

## Food and Drug Administration, HHS

## § 173.10

- 173.120 Carbohydrase and cellulase derived from *Aspergillus niger*.  
173.130 Carbohydrase derived from *Rhizopus oryzae*.  
173.135 Catalase derived from *Micrococcus lysodeikticus*.  
173.140 Esterase-lipase derived from *Mucor miehei*.  
173.145 Alpha-Galactosidase derived from *Mortierella vinaceae* var. *raffinoseutilizer*.  
173.150 Milk-clotting enzymes, microbial.  
173.160 *Candida guilliermondii*.  
173.165 *Candida lipolytica*.  
173.170 Aminoglycoside 3'-phosphotransferase II.

### Subpart C—Solvents, Lubricants, Release Agents and Related Substances

- 173.210 Acetone.  
173.220 1,3-Butylene glycol.  
173.228 Ethyl acetate.  
173.230 Ethylene dichloride.  
173.240 Isopropyl alcohol.  
173.250 Methyl alcohol residues.  
173.255 Methylene chloride.  
173.270 Hexane.  
173.275 Hydrogenated sperm oil.  
173.280 Solvent extraction process for citric acid.  
173.290 Trichloroethylene.

### Subpart D—Specific Usage Additives

- 173.300 Chlorine dioxide.  
173.310 Boiler water additives.  
173.315 Chemicals used in washing or to assist in the peeling of fruits and vegetables.  
173.320 Chemicals for controlling microorganisms in cane-sugar and beet-sugar mills.  
173.322 Chemicals used in delinting cottonseed.  
173.325 Acidified sodium chlorite solutions.  
173.340 Defoaming agents.  
173.342 Chlorofluorocarbon 113 and perfluorohexane.  
173.345 Chloropentafluoroethane.  
173.350 Combustion product gas.  
173.355 Dichlorodifluoromethane.  
173.357 Materials used as fixing agents in the immobilization of enzyme preparations.  
173.360 Octafluorocyclobutane.  
173.368 Ozone.  
173.370 Peroxyacids.  
173.375 Cetylpyridinium chloride.  
173.385 Sodium methyl sulfate.  
173.395 Trifluoromethane sulfonic acid.  
173.400 Dimethyldialkylammonium chloride.

AUTHORITY: 21 U.S.C. 321, 342, 348.

SOURCE: 42 FR 14526, Mar. 15, 1977, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 173 appear at 61 FR 14482, Apr. 2, 1996, 66 FR 56035, Nov. 6, 2001, and 66 FR 66742, Dec. 27, 2001.

### Subpart A—Polymer Substances and Polymer Adjuvants for Food Treatment

#### § 173.5 Acrylate-acrylamide resins.

Acrylate-acrylamide resins may be safely used in food under the following prescribed conditions:

(a) The additive consists of one of the following:

(1) Acrylamide-acrylic acid resin (hydrolyzed polyacrylamide) is produced by the polymerization of acrylamide with partial hydrolysis, or by copolymerization of acrylamide and acrylic acid, with the greater part of the polymer being composed of acrylamide units.

(2) Sodium polyacrylate-acrylamide resin is produced by the polymerization and subsequent hydrolysis of acrylonitrile in a sodium silicate-sodium hydroxide aqueous solution, with the greater part of the polymer being composed of acrylate units.

(b) The additive contains not more than 0.05 percent of residual monomer calculated as acrylamide.

(c) The additive is used or intended for use as follows:

(1) The additive identified in paragraph (a) (1) of this section is used as a flocculent in the clarification of beet sugar juice and liquor or cane sugar juice and liquor or corn starch hydrolyzate in an amount not to exceed 5 parts per million by weight of the juice or 10 parts per million by weight of the liquor or the corn starch hydrolyzate.

(2) The additive identified in paragraph (a)(2) of this section is used to control organic and mineral scale in beet sugar juice and liquor or cane sugar juice and liquor in an amount not to exceed 2.5 parts per million by weight of the juice or liquor.

[42 FR 14526, Mar. 15, 1977, as amended at 46 FR 30494, June 9, 1981]

#### § 173.10 Modified polyacrylamide resin.

Modified polyacrylamide resin may be safely used in food in accordance

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with the following prescribed conditions:

(a) The modified polyacrylamide resin is produced by the copolymerization of acrylamide with not more than 5-mole percent  $\beta$ -methacryloyloxyethyltrimethylammonium methyl sulfate.

(b) The modified polyacrylamide resin contains not more than 0.05 percent residual acrylamide.

(c) The modified polyacrylamide resin is used as a flocculent in the clarification of beet or cane sugar juice in an amount not exceeding 5 parts per million by weight of the juice.

(d) To assure safe use of the additive, the label and labeling of the additive shall bear, in addition to the other information required by the act, adequate directions to assure use in compliance with paragraph (c) of this section.

### § 173.20 Ion-exchange membranes.

Ion-exchange membranes may be safely used in the processing of food under the following prescribed conditions:

(a) The ion-exchange membrane is prepared by subjecting a polyethylene base conforming to §177.1520 of this chapter to polymerization with styrene until the polystyrene phase of the base is not less than 16 percent nor more than 30 percent by weight. The base is then modified by reaction with chloromethyl methyl ether, and by subsequent amination with trimethylamine, dimethylamine, diethylenetriamine, or dimethylethanolamine.

(b) The ion-exchange membrane is manufactured so as to comply with the following extraction limitations when subjected to the described procedure: Separate square-foot samples of membrane weighing approximately 14 grams each are cut into small pieces and refluxed for 4 hours in 150 cubic centimeters of the following solvents: Distilled water, 5 percent acetic acid, and 50 percent alcohol. Extraction from each sample will not exceed 0.4 percent by weight of sample.

(c) The ion-exchange membrane will be used in the production of grapefruit juice to adjust the ratio of citric acid to total solids of the grapefruit juice produced.

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### § 173.21 Perfluorinated ion exchange membranes.

Substances identified in paragraph (a) of this section may be safely used as ion exchange membranes intended for use in the treatment of bulk quantities of liquid food under the following prescribed conditions:

(a) *Identity.* The membrane is a copolymer of ethanesulfonyl fluoride, 2-[1-[difluoro-[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, with tetrafluoroethylene that has been subsequently treated to hydrolyze the sulfonyl fluoride group to the sulfonic acid. The Chemical Abstracts Service name of this polymer is ethanesulfonic acid, 2-[1-[difluoro-[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with tetrafluoroethane (CAS Reg. No. 31175-20-9).

(b) *Optional adjuvant substances.* The basic polymer identified in paragraph (a) of this section may contain optional adjuvant substances required in the production of such basic polymer. These optional adjuvant substances may include substances used in accordance with §174.5 of this chapter.

(c) *Conditions of use.* (1) Perfluorinated ion exchange membranes described in paragraph (a) of this section may be used in contact with all types of liquid foods at temperatures not exceeding 70° (158 °F).

(2) Maximum thickness of the copolymer membrane is 0.007 inch (0.017 centimeter).

(3) Perfluorinated ion exchange membranes shall be maintained in a sanitary manner in accordance with current good manufacturing practice so as to prevent microbial adulteration of food.

(4) To assure their safe use, perfluorinated ionomer membranes shall be thoroughly cleaned prior to their first use in accordance with current good manufacturing practice.

[59 FR 15623, Apr. 4, 1994]

### § 173.25 Ion-exchange resins.

Ion-exchange resins may be safely used in the treatment of food under the following prescribed conditions: