** - MISC, SY/FL, GRAS, GMP. As flavoging agent and adjuvant - 184.1901
- **Glyceryl tristearate** - MISC, REG, See Reg - 172.811
- **Glycine** - MISC, REG, 0.2% of fin bev or bev base Masking agent for saccharin in beverages & bases -172.812; STAB, 0.02% - In mono- and diglycerides -172.812; NUTR - 172.320
- **Glycoryrrhiza** - SP/ESO, GRAS, See Reg - 184.1408
- **Glycyrrhizin, ammoniated** - ESO, GRAS/FS, See Reg -184.1408
- **Gonadorelin** - VET, REG, Use: As injection for cattle - 522.1077
- **Gonadotropin (Serum) and Gonadotropin (Chorionic)** -VET, REG, Use: As injection for cattle - 522.1079
- **Grains of paradise** - SP, GRAS, GMP - 182.10
- **Grapefruit** - ESO, GRAS, GMP - 182.20
- **Ground Limestone** - GRAS, GMP - 184.1409
- **Guaiac** - FLAV, REG, GMP, In alcoholic bevs only - 172.510
- **Guarana** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Guar gum** - STAB, GRAS/FS, See Reg - 184.1339; Parts 133, Cheese (to include cold pack cheese food); Part 135, Ice Cream; Part 169, Dressing for Foods; Part 150, Art Sw Jelly & Preserves
- **Guava** - ESO, GRAS, GMP - 182.20
- **Gum arabic (Acacia)** - STAB, GRAS/FS, GMP, See Reg -184.1330; Part 169, Dressings for Foods; Part 135, Ice Cream; Part 169, Vanilla Powder
- **Gum ghatti** - STAB, GRAS/FS, < 0.2% As emulsifier in non-alcoholic bevs - 184.1333; < 0.1% in all other foods - 184.1333
- **Gum gluten** - STAB, FS, GMP, Part 139, Macaroni Products
- **Gum karaya** - STAB, GRAS/FS, See Reg - 184.1349; Part 133, Cheese; Part 169, Dressings for Foods; Part 135, Ice Cream; Part 150, Art Sw Fruit Jelly & Jam
- **Gum tragacanth** - STAB, GRAS/FS, See Reg - 184.1351; Part 133, Cheese; Part 135, Ice Cream; Part 169, Dressings for Foods; Part 150, Art Sw Fruit Jelly & Jam

- **Gums (natural) of vegetable origin** - MISC, REG, GMP, Chewing gum base - 172.615
- **Guta Hang Kang** - MISC, REG, GMP, Chewing gum base - 172.615

## H

- **Halofuginone hydrobromide** - FEED, REG, Use: In broiler chicken feed - 558.625; 0.1 ppm - As residue in uncooked edible tissues of chickens - 556.308; 0.3 ppm - As residue in uncooked liver of chicken - do; 0.2 ppm - As residue in uncooked skin (w/fat) of chicken - do
- **Haloxon** - VET, REG, 0.1 ppm - Residues in edible tissues of cattle, sheep, & goats: 556.310; Use - 520.1120
- **Haw, black bark** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Helium** - MISC, GRAS - 184.1355
- **Hemicellulose extract** - FEED, REG, GMP, As a source of metabolizable energy in animal feed - 573.520
- **Hemlock needles & twigs** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Heptylparaben (n-heptyl p-hydroxybenzoate)** - INH, REG, 12 ppm - In -fermented malt beverages to inhibit microbiological spoilage, 172.145; 20 ppm - In non-carbonated soft drinks and fruit based beverages when allowed by established standards of identity - 172.145; PRES, REG, <12 ppm - In fermented malt beverages - 193.285
- **Hexachlorophene** - VET, REG, Permission in animal products restricted - 500.46
- **Hexane** - SOLV, REG, 25 ppm as residue - In spice oleoresins (173.270); 2.2% by weight - As residue in hops extract, extract added before or during cooking of beer -173.270; MISC, REG, 25 ppm - In modified hop extract for beer - 172.560; MISC, REG, 5 ppm as residue in fish protein isolate - 172.340
- **Hexitol oleate** - *EMUL,ILL - No petition filed. Was used as an ice cream emulsifier.*
- **Hexyl alcohol, synthetic** - MISC, REG, GMP, See Fatty alcohols, synthetic - 172.864
- **Hickory bark** - ESO, GRAS, GMP - 182.20
- **Histidine (l form only)** - NUTR/DS, REG, Food Additive Reg - 172.320
- **Hop extract, modified** - FLAV, REG, GMP, In beer - 172.560
- **Hops** - ESO, GRAS, GMP - 182.20
- **Horehound (hoarhound)** - SP/ESO, GRAS, GMP -182.10, 182.20
- **Horsemint** - ESO, GRAS, GMP - 182.20

- **Horseradish** - SP, GRAS, GMP - 182.10
- **Hyacinth Flowers** - FL/ADJ, REG, GMP, In alcoholic bevs only - 172.510
- **Hydrazine** - BC, REG, ZERO - For steam contacting food -173.310
- **Hydriodic acid** - SANI, REG, <25 ppm I2 in soln Adequate drainage - 178.1010
- **Hydrobiotite, exfoliated** - FEED, REG, See Verxite -573.1000
- **Hydrochloric acid** - MISC, REG, GMP, Modifier for food starch - 172.892; B&N, GRAS/FS - 182.1057; Acidifier in skim milk - 131.1444 and cottage cheese making -133.129 and Cnd Tom Prods Processing - 155 and dried eggs - 160.105 and dried egg yolks - 160.185 and modified hop extract - 172.560; In animal feed practices - 582.1057
- **Hydrocortisone (as acetate or sodium succinate)** - VET, REG, 10 ppb neg res - In milk as residue - 556.320; VET, REG, In mastitis formulation - 556.820
- **Hydrogen peroxide** - MISC, REG, Used in combination with acetic acid to form peroxyacetic acid 59 ppm in wash water for fruits and vegetables that are not raw agricultural commodities- 173.315.
- **Hydrogenated corn syrup** - REG, GMP, In dog/cat foods as humectant - 573.530
- **Hydrogenated menhaden oil** - GRAS, GMP - 184.1472
- **Hydrolyzed leather meal** - FEED, REG, 1% by wt of feed In swine feed - 573.540
- **Hydrolyzed vegetable protein** - FLAV, FS, GMP, 161.190, Cnd Tuna; Part 155, Vegetables
- **1-Hydroxyethylidene-1,1-diphosphonic acid** - MISC, REG, GMP, Used with peroxyacetic acid for washing fruits and vegetables that are not raw agricultural commodities at levels < 4.8 ppm in wash water - 173.315
- **alpha-Hydro-omega-hydroxypoly(oxyethylene)poly(oxypropylene) (minimum 15 moles) poly(oxyethylene) block copolymers** - AF, REG, <0.05% by wt - As surfactant & defoaming agent in scald baths > 125 °F for poultry defeathering, then potable water rinse - 172.808; < 5 gm per hog - As foam control and rinse adjuvant in hog dehairing machines - 172.808
- **alpha-Hydro-omega-hydroxypoly(oxyethylene)poly(oxypropylene)(53-59moles) poly(oxyethylene)(14-16 moles) block copolymer, (mol wt 3500-4125)** - SDA, REG, 10 ppm total in finished beverage or fruit juice drink In combination with dioctyl sodium sulfosuccinate -172.810, 172.808
- **alpha-Hydro-omega-hydroxy-poly(oxyethylene)poly(oxypropylene) (55-61 moles) poly(oxyethylene) block copolymers, (mol wt. 9,760-13,200)** - SDA/STAB, REG, GMP, Solubilizer and stabilizer in flavor concentrates -172.808

- **alpha-Hydro-omega-hydroxypoly(oxyethylene)poly(oxypropylene)(51-57moles) poly(oxyethylene) block copolymer (Mol. wt. 14,000)** - MISC, REG, <0.5% wt. of flour used - Dough conditioner 172.808
- **1-Hydroxyethylidene-1,1-diphosphonic acid** - REG, May only be used with peroxyacetic acid, < 4.8 ppm in wash water for fruits & vegs that are not raw agricultural commodities- 173.315.
- **Hydroxylated lecithin** - EMUL, FS, Part 136, Bakery Products; REG, GMP, In foods except standardized foods not providing for such use - 172.814; AF, REG, GMP, Defoaming agent for processing beet sugar and yeast -173.340
- **4-Hydroxymethyl-2,6-di-tert-butylphenol** - REG antioxidant alone or in combination with other antioxidants so total antioxidants do not exceed .02 per cent of oil or fat content of the food - 172.150
- **Hydroxypropyl cellulose** - MISC, REG, GMP, EMUL, STAB - 172.870
- **Hydroxypropyl methylcellulose** - EMUL, REG/FS, GMP - 172.874;Part 169, Dressings; Part 135, Fr Desserts
- **8-hydroxyquinoline sulfate** - *MISC, BAN, Was used as comp. of a cottage cheese coagula*
- **Hygromycin B** - FEED, REG, ZERO - In eggs of poultry and in uncooked edible tissues & by-products of swine and poultry as residue - 556.330, 558.55, 558.58, 558.76, 558.78, 558.128, 558.274, 558.460, 558.625, 558.630, 558.680
- **Hyssop** - SP/ESO, GRAS - 182.10, 182.20; Use in chicken & swine feeds

## I

- **Iceland moss** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Immortelle** - ESO, GRAS, GMP - 182.20
- **Imperatoria** - FL/ADJ, REG, GMP, In alcoholic bevs only -172.510
- **Inositol** - NUTR/DS, GRAS, GMP, 182.5370, 184.1370
- **Insoluble Glucose Isomerase enzyme preparations** - ENZ, GRAS, GMP, 184.1372
- **Intrinsic Factor complex (Liver-stomach concentration) DS,ILL, See section 250.201 - X-ref; Liver-stomach concentrate**
- **Invert sugar** - NUTR, GRAS/FS, GMP - 184.1859; Part 145 Canned fruit; Part 146 Canned fruit juices; Part 169 Food dressings and flavorings
- **Iodine** - SANI, REG, <25 ppm I<sub>2</sub> in soln - Adequate drainage - 178.1010
- **Iodine (from potassium iodide)** - DS, REG - 172.375, <0.225 mg I<sub>2</sub> per day - w/o reference to age or physical state; <0.045 mg I<sub>2</sub> per day - infants; <0.105 mg I<sub>2</sub> per day -

children <4 years old; <0.225 mg I<sub>2</sub> per day - adults and children > 4 years; <0.3 mg I<sub>2</sub> per day - Pregnant or lactating women

- **Iodine (calcium iodate, calcium iodobenenate, cuprous iodide, 3,5-diiodosalicylic acid, ethylenediamine dihydroiodide, potassium iodate, potassium iodide, sodium iodate, sodium iodide, thymol iodide)** - NUTR, GRAS, As nutritional dietary supplement in animal feed - 582.80
- **Iodinated casein** - FEED, REG, 100 - 200 gms/ton - In duck feed - 558.295; 1/2 to 1 1/2 lb/100 lb body weight - In dairy cow feed - 558.295
- **Ion exchange membranes** - MISC, REG, In production of grapefruit juice - 173.20
- **Ion exchange resins** - MISC, REG, For purification of food and water - 173.25
- **Ipronidazole** - *FEED, REG, ZERO - NOT LEGAL FOR ANIMAL USE; VET, REG, ZERO, do - NADA WITHDRAWN 1-17-89*
- **Irish Moss and extract of** - X-ref - Carrageenan
- **Iron (ascorbate, carbonate, chloride, citrate, fumarate, gluconate, lactate, oxide, phosphate, pyrophosphate, sodium pyrophosphate, sulfate, reduced iron)** - NUTR, DS, GRAS, As nutritional dietary supplement in animal feed - 582.80; X-Ref Ferric and Ferrous listings
- **Iron ammonium citrate** - AC, REG, <25 ppm - In salt for human or animal consumption - 172.430, 573.560
- **Iron-choline citrate complex** - FEED, REG, GMP, As source of iron - 573.580; NUTR/DS, REG, In foods for sp diet use - 172.370
- **Iron (harmless salts of)** - NUTR, FS, Part 137, Flour; Part 139, Macaroni & Noodles; Part 136, Bakery Pdts
- **Iron, elemental** - NUTR/DS, GRAS, GMP - 184.1375
- **Iron, reduced** DS, GRAS, GMP - 182.5375
- **Iron salts** - X-ref; Ferric and Ferrous listings
- **Irradiated enzymes** - MISC, REG, Dose not to exceed 10 kilograys - Control of microorganisms - 179.26
- **Irradiated food** - MISC, REG, Dose not to exceed 1 kilo-gray -To control arthropod pests in any food or to inhibit maturation of fresh foods - 179.26
- **Irradiated meats** - MISC, REG, Minimum dose 44 kilogram - For sterilization of frozen, packaged meats, NASA -179.26
- **Irradiated molluscan shellfish** - MISC, REG, Max dose 5.5 kGy - Control of Vibrio bacteria and other microorganisms in or on fresh and frozen molluscan shellfish -179.26

- **Irradiated pork** - MISC, REG, Min. dose 0.3 kilograys. Max dose 1 kilogray - Control of *Trichinella spiralis* - 179.26
- **Irradiated poultry** - MISC, REG, Dose not to exceed 3.0 kilograys - To control pathogens in fresh or frozen uncooked poultry - 179.26
- **Irradiated poultry feed** - FEED, REG, Dose range 2 to 25 kilogray gamma radiation from cobalt-60 - to render poultry feed salmonella negative - 579.40
- **Irradiated yeast** - NUTR, FS, Part 137.305 - Enr Farina, source of Vit D.
- **Irradiated spices, herbs & seasonings** - SP, REG, Dose not to exceed 30 kilograys - Control of microorganisms -179.26
- **Irradiation** - 579.22 and 179; also see "Radiation"
- **Isoascorbic acid** - PRES, GRAS, X-ref - Erythorbic acid -182.3041
- **Isobutane** - GRAS, MISC, propellant, aerating agent -184.1165
- **Isobutylene-isoprene copolymer** - MISC, REG, GMP, Comp of chewing gum base - 172.615
- **Isobutylene resin, polyisobutylene** - MISC, REG, GMP, Comp of chewing gum base - 172.615
- **Isoleucine (l form only)** - NUTR/DS, REG, Food Additive Reg - 172.320
- **Isoparaffinic petroleum hydrocarbons, synthetic** MISC, REG, GMP, 172.882
- **Isopropanol, isopropyl alcohol** - SOLV, REG, <250 ppm as residue in modified hop extract - 172.560; <50 ppm as residue - In mfr of spice oleoresins - 173.240; 6 ppm - In mfr of lemon oil - 173.240; 2% by wt - In hop extract as residue from extraction of hops in mfr of beer - 173.240; AF, REG, GMP, Comp of defoaming agent for processing beet sugar and yeast - 173.340; SANI, REG, GMP, Adequate drainage - May be used on food processing equip and on food-con-tact surfaces - 178.1010(b)(17); SANI, REG, < 40 ppm Adequate drainage; May be used on food processing equip and on glass containers for holding milk - 178.1010(b)(7)
- **Isopropyl citrate** - GRAS/FS, <0.02% - 182.6386; <0.02% in oleomargarine - 166.110
- **Iva** - FL/ADJ, REG, GMP, In alcoholic beverages only -172.510
- **Ivermectin** - VET, REG, 15 ppb - As a residue in liver of cattle and reindeer - 556.344; 20 ppb - As a residue in liver of swine - 556.344; Use: As injection for cattle; Combination with clorsulon - 522.1193; Use: Cattle (Paste) - 520.1192; Use: Cattle, swine, reindeer (Injection) - 522.1192

## J

- **Jasmine** - ESO, GRAS - 182.20

- **Jelutong** - MISC, REG, GMP, as chewing gum base
- **Juniper (berries)** - ESO, GRAS - 182.20

## K

- **Karaya gum** - STAB, GRAS/FS, See Reg - 184.1349; X-ref - Gum Karaya
- **Kelp** - DS, REG, <0.225 mg 12 per day - w/o reference to age or physical state; <0.045 mg 12 per day - Infants; <0.105 mg 12 per day - <4 years old; <0.225 mg 12 per day - Adults and children > 4 years old; <0.30 mg I2 per day -Pregnant or lactating women; Source of iodine in foods for special dietary use prepared from *Macrocystis pyrifera*, *Laminaria digitata*, *Laminaria saccharina*, and *Laminaria cloustoni* - 172.365
- **Kelp (see algae, brown)** - NAT, GRAS, GMP - 184.1120, 172.365
- **Kola nut** - ESO, GRAS, GMP - 182.20

## L

- **Labdanum** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Lactase Enzyme Preparation from Kluyveromyces lactis** - ENZ, GRAS, GMP - 184.1388
- **Lactic acid** - B&N, GRAS/FS - 184.1061, Part 136, Bakery Pdts; Part 133, Cheese; Part 135, Frozen Desserts; Part 150, Fruit Butters, Jellies & Preserves; In animal feed practices - 582.1061
- **Lactose** - NUTRS, FS, Nutritive Sweetener - 168.122; Part 133 (133.124, 133.178, 133.179) - Cheeses; 169.179 Vanilla powder; 169.182 - Vanilla-vanillin powder
- **Lactose, Hydrolyzed** - NUTRS, FS, Nutritive Sweetner; Part 133 (133.124, 133.178, 133.179) - Cheeses
- **Lactylated fatty acid esters of glycerol and propylene glycol** - EMUL, REG, GMP, In food as an emulsifier, plasticizer, or surface active agent - 172.850
- **Lactylic esters of fatty acids** - EMUL, REG, GMP, For use in foods where standards do not preclude use - 172.848
- **Lactylic stearate** - MISC, REG/FS, < 0.5 part/100 parts flour - Part 136, Bakery Pdts - alone or comb/w calcium stearyl -2-lactylate, sodium stearyl fumarate or succinylated monoglycerides - 172.844
- **Lanolin** - MISC, REG, GMP, Comp of chewing gum base -172.615
- **Lasolocid sodium** - FEED, REG, 0.05 ppm - Res in edible tissues of chicken - 556.347; Use - 558.311; 4.8 ppm - Res in cattle liver - 556.347; Use: Feed Suppl, Finished Feed, Premix, Liquid Feed Suppl - 558.311

- **Lasalocid sodium** - FEED, REG, 10.3 ppm - Res in skin of chicken - 556.347(a); 7.2 ppm - Res in chicken liver -556.347(a); 0.7 ppm - Res in cattle liver - 556.347(a); Use in chicken, cattle & sheep feed products (finished feeds, suppls, premixes, & liquid feed suppls) - 558.311
- **Latex (butadiene styrene rubber)** - MISC, REG, GMP, Comp of chewing gum base - 172.615
- **Laurel berries, leaves** - ESO, GRAS - 182.20
- **Laureth 23** - See Polyoxyethylene (23) Lauryl Ether
- **Lauric acid** - MISC, REG - CTG fresh fruit - 172.210, 172.860; AF - 173.340
- **Lauryl alcohol, synthetic** - MISC, REG, GMP - See Fatty Alcohols, synthetic - 172.864
- **alpha-Lauryl-omega-hydroxypoly (oxyethylene) (avg. mol wt 400)** - SANI, REG, GMP, Adequate drainage; May be used on beverage containers including milk containers & equipment - 178.1010
- **Lavandin** - ESO, GRAS - 182.20
- **Lavender** - SP/ESO, GRAS - 182.10; 182.20
- **Lavender, spike** - ESO, GRAS - 182.20
- **Leather meal, hydrolyzed** - FEED, REG, 1% by wt of feed - In swine feed - 573.540
- **Lecithin, hydroxylated lecithin** - MISC, GRAS/FS -184.1400, Part 163, Cacao Pdts; Part 136, Bakery Pdts; Part 166, Oleomargarine; Part 133, Cheese Pdts; Part 582 Animal feeds; REG, GMP, Comp of defoamer - 173.340; EMUL, REG, GMP, In foods where standards do not preclude use - 172.814
- **Lemon, lemon peel** - ESO, GRAS - 182.20
- **Lemon balm (See Balm)** - ESO, GRAS - 182.20
- **Lemon grass - ESO, GRAS - 182.20**
- **Lemon-verbena** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **L-Leucine** - NUTR/DS, REG, Food Additive Reg -172.320; MISC, REG, 3.5% of tab wt - In aspartame tabs as lubricant - 558.240
- **Levamisole hydrochloride** -VET/FEED, REG, 0.1 ppm neg res - In edible tissues of cattle, sheep & swine as res -556.350; Use & other information: Feeds (cattle & swine)-558.315; Dosage forms - 520.1242, 524.900, 558.254; Injection as phosphate - 522.1244
- **Licorice and derivatives (ammoniated glycyrrhizin, glycyrrhiza)** - FLAV, GRAS, < 0.05% Baked goods - Flavor, Flavor enhancer, a surface active agent; < 0.1% - Alcoholic Beverages; < 0.15% - Nonalcoholic Beverages; < 1.1% Chewing Gum; < 16.0% - Hard



Candy; < 0.15% - Herbs & Seasoning; < 0.15% - Plant Proteins; < 3.1% - Soft Candies; < 0.5% - Vitamins & Minerals; < 0.1% - All other food - 184.1408

- **Lignin sulfonate, ammonium, calcium, magnesium, sodium includes lignin from Abaca** - FEED, REG, < 4% of finished pellets - Sole pelleting aid in animal feeds -573.600; As binding agent in flaked grains; < 11% of molasses - As a surfactant in molasses used in feeds
- **Lime (citrus)** - ESO, GRAS - 182.20
- **Limestone, Ground** - GRAS, GMP - 184.1409
- **Linaloe wood** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Linear undecylbenzenesulfonic acid** - MISC, REG, < 3.0 ppm in flume water - Used in flume water for washing sugar beets before slicing operation - 173.315
- **Lincomycin hydrochloride** - VET/FEED, REG, 0.15 ppm neg res - Res in milk - 556.360; 0.1 ppm neg res - In edible tissues of chickens & swine - 556.360: Uses & Info -558.58; 558.145; 558.105; 558.195; 558.355; 558.680; 558.511; 558.515; 558.530; 558.530; As soluble powder in drinking water - 520.1263b/c; In swine & chicken feeds -558.325; As injection - 522.1260;
- **Linden flowers** - SP/ESO, GRAS - 182.20
- **Linden leaves** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Linoleic acid** - NUTR/DS, GRAS, GMP, Prepared from edible fats & oils & free from chick edema factor - 182.5065, 184.1065
- **Liver-stomach concentrate w/ intrinsic factor complex DS, ILL, Any food containing the intrinsic factor is adulterated - PART 250.201(f)**
- **Locust bean** - ESO, GRAS - 182.20
- **Locust (carob) bean gum** - STAB, GRAS/FS, X-ref Carob bean gum - 184.1343, Part 133 (133.178, 133.179), Cheeses; Part 135, Frozen Desserts; Art Sw Jellies & Preserves, Part 150; Dressings for Food, Part 169
- **Lovage** - FL/ADJ, REG, GMP, In conjunction w/flavor -172.510
- **Lungmoss** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Lupulin** - ESO, GRAS - 182.20
- **L-Lysine** - NUTR/DS, REG - 172.320

## M

- **Mace** - SP/ESO, GRAS - 182.10
- **Madurimicin ammonium aka "CYGRO"** - FEED, REG, Use: In feed - 558.340; 0.24 ppm - Safe concentrate in muscle - 556.735; 0.72 ppm - Safe concentrate in liver - do; 0.48

- ppm - Safe concentrate in skin/fat - do; 0.38 ppm - Res in fat of chicken - do; VET, REG, Use in chicken feeds -558.340; 0.24 ppm - As res in uncooked chicken muscle tissue - 556.375; 0.72 ppm - As res in uncooked chicken liver - do; 0.48 ppm - As res in uncooked chicken skin - do; 0.48 ppm - As res in uncooked chicken fat - do
- **Magnesium carbonate** - B&N, GRAS/FS - 184.1425; Part 163, Cacao Pdts; Part 137, Cereal Flours; Part 133, Cheeses; Part 155, Cnd Peas; Part 135, Frozen Desserts: Part 582 - Animal Feeds
  - **Magnesium chloride** - B&N, GRAS/FS; 172.560, Modified Hop Extract - 184.1426
  - **Magnesium cyclamate** - *NNS, ILL, Removed from the GRAS list 10-21-69, Legal only in pdts complying with drug provision of the law - 189.135*
  - **Magnesium hydroxide** - MISC, GRAS/FS - 184.1428; Part 155, Cnd Peas; Part 582 - Animal Feeds
  - **Magnesium oxide** - MISC, GRAS/FS, GMP - 184.1431; Part 163, Cacao Pdts; Part 155, Cnd Peas; Part 135 Frozen Dessert; DS/NUTR, GRAS, GMP - 182.5431; Part 582 Animal feeds
  - **Magnesium phosphate (di-, tri- basic)** - NUTR/DS, GRAS, GMP - 182.5434, 184.1434
  - **Magnesium silicate** - AC, GRAS/FS, GMP - 182.2437; < 2.0% - In table salt; Part 169.179, Vanilla Powder
  - **Magnesium stearate** - MISC, GRAS, GMP - 184.1440; As migratory substance from pkg materials when used as a stabilizer; AF, REG, Defoaming agent comp - 173.340; anti-caking agent -172.863
  - **Magnesium sulfate** - NUTR/DS, GRAS, GMP - 182.5443, 184.1443
  - **Maidenhair fern** - FL/ADJ, REG, GMP, In Alcoholic Beverages only - 172.510
  - **Malic acid, L-malic acid** - MISC, GRAS/FS, GMP -184.1069; < 3.4% - Nonalcoholic Beverages; < 3.0% Chewing Gum; < 0.8% - Gelatins, Puddings & Fillings; < 6.9% - Hard Candy; < 2.6% - Jams & Jellies; < 3.5% Processed Fruits & Juices; < 3.0% - Soft Candy; < 0.7% -All other food; 131.144, Acidified Skim Milk; 146.113, Cnd Fruit Nectars; Part 150 (150.141, 150.161), Fruit Pdts; Part 169 (169.115, 169.140, 169.150), Dressings & Flavorings; Part 582 - Animal feeds
  - **Malt (extract)** - ESO, GRAS
  - **Malt syrup (malt extract)** - FLAV, GRAS, GMP -184.1445; nutrs in Part 133 (133.178, 133.179, 133.180); comp of color additive caramel - 73.85
  - **Maltodextrin** - GRAS, GMP - From corn and potato starch -184.1444
  - **Maltose** - NUTRS, Part 133 (133.124, 133.178, 133.179, 133.180) - Cheeses

- **Mandarin oil** - ESO, GRAS - 182.20
- **Manganese bacitracin** - FEED, REG, See Bacitracin, manganese
- **Manganese chloride** -DS/NUTR, GRAS, GMP -182.5446, 184.1446
- **Manganese citrate** - DS/NUTR, GRAS, GMP - 182.5449, 184.1449
- **Manganese gluconate** - DS/NUTR, GRAS, GMP -182.5452, 184.1452
- **Manganese glycerophosphate** - DS/NUTR, GRAS, GMP-182.5455, 182.8455
- **Manganese hypophosphite** - DS/NUTR, GRAS, GMP -182.8458
- **Manganese sulfate** - DS/NUTR, GRAS, GMP - 182.5461, 184.1461
- **Manganese salts (acetate, carbonate, chloride, soluble citrate, gluconate, ortho-phosphate, dibasic phosphate, sulfate, oxide)** - NUTR/DS, GRAS, In animal feed - 582.80
- **Manganous oxide** - DS/NUTR, GRAS, GMP - 182.5464
- **Mannitol** - NUTR, GRAS/INTERIM, < 98.0% - Pressed Mints; < 5.0% - Hard Candy; < 31.0% - Chewing Gum; < 40.0% - Soft Candy; < 8.0% - Frostings; < 15.0% - Jams & Jellies; < 2.5% - all other food; Label "Excess consumption may have laxative effect" if daily ingestion < 20 g mannitol, In foods - 180.25
- **Maple, mountain** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Marigold, pot** - SP, GRAS - 182.10
- **Marjoram, pot** - SP, GRAS - 182.10
- **Marjoram, sweet** - SP/ESO, GRAS - 182.10, 182.20
- **Massaaranduba balata** - REG, GMP, Comp of chewing gum base - 172.615
- **Massaaranduba chocolate** - REG, GMP, Comp of chewing gum base - 172.615
- **Materials used as fixing agents in the immobilization of enzyme preparations** - 173-357
- **Mate** - ESO, GRAS - 182.20
- **Melengestrol acetate** - FEED, REG, ZERO - In edible tissues & by-products of cattle as a res - 556.380; Use in cattle feeds - 558.342, 558.542
- **Melissa (see Balm)** - ESO, GRAS - 182.20
- **Menadione - DS, PD, Extension for use as a dietary suppl w/limit of 1 mg/day revoked 3/22/63. No food additive regulation authorizing use of menadione in prenatal suppl or any other food pdt issued**
- **Menadione dimethylphyrindinol bisulfite (2-hydroxy-4, 6- dimethyl pyrimidinol salt of menadione)** - FEED, REG, 2.0 g/ton - As nutritional suppl in

- chicken & turkey feed for prevention of vitamin K deficiency 573.620; 10.0 g/ton - In swine feed - 573.620
- **Menhaden oil (hydrogenated and partially hydrogenated)** - NUTR, GRAS - 184.1472
  - **Menthol** - ESO, GRAS - 182.20
  - **Menthyl acetate** - ESO, GRAS - 182.20
  - **N-(Mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorodithioate)** - VET/PEST, REG Use: Liquid - 524.1742
  - **Methacrylic acid-divinyl benzene copolymer** - MISC, REG, GMP - Carrier for Vitamin B12 in nutritional suppl - 172.775
  - **Methionine (L- & -DL forms)** - NUTR, REG - 172.320, DL form not for infant foods; Animal Feeds - 582.5475
  - **Methionine hydroxy analog and its calcium salts** - NUTR/DS, GRAS, Animal feeds - 582.5477
  - **Methyl alcohol residues** - SOLV, REG, < 50 ppm - As residual solvent in mfr of spice oleoresins; < 2.2% by wt - In hop extract for beer - 173.250; < 100 ppm - In modified hop extract for beer - 172.560
  - **Methylcellulose (USP methylcellulose)** - MISC, GRAS/FS, Except methoxy content - 27.5 & 31.5% dr wt basis - 182.1480; Part 150 (150.141, 150.161), Fruit Butters, Jellies; VET, REG, For use in mastitis formulation for treating dairy animals - 526.820
  - **Methylene chloride** - SOLV, REG, < 30 ppm - As residual solvent in mfr of spice oleoresins - 173.255; < 10 ppm - In decaffeinated roasted coffee & decaffeinated soluble (instant) coffee; < 2.2% - As res in hop extract. Extract added before or during cooking of beer; MISC, REG, < 5 ppm - In modified hop extract for beer - 172.560
  - **Methyl ester of rosin** - partially hydrogenated - MISC, REG, GMP, As a constituent of chewing gum base - 172.615
  - **Methyl esters of fatty acids produced from edible fats & oils** - MISC, REG, < 3% wt of aqueous & < 200 ppm raisins - In dehydrating grapes to produce raisins, > 90% methyl esters of fatty acids; < 1.5% unsaponifiable material 172.225
  - **Methyl esters of higher fatty acids** - FEED, REG, In animal feed - 573.640
  - **Methyl ethyl cellulose** - MISC, REG, GMP, In food as aerating, emulsifying & foaming agent - 172.872
  - **Methyl glucoside - coconut oil ester** - MISC, REG, GMP, In mfr of sucrose & dextrose - 172.816; FEED, REG, < 320 ppm - Used as surfactant in molasses intended for use as comp of animal feeds - 573.660

- **Methylparaben (methyl-p-hydroxybenzoate)** - PRES, GRAS/ FS - 184.1490; < 0.1% by wt - Part 150, Art Sw Jelly (150.141) & Preserves (150.161); REG, ZERO - Res in milk from dairy cows treated with mastitis formulations -556.390; Use & Info - 526.820
- **Methyl prednisolone** - VET, REG, 10 ppb - Res in milk -556.400
- **Metoserpate hydrochloride** -VET, REG, 0.02 ppm neg res - In edible tissues of chickens - 556.410: Use - 520.1422
- **Microcapsules** - MISC, REG, GMP, For flavoring oils & spices, Capsules contain succinylated gelatin, arabinogalactan, silicon dioxide, glutaraldehyde, n-octyl alcohol & petroleum wax - 172.230
- **Microcrystalline cellulose** - MISC, FS, Unlisted GRAS
- **Microparticulated protein product** - MISC, GRAS, GMP, Thickener & texturizer in frozen dessert-type pdts. May not be used to replace milk fat in standardized frozen desserts.-184.1498
- **Milk Clotting Enzymes** - 173.150 see Enzymes
- **Mimosa (black wattle) flowers** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Mineral oil, white (Use limitations include all petroleum hydrocarbons that may be used in combination with white mineral oil)** - AF, REG, < 150 ppm - In yeast from defoamer comp - 173.340; < 0.008% of wash water - Comp of defoaming agents in wash water for sliced potatoes - do; CTG, REG, GMP, on fruits & veg - 172.878; MISC, REG, GMP, Protective float on brine used in curing pickles - do; GMP, Float-sealant on fermentation fluids in mfr of vinegar & wine - do; < 0.6% - In food as release agent, binder & lubricant in/on capsules & tabs containing food for sp diet use - do; < 0.02% - Dr fruits & veg as release agent in drying pans - do; < 0.95% - Frozen meat as hot melt coating do; < 0.10% - Egg white solids as release agent in drying do; < 0.15% - Bakery pdts as release agent & lubricant - do; < 0.15% - Yeast as release agent, binder & lubricant - do; < 0.2% - Release, sealing & polishing agent in confectionery - do;< 0.25% - Antidusting agent in sorbic acid for food use - do;< 0.3% - In molding starch used in mfr of confectionery - do;< 0.6% - Release agent, binder &/or lubricant in/on capsules or tabs containing concentrates of flavors, spices, condiments, & nutrients intended for addition to food, excluding confectionery; & in capsules & tabs containing foods for sp diet use - do; < 0.02% by wt - A dust control agent for wheat, corn, soybean, barley, rice, rye, oats, & sorghum - do; < 0.08% by wt - A dust control agent for rice; REG, < 10 ppm - In food as lubricant on food-processing equipment - 178.3570; FEED, REG, 0.06% - Of total ration of animal - 573.680; 3.0% - In mineral suppls - do; GMP, In feed grade biuret - do
- **Mixed Carbohydrase and Protease enzyme product** - ENZ, GRAS, GMP - 184.1027
- **Modified Hop Extract** - FLAV, REG, GMP - IN BEER 172.560

- **Molasses (extract)** - ESO, GRAS - 182.20
- **Molecular sieve resins** - MISC, REG, GMP, For final purification of partially delactosed whey - 173.40
- **Monensin, monensin sodium** - FEED, REG, 0.05 ppm As res in edible tissues of cattle - 556.420; 1.5 ppm - As res in muscle tissue of chicken & turkey - do; 3.0 ppm - As res in skin w/fat of chicken & turkey - do; 4.5 ppm - As res in liver of chicken - do; Uses in chicken & cattle feeds -558.355, 558.1448b; Use as a medicated block for cattle -520.1448a; Use in Liquid Feed for cattle - 558.355; VET, REG, Use in goat feed - 558.340; 0.05 ppm - As res in edible tissues of cattle & goats - 556.420
- **Monoammonium glutamate** - MISC, GRAS - 182.1500
- **Monobutyl esters of polyethylene-polypropylene glycol produced by random condensation of a 1:1 mixture by weight of ethylene oxide & propylene oxide with butanol** - BC, REG, GMP, Boiler water compound -173.310
- **Monocalcium phosphate (calcium phosphate monobasic)** - B&N, GRAS/FS, X-ref - calcium phosphate, monobasic - 182.1217, 182.5217, 182.6215, 182.8217; < 0.75 parts/100 parts of flour (Part 136, Bakery Pds - 136.110, 136.115, 136.130, 136.160, 136.180); < 4.5 parts including sodium bicarbonate/100 parts of cereal pdt, Part 137 (137.180, 137.270); > 0.25% and < 0.75% phosphated flour; In Self-rising Cereal Flours or Meals - (Part 137 -137.165, 137.175); In Fruit Butters, Jellies & Preserves, Part 150 (150.141; 150.161); < 0.1% wt of finished pdt Part 155 (155.170, 155.190, 155.200), Cnd Veggies
- **Monochloroacetic acid** - *PRES, BAN, Any amount in beverages & other foods will serve to adulterate them* -189.155
- **Monoester of alpha -hydro -omega -hydroxy -poly (oxyethylene)poly (oxypropylene) poly (oxyethylene) ((minimum 15 moles) blocked copolymer derived from low erucic acid rapeseed oil** - Defoaming agent component used in processing beet sugar - 173.340
- **Monoethanolamine** - MISC, REG, < 0.3 ppm in flume water - Used in flume water for washing sugar beets prior to slicing operation - 173.315
- **Monoglyceride citrate** - MISC, REG, < 200 ppm, As a synergist & solubilizer for antioxidants in oils & fats - 172.832
- **Monoglycerides, distilled** - VET, REG, For use in mastitis formulations for treating dairy animals - 526.820
- **Monoglycerides of fatty acids** - STAB, REG, GMP, Used in mfr of stearyl monoglyceridyl citrate for shortenings -172.755

- **Mono- & diglycerides of edible fats or oils, or edible fat forming acids** - MISC, GRAS/FS - 184.1505; EMUL <0.5% - 166.40, Oleomargarine; comb w/monosodium phosphate derivatives <0.5% - Part 163 (163.123, 163.130, 163.135, 163.140, 163.145, 163.150, 163.153, 163.155) Cacao Pdts; FS, <20.0% of shortening ingredients - Part 136 (136.110, 136.115, 136.130, 136.160, 136.180), Bakery Pdts
- **Monoisopropyl citrate** - SEQ, GRAS, GMP - 182.6511, X-ref - "Isopropyl Citrate"; EMUL Part 166 (166.40, 166.110) Margarine
- **Monopotassium glutamate** - MISC, GRAS - 182.1516; NUTR/DS, REG - 172.320
- **Monopotassium phosphate (potassium phosphate, monobasic)** - MISC, GRAS/FS, < 0.5% - In Frozen Eggs Part 160.110
- **Monosodium glutamate** - FLAV, GRAS/FS, GMP - 182.1; Part 155 (155.120, 155.130, 155.131, 155.170, 155.200, 155.201) - Cnd Veggies; 158.170 - Frozen peas; 161.190 - Cnd Tuna; Part 169 (169.115, 169.140, 169.150) Food Dressings; NUTR/DS, REG -172.320; In animal feeds -582.156
- **Monosodium phosphate (sodium phosphate, monobasic)** - GRAS/FS, GMP, X-ref - sodium phosphate (monobasic) & sodium phosphate (mono-, di-, and tribasic), MISC -182.1778, DS - 182.5778, SEQ - 182.6085, 182.6778, NUTR - 182.8778; Part 133 (133.173, 133.174), Cheeses, Various; Part 150 (150.141, 150.161), Art Sw Jellies, Jams & Preserves; < 0.5% - In frozen eggs - 160.110; Part 163 (163.123, 163.130, 163.135, 163.140, 163.145, 163.150, 163.153, 163.155), Chocolate Products
- **Monosodium phosphate derivatives of mono- & diglycerides of edible fats or oils, or edible fat-forming fatty acids** - EMUL, GRAS, GMP - 184.1521
- **Morantel Tartrate** - FEED/VET, REG, 1.2 ppm - As res in uncooked edible cattle muscle tissue - 556.425; 2.4 ppm As res in cattle liver - do; 3.6 ppm - As res in cattle kidney do; 4.8 ppm - As res in fat - do; 0.4 ppm - As res in milk do; Use: As bolus - 520.1450; In cattle feed - 558.360; As sustained release triaminate cylinder sheet - 520.1450c
- **Morpholine** - CTG, REG, GMP, As the salt(s) of one or more fatty acids meeting 172.860 specs as comp of protective coatings applied to fresh fruits & veg - 172.235; BC, REG, 10 ppm in steam - Except in steam in contact w/milk or milk pdts - 173.310
- **Mullein flowers** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Musk (tonquin musk)** - MISC, GRAS - 182.50
- **Mustard, brown or black** - SP, GRAS - 182.10
- **Mustard, white or yellow** - SP, GRAS - 182.10
- **Myristic acid** - CTG, REG, GMP - 172.210; NUTR, GMP -172.860; AF used to process sugar beets and yeast -173.340
- **Myristyl alcohol, synthetic** - MISC, REG, GMP, See fatty alcohols, synthetic - 172.864

- **Myrj 45 (polyoxyethylene 8-stearate) - EMUL, ILL, (No petition filed) Use in foods unauthorized**
- **Myrrh** - FL/ADJ, REG, GMP, In conjunction w/flavors only -172.510
- **Myrtle leaves** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510

## N

- **Naphtha** - SOLV, in color additive mixtures for shell eggs, w/o penetration of color to interior of shell - 73.1
- **Narasin** - FEED, REG, Use: In broiler chicken feeds - 58.363
- **Naringin** - ESO, GRAS - 182.20
- **NDGA - AOX, ILL, See Nordihydroguaiaretic acid -189.165**
- **Natamycin (pimaricin)** - FUNG, REG, applied on cheese as an antimycotic not to exceed 20 milligrams per kilogram (20 ppm) in the finished product -172.155
- **Natural Flavoring Substances** - see individual flavoring or go to 172.510 for complete list
- **Natural gas** - x-ref combustion product gas - 173.350
- **Neomycin** - VET, REG, 0.15 ppm neg res - As res in milk - 556.430; Use - 520.455; 0.25 ppm neg res - As res in edible tissues of calves - do; Use - 520.1484
- **Neotame** - NNS, REG, GMP, Sweetening agent and flavor enhancer in foods generally, except in meat in poultry, and in sugar substitute tablets - 172.829
- **Nequinat** - FEED, REG, 0.1 ppm neg res - As res in uncooked edible tissue of chickens - 556.440; Use in chicken feeds - 558.365
- **Neroli, bigarade** - ESO, GRAS - 182.20
- **Niacin** - NUTR/DS, GRAS/FS - 182.5530, 184.1530; Part 137 (137.165, 137.185, 137.235, 137.260, 137.305, 137.350) Cereal Flours; Part 139 (139.115, 139.117, 139.122, 139.155, 139.165), Macaroni & Noodle Pds; 136.115, Enriched Bread
- **Niacinamide** -NUTR/DS, GRAS/FS -182.5535, 184.1535; Part 137 (137.165, 137.185, 137.235, 137.260, 137.305, 137.350), Cereal Flours; Part 139 (139.115, 139.117, 139.122, 139.155, 139.165), Macaroni & Noodle Pds; 136.115, Enriched Bread
- **Nicotinamide-ascorbic acid complex** - DS, REG, In multi-vitamin preps as source of ascorbic acid & nicotinamide - 172.315
- **Nicarbazin** - FEED, REG, 4 ppm - As res in uncooked muscle, liver, skin, & kidney of chickens - 556.445; Use in chicken feeds - 558.366
- **Nickel** - GRAS, GMP - 184.1537



- **Nisin preparation** - MISC, GRAS - 184.1538; < 250 ppm -Antimicrobial in Cheese pdts, Part 133 (133.175., 133.176, 133.179, 133.180)
- **Nitarson** - FEED, REG, 0.5 ppm as arsenic - As res in muscle meat & eggs of chicken - 556.60; Use: Feeds -558.369
- **Nitrites (sodium and potassium)** - X-ref sodium nitrite & potassium nitrite, PRES, PS, curing red meat & poultry pdts -181.34
- **Nitrofurazone** - VET, REG, NOT PERMITTED FOR USE IN ANIMAL FEEDS - USE WITHDRAWN 8/23/91
- **Nitrogen** - MISC, GRAS/FS - 184.1540; Part 169 (169.115, 169.140, 169.150), Dressings for Foods; Part 582.1540 - Animal Feeds
- **Nitrogen oxides** - BL, FS, Part 137 (137.105, 137.155, 137.160, 137.165, 137.170, 137.175, 137.180, 137.185), Cereal Flours
- **3-Nitro-4-hydroxyphenylarsonic acid (Roxarsone)** FEED, REG, 0.5 ppm as arsenic - In muscle meat & eggs of chickens as res - 556.60; 2.0 ppm as arsenic - As res in edible by-products, turkeys, & swine - 556.60; 0.5 ppm as arsenic - As res in muscle tissue & by-products other than liver & kidney - 556.60; For feed uses see: 558.530, 558.55, 558.58, 558.76, 558.78, 558.128, 558.376, 558.450, 558.410, 558.680
- **Nitroimide w/Sulfanitran** - FEED, REG, ZERO res for Nitroimide - As res in uncooked edible chicken tissue -556.220; Use in chicken feeds - 558.376
- **Nitrosyl chloride** - BL, FS, GMP, Part 137 (137.105, 137.155, 137.160, 137.165, 137.170, 137.175, 137.180, 137.185, 137.200, 137.205), Cereal Flours
- **Nitrous oxide** - MISC, GRAS, Propellant for dairy & veg-fat toppings in pressurized containers - 184.1545
- **Nonanoic acid** - SANI, REG - 178.1010
- **alpha-(p-Nonylphenyl)-omega-hydroxypoly(oxyethylene)** - SANI, REG, GMP, Adequate drainage
- **Nordihydroguaiaretic acid (NDGA)** - AOX, ILL, *Not legal for use in foods - 189.165*
- **Novobiocin** - FEED/VET, REG, 0.1 ppm - In milk from dairy animals - 556.460; 1.0 ppm - In uncooked edible tissues of cattle, chickens, turkeys, & ducks - 556.060; Uses in chicken, turkey, & duck feeds - 558.415; 525.1590
- **Nutmeg** - ESO/SP, GRAS - 182.10
- **Nystatin** - FEED, REG, ZERO - In eggs of poultry & in uncooked edible tissues & by-products of swine & poultry from use in feed as res - 556.470; Use in chicken & turkey feeds - 558.430

**0**

- **Oak moss** - FL/ADJ, REG, GMP, Thujone free Comp of flavors - 172.510
- **Oak, white, chips** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Oak, (English), wood** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Oat gum** - STAB, GRAS, GMP, Part 135.30, Frozen Desserts; Part 133 (133.178, 133.179, 133.180), Cheese Pdts
- **Octadecylamine** - BC, REG, < 3.0 ppm in steam Excluding use of such steam in contact w/milk & milk pdts -173.310
- **Octafluorocyclobutane** - MISC, REG, GMP, Propellent for food pdts - 173.360
- **n-Octanoic (caprylic) acid** - X-ref caprylic acid, MISC, GRAS 184.1025; < 0.013% baked pdts, < 0.04% cheeses, < 0.005% fats & oils, 0.016% snack foods, < 0.001% all other food categories - 182.1025; CTG, GMP, fresh citrus fruit, 172.210; MISC, REG, GMP, 172.860; part of aliphatic acid mixture < 1.0% lye peeling soln for fruits & vegs, 173.315; AF, REG, in processing beet sugar & yeast, 173.340; SANI, REG, 109-218 ppm - Comp of sanitizing solution - 178.1010; PRES, GRAS, GMP, in cheese wraps -186.1025
- **1-Octenyl succinic anhydride**-MISC, REG, < 3.0% alone or < 2.0% w/ < 2.0% aluminum sulfate - Modifier for food starch - 172.892; SANI - 178.1010
- **n-Octyl alcohol** - AF, REG, GMP, Comp of microcapsules -172.230
- **Octyl alcohol, synthetic** - MISC, REG, GMP, See Fatty alcohols, synthetic - 172.864; SOLV, REG, extraction process for citric acid - 172.280
- **Octyldimethylamine and a mixture of n-carboxylic acids** - SANI, REG - 178.1010
- **Octyl gallate** - PRES, REG, <0.0075% in margarine -166.110
- **Oil of saffras** - FL/ADJ, **BAN - Illegal for use in foods 189.180**
- **Oil of saffras, safrole free** - FL/ADJ, REG, GMP, Flavoring in food, See section 172.580 for specs
- **Oleandomycin** - FEED, REG, 0.15 ppm - As res in edible tissues of chickens, turkeys & swine - 556.480; Uses -558.435
- **Oleic acid** - MISC, REG, GMP - In foods as a lubricant, binder, & defoaming agent & as comp in mfr of other "food grade" additives - 172.840, 172.860, 172.863; CTG, GMP, fresh citrus fruit, 172.210; MISC, REG, < 1.0 ppm in flume water - Used in flume water for washing sugar beets prior to slicing operation - 173.315; GRAS, GMP, substance migrating from cotton in dry food pkg - 182.70; GRAS, GMP, substance migrating to food from paper pdts - 182.90
- **Oleic acid derived from tall oil fatty acids** - MISC, REG, GMP - As a comp in mfr of food-grade additives - 172.862; CTG, GMP, on fresh citrus fruit, 172.210; AF, GMP, in

processing beet sugar & yeast - 173.340

- **Olestra** - REG, May be used in place of fats and oils in prepackaged ready-to-eat savory snacks, and prepackaged, unpopped popcorn kernels that are ready-to-heat. In such foods, the additive may be used in place of fats and oils for frying or baking, in dough conditioners, in sprays, in filling ingredients, or in flavors - 172.867
- **Olibanum oil** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Onion** - ESO, GRAS - 182.20
- **Opopanax** - FL/ADJ, REG, GMP, In conjunction w/flavors 172.510
- **Orange-bitter, flowers, peel**-ESO, GRAS - 182.20
- **Orange-sweet, leaf, flower, peel** - ESO, GRAS - 182.20
- **Oregano (origanum, Mexican oregano, Mexican sage, organ)** - SP, GRAS - 182.10
- **Origanum** - ESO, GRAS - 182.20
- **Ormetoprim (2,4-Diamino-5(6-methylveratryl)pyrimidine)** - FEED, REG, 0.1 ppm - As res in edible tissues of chickens, ducks, turkeys, salmonids & catfish - 556.490; Use in animal feed w/sulfadimethoxine - 558.575
- **Orris root** -FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Ox bile extract** - EMUL, GRAS, GMP, < 0.002% cheese -184.1560
- **Oxides of nitrogen** - BL, FS, GMP, Part 137, Cereal Flours
- **Oxfendazol** - VET, REG, Use: As suspension for cattle -520.1630; 0.8 ppm - As res in cattle; liver (target tissue) -556.495
- **Oxystearin** - INH, REG, 0.125% comb wt of oil, plus the additive - In cottonseed & soybean cooking & salad oils -172.818; INH, REG/FS, Part 169, Dressings for Foods; AF, REG, GMP, Comp of defoamer - 173.340
- **Oxytetracycline** - FEED/VET, REG, 3 ppm - As res in uncooked kidneys of chickens & turkeys - 556.500; 1 ppm -In uncooked muscle, liver, fat & skin of chickens & turkeys as res - 556.500; 0.1 ppm neg res - In uncooked edible tissues of salmonids, catfish, & lobsters as res - 556.500; 0.1 ppm neg res - In uncooked edible tissue of swine & beef cattle as res - 556.500; For feed uses, see: 558.450, 558.515, Injection - 522.1660; For use in drinking water of chickens in combination with Carbomycin -520.1660a; For use in tabs in cattle - 520.1660c; Use: As soluble powder - 520.1660d
- **Ozone** - STERL, REG, GMP (< 0.4 mg/1l bottled water), Sterilizing bottled water - 184.1563 For use as an antimicrobial agent in the treatment, storage, and processing of foods, including meat and poultry - 173.368.

**P**

- ***P-4000 (5-nitro-2-n-propoxyaniline) - NNS, ILL - Not legal in food - 189.175***
- **Palmarosa** - ESO, GRAS - 182.20
- **Palmitic acid** - MISC, REG, GMP - In foods as a lubricant, binder, & defoaming agent & as comp in mfr of other "food grade" additives - 172.860; CTG, GMP, fresh citrus fruit, 172.210; AF, GMP, in the processing of foods - 173.340
- **Pansy** - FL/ADJ, REG, GMP, In alcoholic beverages only -172.510
- **D-Pantothenamide** - NUTR, REG, GMP, In foods for sp diet use - 172.335
- **D-Panthenyl alcohol** - NUTR/DS, GRAS, GMP - 82.5580
- **Papain** - MISC, GRAS/FS, GMP - 184.1585; 137.305 Enriched Farina; Part 136 - Enriched Bread; Part 582.1585 - Animal feeds
- **Paprika** - SP/ESO, GRAS - 182.10; color additive, GMP -73.340
- **Paprika oleoresin** - ESO, GRAS - 182.20; color additive, GMP -73.345
- **Paraffin wax (X-ref: Wax)** - MISC, REG, Comp of chewing gum base - 172.615
- **Parsley** - SP/ESO, GRAS - 182.20
- **Passion flower** - FL/ADJ, REG, GMP - In conjunction w/flavors - 172.510
- **Patchouly** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Peach kernel (persic oil)** - NAT, SP/FL/ADJ, GRAS -182.40
- **Peach leaves** - FL/ADJ, REG, GMP, In alcoholic beverages only, < 25 ppm prussic acid in the flavor - 172.510
- **Peanut oil** - GRAS, GMP, substance migrating from cotton in dried food pkg - 182.70
- **Peanut stearine** - NAT, SP/FL/ADJ, GRAS - 182.40
- **Pectins (including pectin modified)** - EMUL, STAB, GRAS, GMP - 184.1588; sodium methyl sulfate may be present in pectins < 0.1%, 173.385; Part 145, Cnd Fruit; Part 150, Fruit Butters, Jellies & Preserves
- **Pelargonic acid** - MISC, REG, < 1.0% aliphatic acids - In peeling solution for fruits & vegs - 173.315
- **Penicillin** - FEED/VET, REG, 0.05 ppm neg res - Res in uncooked edible tissue of cattle - 556.510; ZERO - Res in uncooked edible tissues of chickens, pheasants, quail, sheep & swine; In eggs & in milk or in processed food in which milk has been used - 556.510; 0.01 ppm - Res in uncooked edible tissues of turkeys - do; For feed uses, see: 558.55, 558.58, 558.62, 558.76, 558.78, 558.105, 558.274, 558.505; Other - 520.1660, 522.1662
- **Penicillium roquefortii** - MISC, FS, Part 133 - Cheeses

- **Pennyroyal (American)** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Pennyroyal (European)** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Pentaerythritol ester of maleic anhydride modified wood rosin** - CTG, REG, GMP, Coating on fresh citrus fruit - 172.210
- **Pentaerythritol ester of rosin** - X-ref - Rosin
- **Pepper, black, white** - SP/ESO, GRAS - 182.10, 182.20
- **Pepper, cayenne, red** - SP, GRAS - 182.10
- **Peppermint** - SP/ESO, GRAS - 182.10, 182.20
- **Pepsin** - ENZ, < 0.1% by wt in Enriched Farina - 137.305
- **Peptones** - NUTR/SUPPL, GRAS, GMP, Processing aid & surface acting agent - 184.1553
- **Peracetic acid** - MISC, REG, Modifier for food starch, < 0.45% of active oxygen - 172.892; SANI, < 200 ppm -178.1010
- **Perfluorohexane** - MISC, REG, GMP, Mixture containing 1% perfluorohexane used to cool or freeze chickens -173.342
- **Periodic acid** - MISC, GMP, Fixing agent for the immobilization of enzyme preparations - 173.357
- **Peroxyacetic acid** - MISC, REG, For washing fruits and vegetables that are not raw agricultural commodities at levels < 80 ppm in wash water - 173.315
- **Peroxyacids** -REG, Antimicrobial agent on red meat carcasses, parts, trim, and organs with maximum concentration of 220 ppm as peroxyacetic acid and maximum concentration of hydrogen peroxide of 75 ppm. - 173.370
- **Persic oil (see apricot/peach kernel oil)** - NAT, SP/FL/ADJ, GRAS - 182.40
- **Peruvian balsam** - ESO, GRAS - 182.20
- **Petigrain (citrus aurantium) lemon, mandarin, or tangerine** - ESO, GRAS - 182.20
- **Petrolatum NF & USP** - FEED, REG, 3.0% in mineral suppls or 0.06% in total ration - In animal feeds & mineral suppls to reduce dustiness & lubricant in pelleting, cubing or blocking feeds alone or comb/w white mineral oil - 573.720; CTG, REG, GMP, Coating for raw fruits & vegs - 172.880; AF, REG, in yeast & beet sugar - Comp of defoaming agent - 173.340;MISC, REG, < 0.2% - Release agent in confectionery - 172.880; < 0.15% - In bakery pdt as a release agent & lubricant, alone or comb/w white mineral oil - do; < 0.1% - In egg white solids from use as a release agent in drying pans - do; < 0.02% - In dr fruits & vegs from use as a release agent in drying pans - do

