

**§ 173.290 Trichloroethylene.**

Tolerances are established for residues of trichloroethylene resulting from its use as a solvent in the manufacture of foods as follows:

Decaffeinated ground coffee	25 parts per million.
Decaffeinated soluble (instant) coffee extract	10 parts per million.
Spice oleoresins .....	30 parts per million (provided that if residues of other chlorinated solvents are also present, the total of all residues of such solvents in spice oleoresins shall not exceed 30 parts per million).

**Subpart D—Specific Usage Additives**

**§ 173.300 Chlorine dioxide.**

Chlorine dioxide (CAS Reg. No. 10049-04-4) may be safely used in food in accordance with the following prescribed conditions:

(a)(1) The additive is generated by one of the following methods:

(i) Treating an aqueous solution of sodium chlorite with either chlorine gas or a mixture of sodium hypochlorite and hydrochloric acid.

(ii) Treating an aqueous solution of sodium chlorate with hydrogen peroxide in the presence of sulfuric acid.

(iii) Treating an aqueous solution of sodium chlorite by electrolysis.

(2) The generator effluent contains at least 90 percent (by weight) of chlorine dioxide with respect to all chlorine species as determined by Method 4500-ClO<sub>2</sub> E in the "Standard Methods for the Examination of Water and Wastewater," 20th ed., 1998, or an equivalent method. Method 4500-ClO<sub>2</sub> E ("Amperometric Method II") is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from the Center for Food Safety and Applied Nutrition (HFS-200), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, or the American Public Health Association, 800 I St. NW., Washington, DC 20001-3750. You may inspect a copy at the Center for Food

Safety and Applied Nutrition's Library, 5100 Paint Branch Pkwy., College Park, MD, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(b)(1) The additive may be used as an antimicrobial agent in water used in poultry processing in an amount not to exceed 3 parts per million (ppm) residual chlorine dioxide as determined by Method 4500-ClO<sub>2</sub> E, referenced in paragraph (a)(2) of this section, or an equivalent method.

(2) The additive may be used as an antimicrobial agent in water used to wash fruits and vegetables that are not raw agricultural commodities in an amount not to exceed 3 ppm residual chlorine dioxide as determined by Method 4500-ClO<sub>2</sub> E, referenced in paragraph (a)(2) of this section, or an equivalent method. Treatment of the fruits and vegetables with chlorine dioxide shall be followed by a potable water rinse or by blanching, cooking, or canning.

[60 FR 11900, Mar. 3, 1995. Redesignated at 61 FR 14245, Apr. 1, 1996, as amended at 61 FR 14480, Apr. 2, 1996; 63 FR 38747, July 20, 1998; 65 FR 34587, May 31, 2000; 70 FR 7396, Feb. 14, 2005]

**§ 173.310 Boiler water additives.**

Boiler water additives may be safely used in the preparation of steam that will contact food, under the following conditions:

(a) The amount of additive is not in excess of that required for its functional purpose, and the amount of steam in contact with food does not exceed that required to produce the intended effect in or on the food.

(b) The compounds are prepared from substances identified in paragraphs (c) and (d) of this section, and are subject to the limitations, if any, prescribed:

(c) List of substances:

Substances	Limitations
Acrylamide-sodium acrylate resin .....	Contains not more than 0.05 percent by weight of acrylamide monomer.

Food and Drug Administration, HHS

§ 173.310

Substances	Limitations
<p>Acrylic acid/2-acrylamido-2-methyl propane sulfonic acid copolymer having a minimum weight average molecular weight of 9,900 and a minimum number average molecular weight of 5,700 as determined by a method entitled "Determination of Weight Average and Number Average Molecular Weight of 60/40 AA/AMPS" (October 23, 1987), which is incorporated by reference in accordance with 5 U.S.C. 552(a). Copies may be obtained from the Center for Food Safety and Applied Nutrition (HFS-200), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, or may be examined at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <a href="http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html">http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html</a>.</p>	<p>Total not to exceed 20 parts per million (active) in boiler feedwater.</p>
<p>Ammonium alginate. Cobalt sulfate (as catalyst). 1-hydroxyethylidene-1,1-diphosphonic acid (CAS Reg. No. 2809-21-4) and its sodium and potassium salts. Lignosulfonic acid.</p>	
<p>Monobutyl ethers of polyethylene-polypropylene glycol produced by random condensation of a 1:1 mixture by weight of ethylene oxide and propylene oxide with butanol.</p>	<p>Minimum mol. wt. 1,500.</p>
<p>Poly(acrylic acid-co-hypophosphite), sodium salt (CAS Reg. No. 71050-62-9), produced from a 4:1 to a 16:1 mixture by weight of acrylic acid and sodium hypophosphite.</p>	<p>Total not to exceed 1.5 parts per million in boiler feed water. Copolymer contains not more than 0.5 percent by weight of acrylic acid monomer (dry weight basis).</p>
<p>Polyethylene glycol ..... Polymaleic acid [CAS Reg. No. 26099-09-2], and/or its sodium salt. [CAS Reg. No. 30915-61-8 or CAS Reg. No. 70247-90-4].</p>	<p>As defined in § 172.820 of this chapter. Total not to exceed 1 part per million in boiler feed water (calculated as the acid).</p>
<p>Polyoxypropylene glycol ..... Potassium carbonate. Potassium triphosphosphate. Sodium acetate. Sodium alginate. Sodium aluminate. Sodium carbonate. Sodium carboxymethylcellulose .....</p>	<p>Minimum mol. wt. 1,000.</p>
<p>Sodium glucoheptonate .....</p>	<p>Contains not less than 95 percent sodium carboxymethylcellulose on a dry-weight basis, with maximum substitution of 0.9 carboxymethylcellulose groups per anhydroglucose unit, and with a minimum viscosity of 15 centipoises for 2 percent by weight aqueous solution at 25 °C; by the method prescribed in the "Food Chemicals Codex," 4th ed. (1996), pp. 744-745, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the National Academy Press, Box 285, 2101 Constitution Ave. NW., Washington, DC 20055 (Internet address <a href="http://www.nap.edu">http://www.nap.edu</a>), or may be examined at the Center for Food Safety and Applied Nutrition's Library, Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <a href="http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html">http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html</a>.</p>
<p>Sodium glucoheptonate .....  Sodium hexametaphosphate. Sodium humate. Sodium hydroxide. Sodium lignosulfonate. Sodium metabisulfite. Sodium metasilicate. Sodium nitrate. Sodium phosphate (mono-, di-, tri-). Sodium polyacrylate. