

peracetic acid; isomerization by calcium chloride or magnesium chloride treatment in ethylene dichloride, methylene chloride, or trichloroethylene (alternatively, the hydrogenation and isomerization steps may be performed in reverse order); and a further sequence of extractions and fractionations using one or more of the solvents listed in paragraph (b)(5) of this section. The additive shall meet the residue limitations as prescribed in paragraph (b)(5) of this section.

(7) The additive is manufactured from hops as set forth in paragraph (b)(6) of this section followed by reduction with sodium borohydride in aqueous alkaline methyl alcohol, and a sequence of extractions and fractionations using one or more of the solvents listed in paragraph (b)(5) of this section. The additive shall meet the residue limitations as prescribed in paragraph (b)(5) of this section, and a boron content level not in excess of 300 parts per million (0.0300 percent), calculated as boron.

(8) The additive is manufactured from hops as a nonisomerizable non-volatile hop resin by an initial extraction and fractionation using one or more of the solvents listed in paragraph (b)(5) of this section followed by a sequence of aqueous extractions and removal of nonaqueous solvents to less than 0.5 percent. The additive is added to the wort before or during cooking in the manufacture of beer.

**§ 172.575 Quinine.**

Quinine, as the hydrochloride salt or sulfate salt, may be safely used in food in accordance with the following conditions:

| Uses                                 | Limitations   |
|--------------------------------------|---|
| In carbonated beverages as a flavor. | Not to exceed 83 parts per million, as quinine. Label shall bear a prominent declaration of the presence of quinine either by the use of the word "quinine" in the name of the article or through a separate declaration. |

**§ 172.580 Safrole-free extract of sassafras.**

The food additive safrole-free extract of sassafras may be safely used in accordance with the following prescribed conditions:

(a) The additive is the aqueous extract obtained from the root bark of the plant *Sassafras albidum* (Nuttall) Nees (Fam. Lauraceae).

(b) It is obtained by extracting the bark with dilute alcohol, first concentrating the alcoholic solution by vacuum distillation, then diluting the concentrate with water and discarding the oily fraction.

(c) The purified aqueous extract is safrole-free.

(d) It is used as a flavoring in food.

**§ 172.585 Sugar beet extract flavor base.**

Sugar beet extract flavor base may be safely used in food in accordance with the provisions of this section.

(a) Sugar beet extract flavor base is the concentrated residue of soluble sugar beet extractives from which sugar and glutamic acid have been recovered, and which has been subjected to ion exchange to minimize the concentration of naturally occurring trace minerals.

(b) It is used as a flavor in food.

**§ 172.590 Yeast-malt sprout extract.**

Yeast-malt sprout extract, as described in this section, may be safely used in food in accordance with the following prescribed conditions:

(a) The additive is produced by partial hydrolysis of yeast extract (derived from *Saccharomyces cerevisiae*, *Saccharomyces fragilis*, or *Candida utilis*) using the sprout portion of malt barley as the source of enzymes. The additive contains a maximum of 6 percent 5' nucleotides by weight.

(b) The additive may be used as a flavor enhancer in food at a level not in excess of that reasonably required to produce the intended effect.

**Subpart G—Gums, Chewing Gum Bases and Related Substances**

**§ 172.610 Arabinogalactan.**

Arabinogalactan may be safely used in food in accordance with the following conditions:

(a) Arabinogalactan is a polysaccharide extracted by water from Western larch wood, having galactose units and arabinose units in the approximate ratio of six to one.

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(b) It is used in the following foods in the minimum quantity required to produce its intended effect as an emulsifier, stabilizer, binder, or bodying agent: Essential oils, nonnutritive sweeteners, flavor bases, nonstandardized dressings, and pudding mixes.

of chewing gum in accordance with the following prescribed conditions:

(a) The food additive consists of one or more of the following substances that meet the specifications and limitations prescribed in this paragraph, used in amounts not to exceed those required to produce the intended physical or other technical effect.

§ 172.615 Chewing gum base.

The food additive chewing gum base may be safely used in the manufacture

MASTICATORY SUBSTANCES

NATURAL (COAGULATED OR CONCENTRATED LATICES) OF VEGETABLE ORIGIN

| Family   | Genus and species  |
|--|--|
| <b>Sapotaceae:</b>   |  |
| Chicle .....   | Manilkara zapotilla Gilly and Manilkara chicle Gilly.  |
| Chiquibul .....  | Manilkara zapotilla Gilly.   |
| Crown gum .....  | Manilkara zapotilla Gilly and Manilkara chicle Gilly.  |
| Gutta hang kang .....  | Palaquium leiocarpum Boerl. and Palaquium oblongifolium Burck.   |
| Massaranduba balata (and the solvent-free resin extract of Massaranduba balata). | Manilkara huberi (Ducke) Chevalier.  |
| Massaranduba chocolate .....   | Manilkara solimoensis Gilly.   |
| Nispero .....  | Manilkara zapotilla Gilly and Manilkara chicle Gilly.  |
| Rosidinha (rosadinha) .....  | Micropholis (also known as Sideroxylon) spp.   |
| Venezuelan chicle .....  | Manilkara williamsii Standley and related spp.   |
| <b>Apocynaceae:</b>  |  |
| Jelutong .....   | Dyera costulata Hook, F. and Dyera lowii Hook, F.  |
| Leche caspi (sorva) .....  | Couma macrocarpa Barb. Rodr.   |
| Pendare .....  | Couma macrocarpa Barb. Rodr. and Couma utilis (Mart.) Muell. Arg.  |
| Perillo .....  | Couma macrocarpa Barb. Rodr. and Couma utilis (Mart.) Muell. Arg.  |
| <b>Moraceae:</b>   |  |
| Leche de vaca .....  | Brosimum utile (H.B.K.) Pittier and Poulsenia spp.; also Lacmellea standleyi (Woodson), Monachino (Apocynaceae). |
| Niger gutta .....  | Ficus platyphylla Del.   |
| Tunu (tuno) .....  | Castilla fallax Cook.  |
| <b>Euphorbiaceae:</b>  |  |
| Chilte .....   | Cnidoscopus (also known as Jatropha) elasticus Lundell and Cnidoscopus tepiquensis (Cost. and Gall.) McVaugh.    |
| Natural rubber (smoked sheet and latex solids).                                  | Hevea brasiliensis.  |

| Synthetic                                      | Specifications   |
|--|--|
| Butadiene-styrene rubber .....                 | Basic polymer.   |
| Isobutylene-isoprene copolymer (butyl rubber). | Do.  |
| Paraffin .....                                 | Synthesized by Fischer-Tropsch process from carbon monoxide and hydrogen which are catalytically converted to a mixture of paraffin hydrocarbon. Lower molecular weight fractions are removed by distillation. The residue is hydrogenated and further treated by percolation through activated charcoal. The product has a congealing point of 93°–99 °C as determined by ASTM method D938–71 (Reapproved 1981), "Standard Test Method for Congealing Point of Petroleum Waxes, Including Petrolatum," a maximum oil content of 0.5 percent as determined by ASTM method D721–56T, "Tentative Method of Test for Oil Content of Petroleum Waxes," and an absorptivity of less than 0.01 at 290 millimicrons in decahydronaphthalene at 88 °C as determined by ASTM method D2008–80, "Standard Test Method for Ultraviolet Absorbance and Absorptivity of Petroleum Products," which are incorporated by reference. Copies may be obtained from the American Society for Testing Materials, 1916 Race St., Philadelphia, PA 19103, or may be examined at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC 20408. |
| Petroleum wax .....                            | Complying with § 172.886.  |
| Petroleum wax synthetic .....                  | Complying with § 172.888.  |
| Polyethylene .....                             | Molecular weight 2,000–21,000.   |
| Polyisobutylene .....                          | Minimum molecular weight 37,000 (Flory).   |
| Polyvinyl acetate .....                        | Molecular weight, minimum 2,000.   |