- **Petroleum hydrocarbons (Synthetic isoparaffinic)** MISC, REG, GMP, As ctg on shell eggs - 172.882; In froth-flotation cleaning of vegs - do; As a float on fermentation fluid as in mfr of vinegar, wine & pickle brine - do; As a comp of ctg of fruits & vegs - 172.882; AF, REG, Comp of defoaming agent in yeast & beet sugar - 173.340; SOLV, REG, GMP (< 0.47 ppm of citric acid) comp solv for extraction of citric acid from *Aspergillus niger* fermentation;
- **Petroleum hydrocarbons, odorless, light** - AF, REG, GMP, As defoamer in processing beet sugar & yeast -172.884, 173.340; MISC, REG, < 1.0 ppm - In modified hop extract of beer - 172.560; MISC, REG, GMP, As a float on fermentation fluids in mfr of vinegar & wine; In froth-flotation cleaning of vegs; As ctg on shell eggs - 172.884; In pest formulations - 172.884, 573.740
- **Petroleum naphtha** - SOLV, REG, GMP, Ctg on fresh citrus -172.210, 172.250
- **Petroleum wax** - AF, REG, in beet sugar & yeast, 173.340; MISC, REG, GMP, In chewing gum base & in other foods -172.615, 172.886; CTG, REG, GMP, Coating on cheese & fruits & vegs, 172.886; MISC, REG, < 50% of total wt of capsule & flavor - Comp of microcapsule for spice flavor for frozen pizza - 172.230, 172.886
- **Petroleum wax, synthetic** - CTG, REG, GMP, On cheese & raw fruits & vegs - 172.888; MISC, REG, GMP, In chewing gum base - 172.615, 172.888; AF, REG, in beet sugar & yeast - Comp of defoaming agent - 173.340
- **Phenol-formaldehyde, cross-linked, tetraethylenepentamine activated** - Ion exchange resin for treatment of food or potable water - 173.25
- **Phenol-formaldehyde, cross-linked, triethylenetetramine activated** - Ion exchange resin for treatment of food or potable water - 173.25
- **Phenol-formaldehyde, cross-linked, triethylenetetramine and tetraethylenepentamine activated** - Ion exchange resin for treatment of food or potable water -173.25
- **Phenol-formaldehyde, sulfite-modified, cross-linked** Ion exchange resin for treatment of food or potable water -173.25
- **Phenylalanine, (L-form only)** - NUTR/DS, REG, Food Additive Reg - 172.320
- **Phosphoric acid** - MISC, GRAS/FS, GMP - 182.1073; 131.144, Acidified Skim Milk; Part 133 (133.123, 133.124, 133.125, 133.129, 133.147, 133.169, 133.170, 133.171, 133.173, 133.174, 133.178, 133.179, 133.180) Cheese; SANI, REG, 178.1010; Part 582.1073 - In animal feed practices
- **Phosphorus oxychloride** - MISC, REG, < 0.1% w/ < 10% propylene oxide - In modifying food starch. Residual propylene chlorohydrin < 5 ppm - 172.892; < 0.1% or < 0.1% followed by either < 8% acetic anhydride or < 7.5% vinyl acetate - In modifying food starch, < 2.5% acetyl groups -172.892

- **Pichia pastoris yeast** - 573.750
- **Pimenta oil, pimenta leaf** - ESO, GRAS - 182.20
- **Pine, dwarf, needles & twigs** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Pine, scotch, needles & twigs** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Pine, white, bark** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Pine, white oil** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Pipsissewa leaves** - ESO, GRAS - 182.20
- **Poloxalene** - FEED, REG, GMP, In molasses block & as feed additive in dry premixes to be fed to cattle for control of legume (alfalfa, clover) bloat - 558.464 & 520.1840; GMP, As liquified feed suppl - 558.465; < 0.32 oz/ton of feed - As a surfactant in flaking of feed grains - 573.760
- **Poly(acrylic acid-co-hypophosphite) sodium salt** - BC, REG, < 1.5 ppm - As a boiler water additive - 173.310
- **Polyacrylamide** - MISC, REG, GMP, As a film former ctg < 0.2% acrylamide monomer in the imprinting of soft-shell gelatin capsules - 172.255; < 10 ppm & < 0.2% acrylamide monomer in wash water for fruits & vgs - 173.315
- **Polyacrylamide resin, modified** - MISC, REG, < 5 ppm by wt of juice - Used as flocculent in the clarification of beet or cane sugar juice - 173.10
- **Poly(alkyl methacrylate)** - MISC, REG, GMP, Adjuvant in production of petroleum wax - 172.886
- **Polydextrose** - MISC, REG, GMP, As bulking agent, formulation aid, humectant, & texturizer in baked goods & baking mixes (fruit, custard, & pudding filled pies, cakes, cookies, & similar baked pdt only), chewing gums, confections, frostings & salad dressings, frozen dairy desserts & mixes, gelatins, puddings, fillings, hard & soft candy, film coating on single and multiple vitamin and mineral supplement tablets, where standards permit, pdts w/single serving ctg < 15 g polydextrose should have warning label for sensitive individuals to laxation effect - 172.841
- **Polyethylene** - FEED, REG, 0.5 lb per head per day for 6 days - As roughage replacement in feedlot rations for cattle - 573.780
- **Polyethylene, mol. wt. 2,000 - 21,000** - MISC, REG, As constituent of chewing gum base - 172.615; Ion exchange resin material in mfr of grapefruit juice - 173.20
- **Polyethylene, oxidized** - CTG, REG, GMP, On fresh citrus fruits, vgs & nuts - 172.260
- **Polyethylenimine reaction product with 1,2-dichloroethane** - MISC, GRAS, GMP, Fixing agent in the mfr of fructose corn syrup. Fixing agent for the immobilization of

- glucoamylase enzyme preparations from *Aspergillus niger* for use in the manufacture of beer - 173.357.
- **Polyoxyethylene (600) dioleate** - AF, REG, Defoamer agent comp in beet sugar & yeast - 173.340
  - **Polyoxyethylene (600) monoricinoleate** - AF, REG, Defoamer agent comp in beet sugar & yeast - 173.340
  - **Polyoxyethylene (23) lauryl ether** - Feed (Block), REG, Use: For bloat in cattle in block - 520.1846;
  - **Polyethylene glycol** - BC, REG, GMP, In boiler water -173.310; AF, REG, GMP, Comp of defoaming agent -173.340; CTG, REG, GMP, Ctg on fresh citrus fruits -172.210
  - **Polyethylene glycol (mean molecular weight 200 -9,500)** - MISC, REG, GMP, Ctg, binder, plasticizing agent, and/or lubricant in tabs used for food; Adjuvant in nonnutritive sweeteners, vitamin & mineral preps; Ctg for sodium nitrite to inhibit hygroscopic properties - 172.820; ZERO - In milk - 172.820, 526.820
  - **Polyethylene glycol (400) dioleate** - EMUL, REG, < 10% by wt. of defoamer formulation - Processing beet sugar & yeast - 173.340
  - **Polyethylene glycol (400) mono- & di- oleate** - Feed, REG, 250 ppm in molasses - Used as a processing aid in the production of animal feeds when present as a result if its addition to molasses - 573.800
  - **Polyglycerol esters of fatty acids** - EMUL, REG, GMP, Used as emulsifiers in food or as cloud inhibitors in veg & salad oils where not precluded by standards - 172.854; 166.110 - Margarine, Part 169 (169.115, 169.140, 169.150) - Food Dressings
  - **Polyisobutylene (minimum molecular weight 1,200-2,500)** - MISC, REG, GMP, In chewing gum base - 172.615
  - **Polyglyceryl phthalate ester of coconut oil fatty acids** PEST, REG, GMP, Adjuvant for pesticide use - 172.710
  - **Polymaleic acid and/or its sodium salts** - BC, REG, < 1 ppm in boiler feed water - Boiler water additive - 173.310; Specific uses: Boiler water additives, use individually or together at not greater than 4 ppm in processing of beet or cane sugar juice or liquor process steam - 173.310, 173.45
  - **Polyoxyethylene glycol (400) mono- & di- oleates** -EMUL, REG, In milk replacer formulations for calves -573.820
  - **Polyoxyethylene (23) lauryl ether** - FEED, REG, Use: In feed blocks for cattle - 520.1846
  - **Polyoxyethylene (40) monostearate** -AF, REG, Defoaming agent comp - 173.340



- **Polyoxyethylene-polyoxypropylene block polymers (avg molecular weight 1900)** - SANI, REG, GMP, Adequate drainage - 178.1010
- **Polyoxyethylene-polyoxypropylene block polymers (avg molecular weight 2000)** - SANI, REG, GMP, Adequate drainage; May be used on glass containers for holding milk - 178.1010
- **Polyoxyethylene-polyoxypropylene block polymers (avg molecular weight 2800)** - SANI, REG, < 80 ppm in soln - Adequate drainage - 178.1010
- **Polyoxyethylene (20) sorbitan monooleate** - See Polysorbate 80 - 172.840
- **Polyoxyethylene (20) sorbitan monostearate** - See Polysorbate 60 - 172.836
- **Polyoxyethylene (20) sorbitan tristearate** - See Polysorbate 65 - 172.838
- **Polyoxypropylene glycol (Minimum molecular weight 1000)** - BC, REG, GMP, In boiler water - 173.310
- **Polypropylene glycol (Molecular weight 1200-3000)** AF, REG, Defoaming agent comp used in beet sugar & yeast - 173.340
- **Polysorbate 60 (Polyoxyethylene (20) sorbitan monostearate)** - EMUL, REG, < 0.40% alone or w/one or comb of sorbitan monostearate, Polysorbate 80, Polysorbate 65 In whipped veg oil topping. Total amount any comb < 0.77% - 172.836; REG, < 0.46% alone or any w/sorbitan mono-stearate Polysorbate 65 - In cake mixes & cakes (dry wt basis). Total amt any comb < 0.66% - do; REG, < 0.5% of wt of finished pdts alone or in comb w/sorbitan mono-stearate - Part 163 (163.123, 163.130, 163.135, 163.140, 163.145, 163.150, 163.153, 163.155), Cocoa Pdts - do; REG, < 0.46% alone or any comb w/Sorbitan monostearate &/or Polysorbate 65 - In cake icing &/or cake filling containing shortening - do, Total amt any comb < 1.0% of finished wt; MISC, REG, < 0.2% - To impart greater opacity to sugar-type confectionery coatings - do; EMUL, REG, < 0.3% - In non-standardized dressings - do; REG, < 1.0% alone or comb Polysorbate 80 - In shortening & edible oils intended for use in foods where standards permit - do; REG, < 0.40% alone or/w sorbitan monostearate or/w polysorbate 65 - In veg oil/water emulsion used as milk or cream substitute in beverage coffee - do; REG, < 4.5% by wt of nonalcoholic mix - As foaming agent in nonalcoholic beverages used in mixing - do; REG/FS, 0.5% by wt of flour alone or w/other emul - As a dough conditioner in yeast-leavened bakery pdts, 136.3 - do; EMUL, REG, GMP, Alone or w/sorbitan monostearate in formulations of white mineral oil &/or petroleum wax for ctgs on raw fruits & vegs - do; REG, 0.5% dry wt. basis - As dispersing agent in art sw gelatin desserts & mixes - do; REG, Total amt comb < 1.0%; < 0.05% in finished pdt - As emulsifier in chocolate flavored syrups - do; REG, As surfactant & wetting agent for natural & artificial colors in food; < 4.5% by wt of mix - In powdered soft drink mixes; < 0.5% by wt of mix - In sugar base gelatin dessert mixes; < 3.6% by wt. of mix - In art sw gelatin dessert mixes; < 0.5% by wt. of mix - In sugar based pudding mixes; < 0.5% by wt. of mix - In art sw pudding mixes - do; < 0.1% alone or w/one or comb

- of polysorbate 65 and/or polysorbate 80 - In ice cream, frozen sherbet and non-standardized frozen desserts; REG, < 0.1% followed by either < 8% acetic anhydride or < 7.5% vinyl acetate - In modifying food starch < 2.5% acetyl groups - 172.892; AF, REG, GMP, Defoaming agent comp - 173.340; REG, diluent for color additive mixtures for drug use exempt from certification - 73.1001; FEED, REG, GMP alone or comb/ Sorbitan monostearate - In mineral premixes or diet suppl for animal feeds - 573.840
- **Polysorbate 65 (Polyoxyethylene (20) sorbitan tristearate)** - EMUL, REG/FS, < 1.0% alone or w/Polysorbate 80 - Part 135, Frozen Desserts; Non-standardized Frozen Desserts - 172.838; REG, < 0.32% alone or any comb w/Polysorbate 60 &/or Sorbitan monostearate - In cake or cake mix on a dry wt basis - total amt any comb < 0.66% -do; REG, < 0.40% alone or w/one or comb of Sorbitan monostearate, Polysorbate 60, or Polysorbate 80 - In whipped edible oil topping - do; Total comb < 0.40%; REG, < 0.32% alone or any comb w/Polysorbate 60, Sorbitan monostearate - In cake icing or cake filling - do; Total amt any comb < 1.0% of finished wt; REG, 0.40% alone or w/sorbitan monostearate or w/Polysorbate 60 - In veg fat-water emulsion used as milk or cream substitute in beverage coffee - do; AF, REG, GMP, Defoaming agent compound - 173.340; REG, diluent for color additive mixtures for drug use exempt from certification - 73.1001
  - **Polysorbate 80 (Polyoxyethylene (20) sorbitan monooleate)** - EMUL, REG/FS, < 0.1% alone or with Polysorbate 65 - Part 135, Frozen Desserts - 172.840; AF, REG, < 4 ppm, Used as yeast defoaming agent - do; SDA, REG, < 500 ppm (0.05%) - In pickles & pickle products - do; SDA, REG, < 175 mg/day based on recommended daily dose - In vitamin-mineral preps containing calcium caseinate w/o fat-soluble vitamins - do; < 300 mg/day - In fat-soluble vitamins in vitamin & vitamin-mineral preps w/o calcium caseinate; < 475 mg/day - In vitamin-mineral preps containing both calcium caseinate & fat-soluble vitamins; MISC, REG, < 10 ppm in finished sodium chloride - As a surfactant in pdtn of coarse crystal sodium chloride - do; EMUL, REG, < 360 mg/day - In sp diet foods - do; SDA, REG, < 30 ppm - For dill oil in cnd spiced green beans, Part 155, Cnd Veggies - do; EMUL, REG, < 1.0% alone or comb/ Polysorbate 60 - In shortening & edible oils - do; EMUL, REG, < 0.40% alone or comb/Sorbitan monostearate, Polysorbate 60, or Polysorbate 65 - In whipped veg oil topping - do; REG, < 0.0175% - In scald water for poultry defeathering followed by potable water rinse - do; SDA, REG, < 0.082% on dry wt basis - As dispersing agent in gelatin desserts & gelatin dessert mixes - do; REG, As an adjuvant added to herbicide or plant-growth regulator dilutions prior to their application - do; AF, REG, < 0.008% by wt of finished pdt - In creaming mixture for cottage cheese & low fat cottage cheese as identified in 133.128 & 133.131 - do; REG, < 0.005% by wt of sauce - As surfactant & wetting agent for natural & art colors in barbecue sauce - do; REG, In milk replacer formula for calves - 573.860
  - **Polysorbate 80 w/ carrageenan or carrageenan salts** -MISC, REG, < 5% Polysorbate 80 - In carrageenan or its salts - 172.623; < 500 ppm Polysorbate 80 - In

finished food containing additive - 172.623

- **Polyvinyl Acetate (molecular weight 2000 minimum)** -MISC, REG, Comp of chewing gum base - 172.615; REG, diluent for color additive mixtures for drug use exempt from certification - 73.1
- **Polyvinylpyrrolidone** - MISC, REG, Clarifying agent in beverages & vinegar to be removed with filtration -173.50
- **Polyvinylpyrrolidone (avg molecular weight 40,000, except in beer)** - MISC, REG, < 10 ppm (average molecular weight 360,000) - In beer from use as a clarifying agent 173.55;< 40 ppm - In vinegar - do; REG, < 60 ppm - In wine from use as a clarifying agent - do; REG, GMP, As tableting adj in NNS & flavor, vitamin & mineral concentrates in tab form - do; MISC, REG, GMP, Stab, lodging agent & dispersant in NNS in conc liquid form or in vitamin & mineral concentrates in liquid form - do; ADJ, REG, GMP, As an adj w/ vinyl chloride, vinylidene chloride copolymer for ctg on fresh citrus fruit - 172.210; REG, diluent for color additive mixtures for drug use exempt from certification -73.1, 73.1001
- **Poly(2-vinylpyridine-co-styrene)** - FEED, CTG - Coating agent for nutrients for cattle - 573.870
- **Pomegranate** - ESO, GRAS - 182.20
- **Poplar buds** - FL/ADJ, REG, GMP, In alcoholic beverages only - 172.510
- **Poppy seed** - SP, GRAS - 182.10
- **Pot marigold** - SP, GRAS - 182.10
- **Pot marjoram** - SP, GRAS - 182.10
- **Potassium acetate** - B&N, FS - Unlisted GRAS
- **Potassium acid tartrate** - B&N/MISC, GRAS, GMP -184.1077; Part 150 (150.141, 150.161), Art Sw Jelly & Preserves; Part 582.1077 - In animal feeds
- **Potassium alginate** - STAB, GRAS - Stabilizer & thickener, < 0.1% in confections & frostings, < 0.7% in gelatins & puddings, < 0.25% in processed fruits & fruit juices, < 0.01 % in all other food categories - 184.1610
- **Potassium alum** - MISC, FS, Part 137, Flour; REG, used as comp of bleaching agent for dairy pdts in cheese prepn in Part 133 (133.102, 133.103, 133.104, 133.106, 133.111, 133.141, 133.165, 133.181, 133.195)
- **Potassium bicarbonate** - B&N/MISC, GRAS/FS, GMP -184.1613, Part 163 (163.110, 163.111, 163.112, 163.114, 163.117), Cacao Pdts; Part 582.1613 - In animal feeds
- **Potassium bisulfite** -PRES, GRAS/FS, GMP, Restrictions: Not in meats, foods recognized as source of Vitamin B1 , raw fruit & veg (incl fresh potatoes, i.e., not frozen,

end or dehydrated) - served fresh - 182.3616

- **Potassium bromate** - BL, FS, < 75 ppm added to whole wheat flour; 50 ppm in white flour - Part 137 (137.155, 137.205), Cereal Flours; Part 136 (136.110, 136.115, 136.130, 136.160, 136.180), Bakery Pdts; MISC, REG, < 75 ppm calc as bromine - In malt for pdtn of fermented malt beverages or distilled spirits - 172.730
- **Potassium bromide** - SANI, REG, < 200 ppm available halogen - Adequate drainage - 178.1010; MISC, REG, For washing fruits & vgs - 173.315
- **Potassium caprate** - MISC, REG, GMP - 172.863
- **Potassium caprylate** - MISC, REG, GMP - 172.863
- **Potassium carbonate** - B&N/MISC, GRAS/FS, GMP -184.1619; Part 163, Cocoa Pdts; Used in treatment of modified hop extract - 172.560; BC, REG - 173.310; Part 582.1619 - In animal feeds - 184.1619
- **Potassium caseinate** - MISC, FS, Part 135 (135.110, 135.140), Frozen Desserts
- **Potassium chloride** - MISC, GRAS/FS - 184.1622; Part 150 (150.141, 150.161), Art Sw Jelly & Preserves, Added to margarine - 166.110; DS/NUTR, GRAS, GMP - 182.5622
- **Potassium citrate** - MISC, GRAS/FS, GMP - 182.1625; SEQ, GRAS, GMP - 182.1625; Part 133 (133.169, 133.173, 133.179), Cheese; Part 150 (150.141, 150.161), Art Sw Jelly & Preserves; Part 582.1625 - In animal feeds
- **Potassium cyclamate** - *NNS, ILL, Removed from GRAS list 10-21-69 - 189.135*
- **Potassium dichloroisocyanurate** - SANI, REG, < 100 ppm available halogen - Adequate drainage - 178.1010
- **Potassium fumarate** - REG, GMP, sp diet - 172.350
- **Potassium gibberellate** - REG, < 2 ppm as gibberellic acid in malting barley - 172.725
- **Potassium gluconate** - MISC, FS, GMP
- **Potassium glycerophosphate** - DS, GRAS, GMP -182.5628; NUTR, GRAS, GMP - 182.8628
- **Potassium hydroxide** -B&N/MISC, GRAS/FS -184.1631; Part 163, Cacao Products; Part 582.1631 - In animal feeds
- **Potassium hypochlorite** - SANI, REG, < 200 ppm available halogen as chlorine - Adequate drainage - 178.1010
- **Potassium iodate** - BL/DS, GRAS/FS - 184.1635; < 0.0075% by wt flour - Part 136 (136.110, 136.115, 136.130, 136.160, 136.180), Bakery Pdts; Animal feed; Trace mineral in animal feeds - 582.80

- **Potassium iodide** - NUTR, GRAS, < 0.01% - In table salt as source of dietary iodine - 184.1634; DS, REG, < 225 micrograms daily ingestion - For foods labeled w/o reference to age or physiological state - 172.375; < 45 micrograms daily ingestion for infants - For food when age or the cond of pregnancy or lactation are specified - 172.375; < 105 micrograms daily ingestion for < 4 yrs old; < 225 micrograms daily ingestion for adults & children 4+ yrs old; < 300 micrograms daily ingestion for pregnant or lactating women; Trace mineral in animal feeds - 582.80; SANI, REG, < 25 ppm iodine in soln - Adequate drainage -178.1010
- **Potassium lactate** - MISC, GRAS, GMP, used as flavor enhancer or adjuvant, humectant & pH control agent -184.1639
- **Potassium laurate** - MISC, REG, GMP - 172.863
- **Potassium metabisulfite** - PRES, GRAS/FS, GMP, Restrictions: Not in meats, foods recognized as source of Vitamin B1, raw fruit & veg (incl fresh potatoes, i.e., not frozen, cnd or dehydrated) - served fresh - 182.3617
- **Potassium N-methyldithiocarbamate** - REG, 3.5 ppm in terms of wt of sugar cane being processed - Comp of bacteriostat in controlling microorganisms in cane sugar mills; 4.1 ppm in terms of wt of raw cane or beets - Comp of bacteriostat in controlling microorganisms in cane sugar & beet sugar mills - 173.320
- **Potassium myristate** - MISC, REG, GMP - 172.863
- **Potassium nitrate** - MISC, REG, < 200 ppm of finished roe Used as a curing agent in the processing of cod roe -172.160; PRES, PS, source of nitrite used in pdtn of cured red meat & poultry pdts - 181.33
- **Potassium nitrite** - PRES, PS, source of nitrite used in pdtn of cured red meat & poultry pdts - 181.34
- **Potassium oleate** - MISC, REG, GMP - 172.863
- **Potassium palmitate** - MISC, REG, GMP - 172.863
- **Potassium permanganate** - BL, REG, < 50 ppm calc as manganese - used as bleaching agent in modified food starch - 172.892
- **Potassium persulfate** - REG, GMP, Adj for coatings of fresh citrus - 172.210
- **Potassium phosphate (dipotassium phosphate) (dibasic)** - SEQ, GRAS/FS, GMP - 182.6285; Part 133 (133.169, 133.173, 133.179), Process Cheeses
- **Potassium phosphate (monobasic)** - REG, <0.5% by wt of frozen eggs as a color preservative - 160.110
- **Potassium salts of fatty acids** - MISC, REG, GMP, In foods as binder, emulsifier, & anti-caking agent - 172.863

- **Potassium sorbate** - PRES, GRAS/FS - 182.3640; < 0.3% as sorbic acid - Part 133 (133.123, 133.173, 133.179, 133.180, 133.188) Cheeses; FS, < 0.1% by wt - Part 150 (150.141, 150.161), Fruit Butter & Art Sw Jelly & Preserves; < 0.1% or 0.2% total in combination w/other pres, Margarine & Oleomargarine - 166.110; GRAS, substance migrating to food from paper & paperboard pdts - 182.90
- **Potassium stearate** - MISC, REG, GMP, Specifications -172.863; AF for beet sugar & yeast - 173.340; Comp of chewing gum - 172.615
- **Potassium sulfate** - FL/ADJ, GRAS, GMP - 184.163
- **Potassium trichloroisocyanurate** - SANI, REG, < 100 ppm avail halogen as chlorine - Adequate drainage - 178.1010
- **Potassium triphosphate** - BC, REG, GMP - 173.310
- **Prednisolone** - VET, REG, ZERO - In milk from dairy animals treated with mastitis formulations - 556.520
- **Prednisone** - VET, REG, ZERO - In milk from dairy animals treated with mastitis formulations - 556.530
- **Prickly ash bark** - ESO, GRAS - 182.20
- **Procaine penicillin** - VET, REG, Used as injection in animals - 574.274b et al; 0.05 ppm - Res in uncooked edible tissues of cattle - 556.510; 0.01 ppm - Res in uncooked edible tissues of turkey - 556.510; ZERO - Res in uncooked edible tissues of chicken, pheasants, quail, swine, sheep, in eggs, in milk or any food processed with milk - 556.510
- **Progesterone** - VET, REG, ZERO - No res above stated tolerances in uncooked edible tissues & by-products of lambs & steers - 556.540; Use as implant in combination with estradiol valerate - 522.1940 (**NOT TO BE USED IN VEAL CALVES**)
- **Proline (L form only)** - NUTR/DS, REG, Food Additive Reg - 172.320
- **Propane** - MISC, GRAS, GMP - 184.1655; Combustion product gas - 173.350
- **Propanoic acid** -SANI, REG - 178.1010
- **Propionic acid** - PRES, GRAS/FS, GMP - 184.1081; Part 133 (133.149, 133.195), Propionic acid produced by bacteria, Swiss & Gruyere Cheese
- **Propyl alcohol, normal** - FEED, REG, Used in feeds as a source of metabolizable energy - 573.880
- **Propylene glycol** - MISC, GRAS/FS - 184.1666; Part 169 (169.175, 169.176, 169.177, 169.178, 169.180, 169.181), Vanilla Extract; Carrier for enzyme modified soy protein; Part 582.1666 - In animal feeds
- **Propylene glycol alginate (Propylene glycol ester of alginic acid)** - MISC, REG, stab < 0.5% by wt in frozen dairy desserts, emul/stab/or thickener < 0.5% by wt in baked

- goods, emul/stab/thickener <0.9% by wt in cheeses, in - Part 135, Frozen Desserts; Part 166 Marg; REG, GMP, In processing foods - 172.858; FS, Part 133, Cheeses; Part 169, Dressings; MISC, REG, GMP, Adj for ctg fresh citrus fruit - 172.210
- **Propylene glycol mono- & di- esters of fats & fatty acids** - EMUL, REG/FS, GMP - 172.856; Part 136 (136.110, 136.115, 136.130, 136.160, 136.180), Bakery Pdts; AF, REG, GMP, Defoamer agent compound - 173.340
  - **Propylene oxide** - MISC, REG, < 25% for treatment - In modifying food starch. Residual propylene chlorohydrin < 5 ppm - 172.892
  - **Propyl gallate** - AOX, GRAS, AOX content <0.02% of fat or oil content incl essential oil content of food - 184.1660; Margarine - 166.110; REG, 0.1% alone or/BHA/BHT - Comp of chewing gum base - 172.615; Pressure-sensitive adhesives used as the food contact surface of labels &/or tapes applied to food - 175.125
  - **Propylparaben (propyl-p-hydroxybenzoate)** - PRES, GRAS/FS, GMP - 184.1670; < 0.1%, Part 150, 150.141, 150.161), Art Sw Jelly & Preserves; REG, 0.025%, In mastitis formulations - 526.820; REG, ZERO - In milk from dairy animals - 556.550
  - **Protein concentrate, whole fish** - DS, REG, GMP -172.385
  - **Protein, hydrolyzed** - MISC, FS, Part 161.190(a), Cnd Tuna
  - **Protein, vegetable, hydrolyzed** - Cnd Veggies, Part 150 (155.120, 155.130, 155.170, 155.200)
  - **Prussiate of soda, yellow (Na ferrocyanide decahydrate)** - AC, REG, < 13 ppm calc as anhydrous Na ferrocyanide - Anticaking agent in salt - 172.490; AC/FEED, REG, 13 ppm -do; In salt for animal consumption -573.1020
  - **Psyllium seed husk** - STAB, FS, 0.5% by wt - Part 135, Frozen Desserts
  - **Pteroylglutamic acid (aka folic acid)** - X-ref Folic acid, DS, REG, < 0.40 mg w/o ref to age or physiological state As comp of dietary suppls, provided directions for use, when followed < tolerance - 172.345
  - **Pyrantel tartrate** - FEED/VET, REG, 10 ppm - In swine liver & kidney as res - 556.560; 1 ppm - In swine muscle as res - 556.560; Uses: In swine feeds - 558.485; Powder & Tabs - 520.2045
  - **Pyridoxine hydrochloride** - NUTR/DS, GRAS, GMP -182.5676, 184.1676
  - **Pyrophyllite (aluminum silicate monohydrate)** -AC/MISC, REG, < 2.0% in complete animal feed - As sole anticaking aid, blending agent, pelleting aid, or carrier in animal feed - 573.900

## Q

- **Quassia** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510

- **Quaternary ammonium chloride combination** - PRES, REG, See Reg, In proc of sugar cane juice and in cane sugar mills - 172.165, 173.320
- **Quebracho bark** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Quillaia (soapbark)** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Quince seed** - NAT, GRAS - 182.40
- **Quinine hydrochloride or sulfate** - FLAV, REG, < 83 ppm as quinine - Flavoring agent in carbonated bevs - 172.575

## R

- **Radiation and Radiation sources** - Ionizing radiation for the treatment of food - REG gamma rays of the radionuclides cobalt-60 or cesium-137; electrons generated from machine sources at energies not to exceed 10 million electron volts; and x-rays generated from machine sources at energies not to exceed 5 million electron volts (MeV) or 7.5 MeV if the x-ray target material is tantalum or gold- 179.26; radiofrequency radiation including microwave - 179.30; ultraviolet radiation from low pressure mercury lamps at a wavelength of 253.7 nanometers (2,537 Angstroms). -179.39; pulsed light when source is xenon flashlamps to emit broadband radiation ranging from 200-1,100 nanometers(nm) with pulse duration no longer than 2 milliseconds (msec). - 179.41 ; ionizing radiation for control of food-borne pathogens, and extension of shelf-life, in fresh iceberg lettuce and fresh spinach at a dose up to 4.0 kiloGray (kGy). 21 CFR 179.26
- **Rapeseed oil, fully hydrogenated** - STAB, GRAS, GMP, See REG, Use in peanut butter - 184.1555(a)
- **Rapeseed oil, fully hydrogenated, superglycerinated** -EMUL, GRAS, GMP, See REG, Use in shortenings for cake mixes - 184.1555(b)
- **Rapeseed oil, low erucic acid** - MISC, GRAS, GMP, See REG, Except in infant formula - 184.1555(c); May be declared on label as "Canola Oil"
- **Rapeseed oil, low erucic acid, partially hydrogenated** MISC, GRAS, GMP, See Reg, Except in infant formula -184.1555(c)(2)
- **Red saunders (red sandalwood)** - FL/ADJ, REG, GMP In alc bevs only - 172.510
- **Regenerated cellulose** - MISC, REG, See REG, As an ion-exchange resin - 173.25(a) (20)
- **Rennet (Rennin)** - MISC, GRAS, Milk - Part 131; Cheese and Rel Cheese Prods - Part 133; In animal feeds -582.1685; GRAS, GMP, See REG - 184.1685
- **Resin, from formaldehyde, acetone, or tetraethylenepentamine** - MISC, REG, See REG, As an ion-exchange resin - 173.25(a)(8)
- **Rhatany root** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510



- ***Rhizopus oryzae*** - MISC, REG, Source of carbohydrase for prod of dextrose from starch - 173.130
- **Rhubarb, garden root (*Rheum rhaponticum L*)** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Rhubarb root** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Riboflavin** - NUTR/DS, GRAS/FS, Cereal Flours - Part 137; Alimentary Pastes - Part 139; Bakery Prods - Part 136; GRAS, GMP - 182.5695, 184.1695
- **Riboflavin-5-phosphate** - NUTR/DS, GRAS, GMP -182.5697, 184.1697
- **Rice bran wax** - CTG/MISC, REG, < 50 m - Ctg for candy - 172.890;< 50 ppm - Ctg for fresh fruits & vegs -72.890; < 2.5% - In chewing gum as plasticizing material - 172.890, 172.615
- **Robenidine HCl** - FEED, REG, 0.2 ppm - As residue in chicken fat & skin - 556.580; 0.1 ppm neg residue - In other edible tissue of chickens - 556.580; Use & other info -558.515
- **Rose absolute (otto of roses, attar of roses)** - ESO, GRAS - 182.20
- **Rose buds, flowers, fruit (hips), leaves** - ESO, GRAS
- **Rose geranium** - ESO, GRAS - 182.20
- **Roselle** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Rosemary** - SP/ESO, GRAS - 182.10, 182.20
- **Rosidinha (rosadinha)** - MISC, REG - 172.615
- **Rosin (colophony)** - FL/ADJ, REG, GMP, In alc bevs only -172.510
- **Rosin, gum, glycerol ester** - MISC, REG, GMP, Softener for chewing gum - 172.615
- **Rosin, gum or wood, pentaerythritol ester, partially hydrogenated pentaerythritol ester, or partially hydrogenated glycerol ester** - MISC, REG, GMP, Softener for chewing gum - 172.615
- **Rosin, methyl ester, partially hydrogenated** - MISC, REG, GMP, Softener for chewing gum - 172.615; SY/FL -172.515
- **Rosi, partial dimerized, calcium salt or partially (catalytically) hydrogenated** - CTG, REG, GMP, Ctg on fresh citrus fruit - 172.210
- **Rosin, polymerized glycerol ester, partially hydrogenated glycerol ester, or partially dimerized glycerol ester** -MISC, REG, Softener for chewing gum - 172.615
- **Rosin, tall oil, glycerol ester**-MISC, REG, GMP, Softener for chewing gum - 172.615
- **Rosin, wood** - CTG, REG, GMP, Ctg on fresh citrus fruit -172.210

- **Rosin, wood, glycerol ester** - MISC, REG, GMP, Softener for chewing gum - 172.615; MISC, REG - 172.735
- Rosin, wood, pentaerythritol ester of maleic anhydride - CTG, REG, GMP, Ctg on fresh citrus fruit - 172.210
- **Roxarsone** - FEED/VET, REG, See 3-nitro 4-hydroxy phenyl arsenic acid (Arsenic) for tolerances - 556.60; Use: In chicken & swine feeds - 558.530; In Drinking Water of chickens, turkeys, & swine - 520.2087, 520.2088
- **Rubber, butadiene-styrene** - MISC, REG, Comp of chewing gum base - 172.615
- **Rubber (natural) smoked sheet and latex solids** -MISC, REG, Comp of chewing gum base - 172.615
- **Rue** - SP/ESO, GRAS, < 2 ppm - 184.1698
- **Rue, oil** - FL/ADJ, GRAS, See REG - 184.1699
- **Rum** - FLAV, FS, Cnd Fruits - Part 145

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- **Saccharin (ammonicalcium, or sodium)** -NNS, REG/ITEM, < 12 mg /fl oz - In bevs and fruit juice drinks & bases or mixes - 180.37; < 20 mg/teaspoonful of sugar sweetening equivalency - In sugar substitutes for cooking or table use - 180.37; < 30 mg/serving - In processed foods -180.37; Part 145 - Cnd Fruits; Part 150 - Fruit Butters, Jellies, Pres, and Rel Prods
- **Saffron** - SP/ESO, GRAS - 182.10, 182.20 - Not permitted in standardized mayonnaise (169.140) or salad dressing (169.150); Color additive - 73.500
- **Safrole & any oil containing safrole** - *ILL, No legal use in food 189.180*
- **Safrole-free extract of sassafras** - FLAV, REG, Flavoring in food - 172.580
- **Sage, Greek** - ESO/SP, GRAS - 182.10, 182.20
- **Sage, Spanish** - SP, GRAS - 182.20
- **St. John's bread** - ESO, GRAS - 182.20
- **St. Johnswort leaves, flowers and caulis** - FL/ADJ, REG, GMP - In alc bevs only, Hypericin-free alcohol distillate form only - 172.510
- **Salicylic acid** - MISC, REG, Zero Tolerance - Residue in milk from dairy animals - 556.590; Use - Comp of mastitis formulations - 526.820
- **Salinomycin** - FEED, REG, Use - In chicken feeds -558.550
- **Salts of fatty acids** - MISC, REG, GMP - 172.863

- **Sandalwood, white (yellow or East Indian), red** -FL/ADJ, REG, GMP - In conjunction w/flavors - 172.510
- **Sandarac** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Sanitizing solutions** - SANI, REG, For use on food proc equipment followed by adequate draining. See individual compounds for limitations on uses and concentrations -178.1010
- **Sarsaparilla** - FL/ADJ, REG, GMP, Natural flavor -172.510
- **Sassafras extract, safrole free** - FLAV, REG, GMP -172.580
- **Sassafras leaves** - FLAV/ADJ, REG, GMP, Must be safrole free - 172.510
- **Savory, winter or summer** - SP/ESO, GRAS - 182.10,
- **Schinus molle** - ESO, GRAS - 182.20
- **Selenium as Sodium Selenite or Selenate** - FEED, REG, < 0.1 ppm in complete feed - Uses: In complete feeds for chickens, swine, turkeys, sheep, beef cattle, dairy cattle & ducks - 573.920; < 0.3 ppm - In prestarter & starter rations for swine - 573.920
- **Senna, Alexandria** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Serine (L-form only)** - NUTS/DS, REG - 172.320
- **Serpentaria (Virginia snakeroot)** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Sesame** - SP, GRAS - 182.10
- **Silica aerogel** - AF, GRAS - 182.1711
- **Silicon dioxide** - AC, REG, < 2.0% by wt of food - Used only in those foods where anticaking effect is demonstrated 172.480;REG, < 2% by wt of feed - In feed & feed components as anticaking or grinding agent - 573.940 for use limit; FS, < 1.0% by wt of finished food - In dried egg prods wi moisture < 5% by wt - 160.105, 160.185; STAB, REG, Stab for use in prod. of beer to be removed by filtration prior to final proc - 172.480; MISC, REG, GMP, As an absorbent for dl-tocopheryl acetate and pantothenyl alcohol in tablet-ed foods for special dietary use - 172.480; REG, GMP, Comp of microcapsules for flavoring oils - 172.230; REG, GMP, Comp of defoaming agents - 173.340; GRAS, Migr to food from paper and paperboard prods - 182.90
- **Silver nitrate** -- REG, Used as an antimicrobial agent, in an aqueous solution with hydrogen peroxide, in bottled water. Silver nitrate NTE 17 ug/kg in the treated bottled water, and hydrogen peroxide NTE 23 mg/kg. - 172.167
- **Simaruba bark** - FL/ADJ, REG, In alc bevs only - 172.510
- **Sloe berries (blackthorn berries)** - ESO, GRAS - 182.20

- **Smoke prepared by condensing or precipitating wood smoke** - FLAV, FS, Past Proc Cheese - Part 133; Cnd Tuna -161.190
- **Snakeroot, Canadian (wild ginger)** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Sodium acetate** - B&N, GRAS/FS, Art Sw Fruit Jelly -150.141, Art Sw Fruit Pres and Jams - 150.161; BC, REG, Comp of boiler water additive - 173.310; GRAS, GMP -184.1721; GRAS, Migr from cotton and cotton fabrics used in dry food pkg - 182.70; In animal feeds - 582.121
- **Sodium acid phosphate** - SEQ, GRAS, Cheeses and Rel Cheese Prods - Part 133; Froz Desserts - Part 135; GRAS, GMP - 182.6085
- **Sodium acid pyrophosphate** - B&N, GRAS/FS, Cereal Flours - Part 137; EMUL, FS, Cheeses and Rel Cheese Prods - Part 133; INH, FS, < 0.5% finished food - Prevent struvite crystal formation in cnd tuna - 161.190(a); In animal feeds - 582.1087
- **Sodium alginate** - STAB, GRAS/FS, Cheeses and Rel Prods - Part 133; Froz Desserts - Part 135; Art Sw Fruit Jelly - 150.141; Art Sw Fruit Pres and Jams - 150.161; GRAS - 184.1724; BC, REG, Comp of boiler water additive -173.310
- **Sodium n-alkylbenzene sulfonate (alkyl group predominately C12 and C13 and not less than 95% C10 to C16)** - MISC, REG, < 0.2% in wash water - Used in washing or to assist in lye peeling of fruits & vegs - 173.315
- **Sodium aluminate** - BC, REG, Comp of boiler water additive - 173.310; GRAS, Migr to food from paper and paperboard prods - 182.90
- **Sodium aluminosilicate (sodium silicoaluminate)** - AC, GRAS/FS, < 2%, Dried whole eggs and egg yolks -160.105, 160.185; Grated Cheeses - 133.146; GRAS, < 2% -182.2727
- **Sodium aluminum phosphate** - MISC, GRAS/FS, Self-rising Flours & Meals - Part 137; EMUL, GRAS/FS, Cheeses, Various - Part 133; GRAS, GMP - 182.1781; In animal feeds - 582.1781
- **Sodium aluminum sulfate** - MISC, GRAS/FS, Cereal Flours - Part 137
- **Sodium arsanilate** - FEED, REG, See Arsenic
- **Sodium ascorbate** - PRES, GRAS, GMP - 182.3731
- **Sodium benzoate** GRAS/FS, < 0.1%, Fruit Pres & Art Sw Fruit Jelly & Pres - 150.141, 150.161; < 0.1%, Margarine -166.110; Conc. Orange Juice - 146.152, 146.154; GRAS, GMP - 184.1733
- **Sodium bicarbonate** - MISC, GRAS/FS, Cnd Peas - Part 155; Cnd Tomato Paste - 155.191; Cacao Prods - Part 163; Cereal Flours - Part 137; GRAS, GMP - 184.1736; MISC,

- REG, Used to treat sodium methyl sulfate - 173.385; SANI, REG - 178.1010(b)(41); In animal feeds - 582.1736
- **Sodium bisulfite** - PRES, GRAS, Not in meats or foods recognized as source of Vit B1, etc., See REG - 182.3739; GRAS, FS, Cnd Shrimp - 161.173
  - **Sodium borohydride** - MISC, REG, < 310 ppm boron Used as modifier for hop extract - 172.560
  - **Sodium bromide** - SANI, REG, < 200 ppm avail halogen -Adequate drainage - 178.1010
  - **Sodium calcium aluminosilicate hydrated (sodium calcium silicoaluminate)** - AC, GRAS, GMP, < 2% - 182.2729
  - **Sodium carbonate** - BC, REG, Boiler water additive -173.310; B&N, GRAS/FS, Cacao Prods - Part 163; Cnd Vegs Part 155; In animal feeds - 582.1742; GRAS, GMP -184.1742
  - **Sodium carbonate w/sodium mono- & dimethyl naphthalene sulfonates** - MISC, REG, For use in potable water systems - 172.824; MISC, < 0.2% in wash water - Used in washing or to assist in lye peeling of fruits and vegs -173.315
  - **Sodium carboxymethylcellulose (cellulose gum)** - The sodium salt of carboxymethylcellulose, not less than 99.5% on a dry weight basis - MISC, GRAS, GMP, With one or any mixture of two or more gums permitted - 182.1745; STAB, As optional ingredient in following standardized foods: Cheeses, Various - Part 133; Food Dress - Part 169; Art Sw Jelly & Fruit Jams - Part 150; Froz Desserts - Part 135
  - **Sodium chloride** - GRAS/FS, Milk and Cream - Part 131; Cheeses and Rel Cheese Prods - Part 133; Cnd Fruits -Part 145; Cnd Vegs - Part 155; Veg Juices - Part 156; Froz Vegs - Part 158; Fish and Shellfish - Part 161; Cacao Prods - Part 163; Margarine - Part 166; Food Dress and Flavorings - Part 169; GRAS, GMP - 182.1; GRAS Migr from cotton and cotton fabrics used in dry food pckg -182.70; GRAS, Migr to food from paper and paperboard prods - 182.90
  - **Sodium chlorite** - MISC, REG, GMP, Modifier for food starch - 172.892
  - **Sodium citrate** - B&N/SEQ, GRAS/FS, Milk and Cream Part 131; Cheeses and Rel Cheese Prods - Part 133; Art Sw Fruit Jelly, Jam, and Pres - 150.141, 150.161; GRAS, GMP - 182.1751, 182.6751; In animal feeds - 582.1751
  - **Sodium cloxacillin** - VET, REG, 0.01 ppm - As residues in milk - 556.165;
  - **Sodium cyclamate** - *NNS, ILL - Removed from GRAS list 10-21-69 - 189.135*
  - **Sodium N-cyclohexyl-N-palmitoyl taurate** - SANI, REG, Followed by adequate drainage - 178.1010(b)(40)
  - **Sodium decylbenzenesulfonate** - MISC, REG, GMP -Adjuvant for ctg on fresh citrus fruits - 172.210

- **Sodium diacetate** - MISC, GRAS, GMP - 184.1754
- **Sodium dichloroisocyanurate** - SANI, REG, < 100 ppm available halogen - Followed by adequate drainage -178.1010
- **Sodium dimethyldithiocarbamate** - PRES, REG, 3.0 ppm in raw cane - Comb w/ Disodium ethylenebisdithiocarbamate for control of microorganisms in cane sugar mills -173.320; 3.0 ppm in raw cane or sugar beets - Comb w/Disodium ethylene bisdithiocarbamate & ethylenediamine for control of microorganisms in cane sugar and beet sugar mills - 173.320
- **Sodium dioctylsulfosuccinate** - SANI, REG, GMP, Followed by adequate drainage - 178.1010
- **Sodium dodecylbenzenesulfonate** - MISC, REG, < 0.2% in wash water - Surface active agent in commercial detergents used in washing fruits & vegs, or to assist in lye peeling these prods - 173.315
- **Sodium 2-ethylhexylsulfate** - MISC, REG, < 0.2% in wash water - Used in washing or to assist in lye peeling of fruits & vegs - 173.315
- **Sodium ferrocyanide decahydrate** - See Prussiate of soda
- **Sodium fluoride** - *NUTR, PD/ILL, GMP, X-ref - Fluorine containing compounds*
- **Sodium glucoheptonate** - BC, REG, < 1 ppm cyanide in compound - Boiler water additive - 173.310
- **Sodium gluconate** - MISC, GRAS/FS, GMP - 182.6757
- **Sodium hexametaphosphate** - BC, REG, GMP, Boiler water additive - 173.310; SEQ, GRAS/FS, Fruit Jellies - Part 150; Cheese - Part 133; Froz Desserts - Part 135; Food Dress - Part 169; GRAS, GMP - 182.6760; GRAS, Migr to food from paper and paperboard prods - 182.90
- **Sodium humate** - BC, REG, GMP, Boiler water additive -173.310
- **Sodium hydroxide** - B&N, GRAS/FS, Cocoa Prods - Part 163; MISC, GRAS - 184.1763; BC, REG, GMP, Boiler water additive - 173.310; In animal feeds - 582.1763; MISC, REG, < 1% - In modifying food starch - 172.892; MISC - Used in manufacture of modified hop extract - 172.560; MISC -Used in manufacture of hydroxylated lecithin - 172.814
- **Sodium hypochlorite** - MISC, REG, < 0.055 lb Cl per lb drystarch; 0.45% active O<sub>2</sub> from H<sub>2</sub>O<sub>2</sub>; and < 25% propyleneoxide, or not to exceed 0.0082 lb Cl per lb of dry starch - In modifying food starch, residual propylene- chlorohydrin < 5 ppm - 172.892; REG, GMP, Used in washing or to assist in the lye peeling of fruits & vegs - 173.315; SANI, See REG, < 200 ppm available Cl - Followed by adequate drainage - 178.1010
- **Sodium hypophosphite** - EMUL/STAB, GRAS, GMP -184.1764

- **Sodium iodate** - DS, GRAS, Animal feed; Source of Iodine -Trace Mineral - 582.80
- **Sodium iodide** - DS, GRAS, Animal feed; Source of Iodine - Trace Mineral - 582.80; SANI, REG, < 25 ppm I in sln -Followed by adequate drainage - 178.1010
- **Sodium lactate** - MISC, GRAS, GMP - 184.1768
- **Sodium laurate** - MISC, REG, X-ref wi fatty acids, salts of -172.863
- **Sodium lauryl sulfate** - EMUL, REG, < 125 ppm (0.0125%) - In liquid & froz egg whites - 172.822; < 1,000 ppm (0.1%) - In egg white solids - 172.822; < 5,000 ppm (0.5%) wt of gelatin - Whipping agent in gelatin used in preparing marshmallows - 172.822; AF, REG, < 25 ppm in finished product - As a surfactant in fumaric acid-acidulated dry bev base & fruit juice drinks unless precluded by a food standard - 172.822; SDA, REG < 10 ppm - In the partition of high and low melting fractions of crude veg oils and animal fats provided partitioning is followed by a conventional refining process that includes alkali neutralization and deodorization of the fats and oils - 172.822; CTG, REG, GMP - For ctg on fresh citrus fruit - 172.210; SANI, REG, GMP - Followed by adequate drainage - 178.1010
- **Sodium lignosulfonate** - BC, REG, GMP, Boiler water additive - 173.310
- **Sodium lignum sulfonate** - FEED, REG, < 4% of finished pellets - As sole pelleting aid in animal feeds - 576.600
- **Sodium metabisulfite** - PRES, GRAS, GMP, Not in meats or foods recognized as a source of Vit B1, etc., See REG -182.3766; GRAS/FS, Fruit Jellies - Part 150; BC, REG, GMP, Boiler water additive - 173.310
- **Sodium metaphosphate** - EMUL, GRAS/FS, Cheeses -Part 133; GRAS, GMP - 182.6769
- **Sodium metasilicate** - BC, REG, GMP, Boiler water additive - 173.310; MISC, GRAS, GMP - 184.1769a
- **Sodium methyl sulfate** - EMUL, REG, < 0.1% in pectin -As a proc residue in pectin - 173.385
- **Sodium mono- & dimethylnaphthalenesulfonates** -MISC, REG, < 0.2% in wash water - Used in washing or to assist in lye peeling of fruits & vegs - 173.315; REG, < 250 ppm - In sodium carbonate for use in potable water systems - 172.824;AC, REG, < 0.1% - In sodium nitrite used in cured fish and meat - 172.824
- **Sodium myristate** - MISC, REG, X-ref wi fatty acids, salts of - 172.863
- **Sodium nicotinate** - *ILL, Request for extension of statute and for filing of petition denied. Deceptive use in ground meat for color retention.*
- **Sodium nitrate** - PRES, REG, < 500 ppm - Alone or w/ sodium nitrite as a preservative and color fixative in smoked, cured salmon, shad, & sablefish, or in meat-curing

- preparations for home curing of meat & meat prods (including poultry & wild game) - 172.170; BC, REG, GMP, Boiler water additive -173.310; PS (by USDA) - As a source of nitrite, w/ or w/o sodium or potassium nitrite, in the prod of cured red meats and poultry - 181.33
- **Sodium nitrite** - PRES, REG, < 200 ppm - Alone or with sodium nitrate as a preservative and color fixative in smoked, cured salmon, shad & sablefish; or in meat curing preparations for home curing of meat & meat prods -172.175; REG, > 100 ppm to < 200 ppm - In loin muscle of smoked chub - 172.177; REG, < 10 ppm (0.001% sodium nitrite) - Alone as color fixative in smoked, cured tuna -172.175; REG, < 20 ppm - In end pet food containing meat & fish and their by-prods - 573.700; PS (by USDA) - As a color fixative and preservative, wi or without sodium or potassium nitrate, in the curing of red meat and poultry - 181.34
  - **Sodium 1-octanesulfonate** - SANI, REG - Comp of sanitizing sln - > 156 to < 312 ppm, isopropyl alcohol may be added as an optional ingredient - Followed by adequate draining - 178.1010(b)(27); Comp of sanitizing sln - Sulfuric acid may be added as an optional ingredient - Followed by adequate draining - 178.1010
  - **Sodium oleate** - MISC, REG, X-ref wi fatty acids, salts of -172.863
  - **Sodium palmitate** - MISC, REG, X-ref wi fatty acids, salts of - 172.863
  - **Sodium pantothenate** - MISC, GRAS, GMP - 182.5772
  - **Sodium pectinate** - MISC, GRAS - In animal feeds -582.1775; EMUL/STAB, GRAS, GMP - 184.1588
  - **Sodium phosphate (mono-, di-, and tribasic)** - MISC, GRAS, GMP - 182.1778; SEQ, GRAS, GMP - 182.6778; DS/NUTR, GRAS, GMP - 182.5778, 182.8778; BC, REG, GMP, Boiler water additive - 173.310; GRAS/FS - Cheeses and Rel Cheese Prods - Part 133; Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161
  - **Sodium phosphate (monobasic) (monosodium phosphate)** - PRES, GRAS/FS, < 0.5% - Froz Eggs - 160.110; Cacao Prods - Part 163
  - **Sodium phosphate (dibasic) (disodium phosphate)** - GRAS, GMP - 182.6290; GRAS/FS- Froz Deserts - Part 135; Enriched Farina - 137.305; Macaroni and Noodle Prods - Part 139;
  - **Sodium polyacrylate-acrylamide resin** - MISC, REG, < 2.5% wt of juice or liquor - In beet sugar or cane sugar juice to control organic and mineral scale - 173.5
  - **Sodium polyacrylate** - BC, REG, GMP, Boiler water additive - 173.310; MISC, REG, < 3.6 ppm of raw juice weight -Mineral scale inhibition in beet and cane sugar prod
  - **Sodium polymethacrylate** - BC, REG, GMP, Boiler water additive - 173.310



- **Sodium potassium tartrate** - MISC, GRAS/FS, Cheeses - Part 150; Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161; MISC, GRAS, GMP - 184.1804; In animal feeds -582.1804
- **Sodium propionate** - PRES, GRAS/FS, GMP, Cheeses and Rel Cheese Prods - Part 133; Art Sw Fruit Jellies, Pres, and Jams -150.141, 150.161; Bakery Prods - Part 136; MISC, GRAS, GMP - 184.1784
- **Sodium pyrophosphate** - SEQ, GRAS, GMP - 182.6787
- **Sodium saccharin** -NNS, GRAS/INTERIM, See Saccharin - 180.37
- **Sodium salts of fatty acids** - MISC, REG, GMP, Binder, emulsifier, and anticaking agent in food - 172.860, 172.863
- **Sodium sesquicarbonate** - MISC, GRAS, GMP -184.1792
- **Sodium silicate** - BC, REG, GMP, Boiler water additive -173.310;
- **Sodium silicoaluminate** - AC, GRAS/FS, X-ref - Sodium aluminosilicate - Dried whole eggs and egg yolks - 160.105, 160.185
- **Sodium sorbate** - PRES, GRAS/FS, < 0.3% by wt as sorbic acid - Cheeses and Rel Cheese Prods, alone or comb wi potassium sorbate or sorbic acid - Part 133; 0.1% by wt - Fruit Butter, Art Sw Fruit Jelly, Pres, and Jams - 150.110, 150.141, 150.161; < 0.2% in comb or < .1% - Margarine -160.110; GRAS - Migr to food from paper and paperboard prods - 182.90
- **Sodium stearate** - MISC, REG, Comp of chewing gum base - 172.615; X-ref wi 172.863; STAB, PS, Migr from food pkg material - 181.29
- **Sodium stearyl lactylate** - REG, As follows unless precluded by Food Standards - 172.846; < 0.5% by weight of flour - As dough strengthener, emulsifier, or proc aid in baked prods, pancakes, waffles and prepared mixes of these; < 0.2% by weight of finished food - As surface active agent, emulsifier, or stabilizer in icings, fillings, puddings, toppings and prepared mixes of these; < 0.3% by weight of finished emulsion - As emulsifier or stabilizer in liquid and solid edible fat-water emulsion used as substitutes for milk and cream in coffee; < 0.5% of dry weight - As formulation aid, proc aid, or surface active agent in dehydrated potatoes; < 0.2% by weight - As emulsifier, stabilizer, or texturizer in snack dips and cheese and cheese product substitutes and imitations; < 0.25% by weight of finished food - As an emulsifier, stabilizer, or texturizer in sauces or gravies, prods containing same, and prepared mixes of same
- **Sodium stearyl fumarate** - MISC, REG, < 1% by weight -As conditioning agent in dehydrated potatoes or in processed cereals for cooking unless food standards precludes such use - 172.826; REG, < 0.2% by weight of food - As a conditioning agent in starch thickened or flour-thick-ened foods - 172.826; STAB, REG, < 1% by weight of flour used - As stabilizing agent in non-yeast leavening bakery prods - 172.826; REG, < 0.5 part/100

part by weight of flour - As dough conditioner in yeast-leavened bakery prods -172.826, Bakery Prods - Part 136

- **Sodium sulfachloropyrazine monohydrate** - VET, REG, ZERO - Residues in edible tissues of chickens - 556.625; Use: Drinking water - 520.2184
- **Sodium sulfate** - BC, REG, GMP, Boiler water additive -173.310; MISC, REG, GMP, Comp of chewing gum base - 172.615
- **Sodium sulfide** - MISC, REG, GMP, Comp of chewing gum base - 172.615
- **Sodium sulfite** - BC, REG, GMP, Boiler water additive -173.310; PRES, GRAS, GMP, Not in meats or foods recognized as source of Vit B1, etc., See REG - 182.3798
- **Sodium sulfo-acetate derivatives (mono- & diglycerides)** - EMUL, FS, <0.5% - Margarine - 166.110
- **Sodium tartrate** - MISC, GRAS/FS, Cheeses and Rel Cheese Prods - Part 133; Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161; MISC, GRAS, GMP - 184.1801
- **Sodium tetrapyrophosphate** - SEQ, GRAS/FS, X-ref wi tetrasodium pyrophosphate - 182.6789
- **Sodium thiosulfate** - SEQ, GRAS, GMP, < 0.1% - In table salt - 184.1807; < 0.00005% - In alc bevs - 184.1807
- **Sodium p-toluenesulfonchloramide** - SANI, REG, GMP - Followed by adequate drainage - 178.1010(b)(3)
- **Sodium trichloroisocyanurate** - SANI, REG, < 100 ppm available Cl - Followed by adequate drainage - 178.1010
- **Sodium trimetaphosphate** - MISC, REG, < 0.4% as phosphorus - Food starch modifier - 172.892
- **Sodium tripolyphosphate** - BC, REG, GMP, Boiler water additive - 172.310; MISC, REG, < 0.4% as phosphorus -Food starch modifier - 172.892; SEQ, GRAS, GMP -182.1810, 182.6810; GRAS, Migr from cotton and cotton fibers used in dry food pckg - 182.70; GRAS, Migr to food from paper and paperboard prods - 182.90; GRAS - In animal feeds - 582.1810
- **Sodium xylenesulfonate** - SANI, REG, 31-62 ppm -Comp of sanitizing sln - 178.1010
- **Solvent Extraction Process for Citric Acid** - MISC, REG -173.280
- **Sorbic acid** - PRES, GRAS/FS, < 0.2% - Cheeses and Cheese Rel Prods - Part 133; PRES, GRAS/FS, < 0.3% by weight as sorbic acid, alone or comb wi potassium or sodium sorbate -Cheeses and Rel Cheese Prods - Part 133; < 0.1% - Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161; < 0.2% by wt Concentrated Orange Juice -146.154; <0.1% alone or <0.2% in comb with other preservatives - Margarine - 166.110; GRAS, GMP - 182.3089

- **Sorbitan monooleate** - EMUL, REG, See REG, Use: In clarification of cane and beet sugar juice or liquor - 173.75
- **Sorbitan monostearate** - EMUL, REG, < 0.4% alone or any comb of Polysorbate 60, 65, or 80 of the weight of finished whipped edible oil topping; > 0.4% in comb if Polysorbate 60 < 0.77% and Sorbitan monostearate < 0.27% of weight of finished whipped edible oil topping - In whipped edible oil toppings - 172.842; REG, < 0.4% of weight of finished product - In veg oil/water emulsion used as a substitute for milk or cream in bev coffee; Used alone or comb wi Polysorbate 60 and/or 65 - 172.842; REG, < 0.61% - In cakes & cake mixes alone or comb wi < 0.46% Polysorbate 60 and/or < 0.32% Polysorbate 65 - Total amount any comb < 0.66% - 172.842; REG, < 1.0% by weight of finished product - In non-standardized confectionery ctg alone or comb wi < 0.5% Polysorbate 60, Total amount any comb < 1.0% - 172.842; REG, < 0.7% - In cake icing or filling containing shortening, alone or comb wi < 0.46% Polysorbate 60 and/or < 0.32% Polysorbate 65, Total amount any comb < 1.0% - 172.842; CTG, REG, GMP, Alone or wi Polysorbate 60 in formulations of white mineral oil and/or petroleum wax for ctgs on raw fruits & vegs -172.842; AF, REG, GMP, Comp of defoaming agents -173.340; FEED, REG, GMP, In mineral premixes & dietary supplies for animal feeds, alone or comb wi Polysorbate 60 - 573.960;MISC, REG, < 1% by weight of dry yeast - Used alone for rehydration aid in prod of active dry yeast -172.842; FS, Cacao Prods - Part 163
- **Sorbitol** - MISC, GRAS, GMP, See REG - 184.1835; GRAS, Migrate to food from paper and paperboard prods -182.90
- **Soybean oil, hydrogenated** - GRAS, Migr from cotton and cotton fabrics used in dry food pkg - 182.70
- **Soybean oil fatty acids, hydroxylated** - AF, REG, GMP, Defoamer agent compound - 173.340
- **Soybean protein, isolated** - GRAS, Migr to food from paper and paperboard prods; GRAS/FS, Margarine -166.110
- **Spearmint** - SP/ESO, GRAS - 182.10, 182.20
- **Spectinomycin** - VET, REG, 0.1 ppm (neg res) - In edible tissues of chickens as residue - 556.600; Use: Drinking water - 520.2123b; Injection - 522.2120
- **Sperm oil** - CTG, REG, GMP, Adjuvant in ctgs on fresh citrus fruits - 172.210
- **Sperm oil, hydrogenated** - MISC, REG, GMP, Release agent or lubricant in bakery pans - 173.275
- **Spike lavender** - ESO, GRAS - 182.20
- **Spruce needles & twigs** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510

- **Stannous chloride** - PRES, GRAS/FS, < 15 ppm calc as tin - Cnd Asparagus in glass - 155.200; GRAS/FS, 15-20 ppm calc as tin - Cnd Asparagus in glass wi lids lined wi inert material -155.200; MISC, REG - < 20 ppm calc as tin - For color retention in glass-packed asparagus - 172.180; GRAS, GMP (< 0.0015% calc as tin) - 184.1845
- **Star anise** - SP, GRAS - 182.10
- **Starch** - SANI, REG - Comp, wi or without dextrin, of sanitizing sln - 178.1010
- **Starch, modified food** - MISC, FS, GMP, Salad Dressing - 169.150; Vanilla powder - 169.179; Vanilla-vanillin powder -169.182; REG, GMP, See REG for types of modified starch -172.892
- **Starch, acid modified** - GRAS, Migr to food from paper and paperboard prods - 182.90
- **Starch, pregelatinized** - GRAS, Migr to food from paper and paperboard prods - 182.90; FEED, REG, 30 gm/twice daily - Use in water of newborn calves - 520.2155
- **Starch, unmodified** - GRAS/FS, GMP, Cereal Flours and Rel Prods - Part 137; Salad Dressing - 169.150; Vanilla Powder -169.179; Vanilla-vanillin powder - 169.182; GRAS, Migr to food from paper and paperboard prods - 182.90
- **Starter Distillate** - FL/ADJ, GRAS, GMP - 184.1848
- **Stearic acid** - MISC, REG, GMP, Comp of chewing gum -172.615; REG, X-ref wi fatty acids - 172.860; GRAS, GMP, 184.1090
- **Stearyl alcohol, synthetic** - MISC, REG, GMP, X-ref wi fatty alcohols, synthetic - 172.864
- **Stearyl citrate** - PRES, GRAS/FS, <0.15% - Margarine -166.110; GRAS, GMP, <0.15% - 182.6851
- **Stearyl monoglyceridyl citrate** - STAB, REG, GMP, In shortenings - 172.755
- **Stearoyl propylene glycol hydrogen succinate** - See Succistearin
- **Sterculia gum (karaya gum)** - MISC, GRAS - 184.1349
- **Storax, or styrax** - FL/ADJ, REG, GMP, In conjunction w/flavors only - 172.510
- **Streptomycin** - FEED/VET, REG, ZERO - In edible tissues of chickens, turkeys, swine and in eggs as residue -556.610; Other Dosage forms - 520.2158
- **Styrene** - MISC, REG, See REG - Ion-exchange membrane - 173.20; Ion-exchange resin - 173.25; SY/FL -172.515
- **Styrene, polymeric compounds** - MISC, REG, See REG - Ion-exchange resins - 173.25
- **Succinic acid** - GRAS/FS - Acidified Skim Milk - 131.144; MISC, GRAS, GMP - 184.1091; In animal feeds - 582.1091

- **Succinic acid, 2,2-dimethylhydrazide** - PLANT REGULATOR, REG, 135 ppm - In dried prunes resulting from application to the growing plums as residue - 193.410
- **Succinic anhydride** - MISC, REG, GMP, Food starch modifier - 172.892
- **Succinylated gelatin** - MISC, REG, < 15% - Comp of microcapsules for flavoring oils - 172.230
- **Succinylated monoglycerides** - EMUL, REG, < 3.0% by weight - In liquid & plastic shortenings - 172.830; MISC, REG/FS, < 0.5% weight of flour - As a dough conditioner - alone or comb/w calcium stearyl-2-lactylate, lactic stearate or sodium stearyl fumarate (See Part 136) -172.830
- **Succistearin (stearoyl propylene glycol hydrogen succinate)** - EMUL, REG, GMP, In or wi shortenings & edible oils used in cakes, cake mixes, fillings, icings, pastries, and toppings - 172.765
- **Sucralose** - NNS, REG, GMP, Sweetening agent -172.831
- **Sucrose** - NUTRS, GRAS, GMP - 184.1854
- **Sucrose acetate isobutyrate (SAIB)** - STAB, REG, Used as a stabilizer of emulsions of flavoring oils used in nonalcoholic beverages not to exceed 300 milligrams/kilogram of the finished beverage - 172.833
- **Sucrose fatty acid esters** - REG, GMP, For use as emulsifier, texturizer, and component of fruit ctgs - in chewing gum, confections, frostings, surimi-based seafood products, coffee and tea beverages - See 172.859 for specifications
- **Sucrose oligoesters** - EMUL/STAB, REG, Used in chocolate and butter-substitute spreads at a level not to exceed 2.0% - 172.869
- **Strawberry aldehyde (C-16 aldehyde)** - SY/FL, GRAS, X-ref wi 3-Methyl-3-phenyl glycidic acid ethyl ester - 182.60
- **Sugar beet extract flavor base** - FLAV, REG, GMP, In foods - 172.585
- **Sulfabromomethazine** - VET, REG, 0.1 ppm - As residue in uncooked edible tissues of cattle - 556.620; In milk - do; Uses: As bolus - 520.2170
- **Sulfachloropyrazine** -VET, REG, ZERO - Residue in uncooked edible chicken tissue - 556.625; Use: In drinking water of chickens - 520.2184
- **Sulfachlorpyridazine** - VET, REG, 0.1 ppm - In uncooked edible tissue of calves & swine as residue - 556.630; Uses - 520.2200, 522.2200 (Oral Dosage Forms)
- **Sulfadimethoxine** -VET/FEED, REG, 0.1 ppm - In uncooked edible tissues & by-prods of cattle, chickens, turkeys, and ducks as residue - 556.640; 0.01 ppm - In milk as residue - 556.640; Uses & other info - Drinking water, tablets, suspension - 520.2220: As injection - 522.2220

- **Sulfadimethoxine + Ormetoprim** - FEED, REG, Sulfa 0.1 ppm neg residue - Residues in uncooked edible tissues of chickens, turkeys, cattle, ducks, salmonids and catfish -556.640; Sulfa 0.01 ppm neg residue - Residue in milk -556.640; Ormet 0.1 ppm neg residue - Residue in edible tissues of chickens, turkeys, ducks, salmonids and catfish -556.490; Uses: Chicken, turkey, duck and fish (salmonids/catfish) feeds - 558.575
- **Sulfaethoxyypyridazine** - FEED/VET, REG, 0.1 ppm -Residue in edible tissues of cattle - 556.650; ZERO -Residues in milk and uncooked edible tissue of swine -556.650; Use: Drinking water of cattle & swine & as tablets - 522.2240; Injection - 522.2240; Use: Feeds - 558.579
- **Sulfamerazine (N-[4-methyl-2-pyrimidinyl]sulfanilamide)** - FEED, REG, ZERO - In edible tissues of trout as residue - 556.660; Use if fish feed - 558.582
- **Sulfamethazine** -VET, REG, Use: As tablet or bolus in cattle - 520.2260a; 0.1 ppm - As residue in uncooked edible tissues of cattle, swine, turkeys, chickens - 556.670
- **Sulfamethazine a) (w/chlortetracycline & penicillin) b) (w/tylosin)** - VET/FEED, REG, 0.1 ppm - In uncooked edible tissues of chickens, turkeys, cattle & swine - 556.670; Use in swine feeds - 558.145 (CTC & Pen) and 558.630 (Tylosin); Use in dosage forms - 520.2260
- **Sulfamethazine sodium** -VET, REG, 0.1 ppm - In uncooked edible tissue of chickens, turkeys, cattle & swine - 556.670; Use: In drinking water - 520.2661
- **Sulfanitran (Acetyl[p-nitrophenyl]sulfanilamide) (w/alk-lomide)** - FEED/VET, REG, ZERO - Residue in edible tissues & by-prods of chickens - 556.680; Feed uses; 558.376; 558.530; 558.376; Other: Drinking water -520.2320
- **Sulfaquinoxaline** - FEED, REG, Use: Feed for chickens, turkeys, & rabbits - 558.586; Dosage forms: In drinking water for chickens, turkeys, & cattle - 520.2325a; In drench for cattle - 520.2325b
- **Sulfated butyl oleate** - MISC, REG, < 2% by weight in aqueous emulsion - To dehydrate grapes to raisins -172.270
- **Sulfathiazole (Combined w/Chlortetracycline and Penicillin)** - FEED, REG, 0.1 ppm neg residue - In uncooked edible tissues of swine - 556.690; Uses in swine feeds - 558.155
- **Sulfiting agents** - PRES, GRAS, GMP, X-ref wi individual sulfiting agents - 182.3616, 182.3637, 182.3739, 182.3766, 182.3798, 182.3862
- **Sulfomyxin (N-sulfomethylpolymyxin B-Sodium salt)** -VET, REG, ZERO - In edible tissues of chickens & turkeys - 556.700; Use - 522.2340
- **Sulfonated lignin, primarily as calcium & sodium salts** - SP/ADJ, REG, GMP, X-ref - Calcium lignosulfonate -573.600; < 4% of finished pellets, of flake grain or fin feed

Pelleting aid, binding aid, of flake grain, source of metabolizable energy in finished feed; < 11% molasses - Surfactant in molasses used in feeds

- **Sulfonated 9-octadecanoic acid** - SANI, REG, 156-312 ppm - Comp of sanitizing sln - Followed by adequate draining - 178.1010
- **Sulfonated oleic acid, Na salt** - SANI, REG, GMP, Comp of sanitizing sln - Followed by adequate draining - 178.1010
- **Sulfur dioxide** - PRES, GRAS/FS, Not in meats or in foods recognized as a source of Vitamin B1, etc. (See REG) - 182.3862; BL, REG, < 0.05% - Food starch modifier -172.892
- **Sulfuric acid** - MISC, GRAS, GMP - 184.1095; In animal feeds -582.1095; REG, GMP, Food starch modifier -172.892; REG, Manufacture of modified hop extract -172.560; REG, Manufacture of sodium methyl sulfate -173.385; SANI, REG, GMP, Comp of sanitizing sln -Followed by adequate drainage - 178.1010
- **Synthetic fatty alcohols** - MISC, REG, GMP, See Fatty Alcohols, synthetic - 172.864
- **Synthetic flavoring substances** - SY/FL, REG, GMP, See 172.515 for listing and adjuvants
- **Synthetic glycerin** - MISC, REG, GMP, In food - 172.866 for specs
- **Synthetic isoparaffinic petroleum hydrocarbons** -MISC, REG, GMP - 172.882
- **Synthetic paraffin & succinic derivatives** - CTG, REG, GMP, Ctg on fresh citrus, muskmelons, and sweet potatoes -172.275

## T

- **Tagetes (marigold) oil** - FL/ADJ, REG, GMP, As oil only -172.510
- **Tall oil rosin, glycerol ester of** - MISC, REG, GMP, Softener for chewing gum - 172.615
- **Tallow alcohol, hydrogenated** - AF, REG, GMP, Comp of defoaming agent - 173.340
- **Tallow, fatty acids** - MISC, REG, GMP, In foods - 172.860
- **Tallow, hydrogenated, oxidized or sulfated** - AF, REG, GMP, X-ref - Comp of defoaming agent - 173.340
- **Tamarind** - ESO, GRAS - 182.20
- **Tangerine** - ESO, GRAS - 182.20
- **Tannic acid** - ESO, GRAS; NAT/FL/ADJ, GRAS, See REG, < .01% Baked Goods & Baking Mixes; < .015% - Alc bevs.; < .005% - Nonalc bevs.; < .04% - Froz dairy desserts & soft candy; 0.013% - Hard Candy; < 0.001% - Meat prods -184.1097; REG, In rendered animal fat - See 9 CFR 318.7
- **Tannin** (incl quebracho extract) - BC, REG, GMP, Boiler water additive - 173.310

- **Tansy** - FL/ADJ, REG, GMP, In alc bevs only; Finished bev thujone free - 172.510
- **Tarragon** - SP/ESO, GRAS - 182.10, 182.20
- **Tartaric acid** - MISC, GRAS/FS; Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161; Acidified Skim Milk -131.144; GRAS, GMP - 184.1099; In animal feeds -582.1099
- **Taurine** - FEED, REG, <0.054% of the feed - Nutritional supplement in feed of growing chickens - 573.980
- **Tea** - ESO, GRAS - 182.20
- **Technical white mineral oil** - MISC, REG, < 3.0% - In mineral supplements for animals; < 0.06% - In total ration of feed or feed concentrates - 573.680. Specs - 172.878; 178.3620
- **Terpene resin (Beta-pinene polymer)** - MISC, REG, < 0.07% of weight of capsule - Moisture barrier on soft gelatin capsules; < 7.0% of weight of powder - Moisture barrier on powders of ascorbic acid or its salts - 172.280
- **Terpene resin (synthetic polymers of alpha-pinene, beta-pinene, and/or dipentene & natural polymers of alpha-pinene)** - MISC, REG, GMP, Comp of chewing gum bases - 172.615
- **Testosterone propionate** -VET, REG, 1.3 ppb - As residues in liver of cattle (heifers) - 556.710; 1.9 ppb - As residues in kidney of cattle (heifers) - do; 2.6 ppb - As residues in fat of cattle (heifers) ; 0.64 ppb - As residues in muscle of cattle (heifers) - do
- **Tetracycline** - VET, REG, 0.25 ppm - In uncooked tissues of calves, sheep, swine, chicken & turkeys - 556.720;
- **Tetraethylenepentamine crosslinked with epichlorohydrin** - REG, Comp of ion-exchange resins - 173.25
- **alpha-[p-(1,1,3,3-Tetramethylbutyl)phenyl]-omega-hydroxypoly(oxyethylene)** - PEST, REG, GMP - Adjuvant for pesticide use - 172.710
- **Tetrasodium pyrophosphate** - SEQ, GRAS/FS, Cheeses and Rel Cheese Prods - Part 133; Ice Cream - Part 135; BC, REG, Comp of boiler water additive - 173.310; MISC, REG, < 0.3 ppm in flume water - Used in flume water for washing sugar beets prior to slicing operation - 173.315
- **Tetrasodium ethylenediaminetetracetate** - MISC, REG, < 0.1 ppm in flume water - Used in flume water for washing sugar beets prior to slicing operation - 173.315
- **TBHQ (tertiary butylhydroquinone)** - AOX, REG, < 0.02% of fat or oil - Used alone or in comb wi BHA and/or BHT -Total antioxidants in food except standardized foods which do not list for such use - 172.185



- **THBP (2,4,5-trihydroxybutyrophenone)** - AOX, REG, < 0.02% of fat or oil - Used alone or in comb wi other permitted antioxidants - Total antioxidants, in foods except standardized foods which do not list for such use - 172.190
- **Thiamine hydrochloride or mononitrate** - NUTR/DS, GRAS/FS, Cereal Flours - Part 137; Macaroni/Noodle Prods - Part 139; Bakery Prods - Part 136; 184.1875/1878, 182.5875/5878
- **Thiabendazole** - FEED/VET, REG, 0.1 ppm neg residue -Residue in edible tissues of cattle, goats, sheep and swine - 556.730; 0.05 ppm neg residue - Residue in milk -556.730; Use: As dosage forms/block - 520.2380; As feed for cattle, goats, sheep, swine & pheasants - 558.615
- **Thiodipropionic acid** - AOX, GRAS, GMP, < 0.02% of fat or oil - Total antioxidants in food - 182.3109; PS, AOX, Migr from food-pkg material (addition of < 0.005% to food) -181.24
- **Thiourea** - AOX, **BAN, BANNED PRIOR TO FAA - USE ILLEGAL - 189.190**
- **Thistle, blessed (holy thistle)** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Threonine (L form only)** - NUTR/DS, REG - 172.320
- **Thyme, White Thyme** - SP/ESO, GRAS - 182.10, 182.20
- **Thyme, wild or creeping** - SP/FLAV/ESO, GRAS - 182.10, 182.20
- **Thymol iodide** - DS, GRAS, In animal feed as source of trace mineral - 582.80
- **Thymus capitatus (Spanish oregano)** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Tiamulin** - FEED, REG, 0.4 ppm - Residue in swine liver -556.738; Use: Drinking Water - 520.2455; Use: Medicated Feed - 558.600
- **Tocopherols** - PRES, GRAS, GMP - 182.3890, 184.1890; DS/NUTR, GRAS, GMP - 182.8890
- **Tocopherol acetate** - DS/NUTR, GRAS, GMP - 182.5892, 182.8892
- **Tolu, Balsam, extract ands gum** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Tonka extract** - SY/FL, **BAN - See "Coumarin" - 189.130**
- **Torula yeast, dried (Candida utilis)** - FLAV, REG, folic acid <0.04 mg/g yeast (approx 0.008 mg/g pteroylglutamic acid/g yeast) - In food, X-ref - Dried Yeasts - 172.896
- **Tragacanth (gum tragacanth)** - STAB, GRAS/FS, Cheeses and Rel Cheese Prods - Part 133; Froz Desserts - Part 135; Food Dress and Flavorings - Part 169; Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161; GRAS -184.1351

- **Trenbolone Acetate** - VET, REG, 100 ppb - As residues in uncooked liver tissues of cattle - 556.739; 300 ppb - As residues in uncooked kidney tissues of cattle - do; 400 ppb - As residues in uncooked fat tissues of cattle - do; 500 ppb - As residues in uncooked muscle tissues of cattle - do; Use: As implant in cattle - 522.2476
- **Trenbolone Acetate & Estradiol** - VET, REG, Use: As an implant in feedlot cattle (steers) - 522.2477; As residues in cattle - See 556.739 (Trenbolone Acetate) and 556.240 (Estradiol)
- **Triacetin (glyceryl triacetate or 1,2,3-propanetriol triacetate)** - MISC, GRAS, GMP - 184.1901
- **Tricalcium phosphate** - MISC/DS, GRAS/FS, < 2% by wt -Vanilla Powder 169.179; Cereal Prods - Part 137
- **Tricalcium silicate** - AC, GRAS, GMP, 2% - In table salt -182.2906
- **Trichloroethylene** - SOLV, REG, 25 ppm (0.0025%) -Decaffeinated ground coffee - 173.290; 10 ppm (0.001%) -Decaffeinated soluble (instant) coffee extract - 173.290; 30 ppm (0.003%) provided that if residues of other chlorinated solvents are also present, total residues in spice oleoresins < 30 ppm (0.003%) - Spice oleoresins - 173.290
- **Trichloroisocyanuric acid** - SANI, REG, < 100 ppm avail halogen - Followed by adequate drainage - 178.1010
- **Trichloromelamine** - SANI, REG, GMP, See REG -Followed adequate drainage - 178.1010
- **Triethanolamine** - MISC, REG, < 2 ppm in flume water -Used in flume water for washing sugar beets prior to slicing operation - 173.315
- **Triethyl citrate** - MISC, GRAS, 0.25% - In dried egg whites -182.1911
- **Triethylenetetramine cross-linked with epichlorohydrin** - REG, Comp of ion-exchange resins - 173.25
- **Triflouromethane sulfonic acid** - CATALYST, REG, < 0.2% of the reaction mixture to catalyze the directed esterification, <0.2 ppm fluoride as residue in product - In prod of cocoa butter substitute - 173.395
- **Trifluoromethane sulfonic acid** -MISC, REG -173.395
- **2,4,5-Trihydroxybutyrophenone (THBP)** - AOX, REG, < 0.02% of fat or oil - Total antioxidants, in foods except standardized foods which do not list for such use - 172.190
- **Trimethylamine** - MISC, REG - 173.20
- **Trisodium nitrilotriacetate** - BC, REG, < 5 ppm in boiler feedwater - Not for steam contacting milk or milk prods -173.310

- **Trisodium phosphate** - EMUL, GRAS/FS, < 3% by weight of cheese - Cheese - Part 133; MISC, FS, Art Sw Fruit Jellies, Pres, and Jams - 150.141, 150.161
- **Triticum (see dog grass)** - ESO, GRAS - 182.20
- **Tryptophan (L-form only)** - NUTR/DS, REG - 172.320
- **Tuberose** - ESO, GRAS - 182.20
- **Turmeric** - SP/ESO, GRAS, Not permitted in standardized mayonnaise (169.140) & salad dressing (169.150) - 182.20
- **Tunu** - MISC, REG, Comp of chewing gum base - 172.615
- **Turpentine** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Tylosin** - FEED/VET, REG, 0.05 ppm - Residue in milk -556.740; 0.2 ppm - Residue in edible tissues of poultry, cattle & swine - do; Residues in eggs - do; Use: Drinking water - 520.2640;As Injection - 522.2640; For cattle, chicken, & swine feed uses see: 558.55; 558.58; 558.274; 558.625; 558.630; 558.680
- **Tylosin & Sulfamethazine** - FEED, REG, 0.2 ppm - Use in swine feeds - 558.630; Residues (Tylosin) in edible tissue of swine - 556.740; 0.1 ppm - Residues (Sulfamethazine) in edible tissues of swine - 556.740
- **Tyrosine (L-form only)** - NUTR/DS, REG - 172.320

## U

- **Urea** - GRAS, GMP, As formulation/fermentation aid in yeast -raised bakery prods, alc bevs, and gelatin prods -184.1923
- **Urease enzyme from Lactobacillus fermentum** - MISC, GRAS, To inhibit urethane formation in wine - 184.1924

## V

- **Valerian rhizome & roots** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Valeric acid** - MISC, REG, < 1% aliphatic acids - In lye peeling soln for fruits & vegs - 173.315
- **Valine (L-form only)** - NUTR/DS, REG - 172.320
- **Vanilla** - FLAV, GRAS/FS Cacao Prods - Part 163; Food Flavorings - Part 169; SP/ESO, GRAS - 182. 10, 182.20
- **Vanillin** - SYN/FL, GRAS/FS - Cacao Prods - Part 163; Food Flavorings - Part 169; GRAS - 182.60; Migr to food from paper and paperboard prods - 182.90
- **Vegetable oils, brominated** - FL/ADJ, INTERIM/REG, < 15 ppm - In fruit flavored bevs where not prohibited by Standards - 180.30

- **Veronica** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Vervain, European** - FL/ADJ, REG, GMP, In alc bevs only -172.510
- **Verxite flakes** - FEED, REG, < 1% - Anticaking or blending agent in ruminant feeds - 573.1000
- **Verxite granules (Exfoliated hydrobiotite)** - FEED, REG, < 5% - Nonnutritive bulking agent in poultry feed -573.1000; Anticaking, blending agent, pelleting aid, or non-nutritive carrier of nutrients in poultry, swine, & ruminant feed - do; < 1.5% - Anticaking, blending agent, etc. in dog food - 573.1000
- **Verxite grits** - FEED, REG, < 1% - Partial roughage replacement in ruminant feeds - 573.1000
- **Vetiver** - FL/ADJ, REG, GMP, In alc bevs only - 172.510
- **Vinyl acetate** - MISC, REG, Modifier for food starch -172.892
- **Vinyl chloride-vinylidene chloride copolymer** - CTG, REG, GMP, Comp of ctg on fresh citrus fruits - 172.210
- **Violet flowers & leaves** - ESO, GRAS - 182.20
- **Violet leaves absolute** - ESO, GRAS - 182.20
- **Violet, Swiss** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Virginiamycin** - FEED, REG, 0.4 ppm - Residue in edible tissues, kidney, skin, & fat of swine - 556.750; 0.3 ppm -Residue in swine liver - 556.750; 0.1ppm - Residue in swine muscle - 556.750; Use in swin & chicken feeds - 558.635
- **Vitamin A** - NUTR/DS, GRAS, GMP - 182.5930, 184.1930; GRAS/FS, Milk and Cream - Part 131; Cheeses and Rel Cheese Prods - Part 133; Mellorine - 135.130; Margarine
- **Vitamin A acetate** - NUTR/DS, GRAS, GMP - 182.5933, 184.1930
- **Vitamin A palmitate** - NUTR/DS, GRAS, GMP - 182.5936, 184.1930
- **Vitamin B** - NUTR/DS, GRAS
- **Vitamin B12** - NUTR/DS, GRAS, GMP - 182.5945, 184.1945
- **Vitamin C** - See Ascorbic Acid
- **Vitamin D** - NUTR/DS, GRAS, Nutrient supplement -182.5950, 182.5953, 184.1950; > 350 IU/100 g, Cereal Prods - Part 137; 90 IU/100g, Macaroni and Noodle Prods -Part 139; 42 IU/100g, Milk - Part 131; 89 IU/100g - Milk prods
- **Vitamin D2** - NUTR, REG, Crystalline vitamin D2 as a nutrient supplement at levels not to exceed 50 International Units (IU) per 100 grams (g) of soy beverages, 89 IU per 100 g of soy beverage products, 330 IU per 100 g of soy-based butter substitute spreads, and 270

IU per 100 g of soy-based cheese substitutes and soy-based cheese substitute products.-172.379

- **Vitamin D3** - NUTR, REG, Nutrient supplement in calcium-fortified fruit juices and fruit juice drinks at levels not to exceed 100 IU per 240 mL, special dietary soy-protein based meal replacement beverages at = 140 IU per 240mL, special dietary meal replacement bars or other type bars at = 100 IU per 40g, cheese and cheese products at = 81 IU per 30g, excluding cottage cheese, ricotta cheese, and hard grating cheeses . - 172.380
- **Volatile Fatty Acids: Isobutyric Acid, Isovaleric Acid, methylbutyric Acid, m-Valeric Acid (As calcium or ammonium salts)** - ADD, REG, 48-54% as ammonia salts - Use in dairy cattle feeds as source of energy - 573.914; 58-72% as calcium salts

## W

- **Walnut husks, leaves & green nuts** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Wax, paraffin (Fischer-Tropsch)** - MISC, REG, GMP, Comp of chewing gum base - 172.615
- **Wax, paraffin** - CTG, FS, Surface ctg for certain cheeses -Part 133
- **Wheat Starch** - GRAS, Migr from cotton and cotton fabrics used in dry food pkg - 182.70
- **Wheat gluten, vital** - GRAS, GMP - 184.1322
- **Whey, fermented, ammoniated, condensed** - FA, REG, > 30% of dietary crude protein - Source of protein & non-protein nitrogen for cattle - 573.450
- **Whey, reduced lactose whey, reduced minerals whey, whey protein concentrate** -GRAS -184.1979, 184.1979a-c; GRAS/FS, Froz Desserts - Part 135
- **White Mineral Oil** - See Mineral Oil, White - 172.878
- **Whole fish protein concentrate** - DS, REG, See REG, < 20 g/ day when consumed regularly by children up to 8 yrs of age - For household use only - package size < 1 lb net wt - 172.385; < 8 ppm total fluoride content of finished food - When used in manufactured food - 172.385
- **Wild Cherry bark** - ESO, GRAS - 182.20
- **Wood rosin** - CTG, REG, GMP, X-ref wi Rosin, wood, For fresh citrus fruits - 172.210
- **Woodruff, sweet** - FL/ADJ, REG, GMP, In alc bevs only -172.510

## X

- **Xanthan gum** - EMUL, REG, GMP, In foods which standards do not preclude use - 172.695; FS, Food Dress - Part 169; Cheeses and Rel Cheese Prods - Part 133; 0.25% max

use level liquid feeds for ruminants - In animal feeds (stabilizer, thickener, suspending agent) - 573.1010; 0.1% in calf milk replacer (as fed)

- **Xylitol** - MISC, REG, Amt used is not > that required to produce its intended effect - May be safely used in foods for special dietary uses - 172.395

## Y

- **Yarrow** - FL/ADJ, REG, GMP, In bevs only, finished bevs Thujone free - 172.510
- **Yeast (Bakers, *Saccharomyces cerevisiae*)** - FS, Egg Prods - Part 160
- **Yeast, dried** - DS, REG - In food provided total folic acid content < 0.04 mg/g of yeast - 172.896; NUTR, GRAS/FS, < 1.5% by wt of finished food - Enriched Corn Grits, Enriched Corn Meal - 137.235, 137.260; Macaroni and Noodle Prods - Part 139
- **Yeast, dried, inactive** - FLAV, REG/FS, < 0.25 parts for each 100 parts by weight of flour used - Bakery Prods - Part 136; Macaroni and Noodle Prods - Part 139; DS, REG - See Yeast, dried - 172.896
- **Yeast, dried, irradiated** - NUTR, GRAS/DS, Enriched Farina as source of Vitamin D - 137.305
- **Yeast extract (Bakers)** - FL/ADJ, GRAS, < 5% in food, See Specs - 184.1983
- **Yeast, malt sprout extract** - FL/ADJ, REG, GMP, As a flavor enhancer - 172.590
- **Yeast, torula, dried** - DS, REG, GMP - In food provided total folic acid content < 0.04 mg/g of yeast - 172.896; X-Ref wi Torula Yeast
- **Yellow prussiate of soda (sodium ferrocyanide decahydrate)** - See Prussiate of Soda, Yellow
- **Yerba santa** - FL/ADJ, REG, GMP, In conjunction w/flavors -172.510
- **Ylang-ylang** - ESO, GRAS - 182.20
- **Yucca, Joshua-tree** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510
- **Yucca, Mohave** - FL/ADJ, REG, GMP, In conjunction w/flavors - 172.510

## Z

- **Zein, powder** - GRAS, GMP - 184.1984
- **Zedoary** - SP, GRAS - 182.10
- **Zedoary bark** - ESO, GRAS - 182.20
- **Zeranol (Zearalanol)** -VET, REG, ZERO - Residues in uncooked edible tissues of sheep - 556.760; 150 ppb - As residues in uncooked edible muscle tissue of cattle -556.760; 300 ppb - As residues in uncooked liver of cattle do; 450 ppb - As residues in uncooked kidney

of cattle - do; 600 ppb - As residues in uncooked fat of cattle - do; Use as implant - 522.2680

- **Zinc (acetate, carbonate, chloride, oxide, sulfate)** NUTR, GRAS, As nutritional dietary supplement in animal feed - 582.80
- **Zinc bacitracin** - FEED, REG, See Bacitracin
- **Zinc chloride** - NUTR/DS, GRAS, GMP - 182.5985, 182.8985
- **Zinc gluconate** - NUTR/DS, GRAS, GMP - 182.5988, 182.8988
- **Zinc methionine sulfate** - NUTR, REG, Tablets - See 172.399 for specs
- **Zinc oxide** - NUTR/DS, GRAS, GMP - 182.5991, 182.8991
- **Zinc stearate** - NUTR/DS, GRAS, GMP, Free from chick edema factor - 182.5994, 182.8994
- **Zinc sulfate** - NUTR/DS, GRAS, GMP - 182.5997, 182.8997; GRAS, Migr to food from paper and paperboard prods - 182.90
- **Zoalene** - FEED, REG, 2 ppm - Residues in uncooked fat of chickens - 556.770; 3 ppm - Residues in uncooked muscle meat of chickens - do; 3 ppm - Residues in uncooked muscle meat & liver of turkeys - do; 6 ppm - Residues in uncooked liver & kidneys of chickens - do; Use in chicken & turkey feeds - 558.60; 558.62; 558.78; 558.128; 558.248; 558.274; 558.450; 558.530; 558.680

Color Additive Status List (</industry/color-additive-inventories/color-additive-status-list>)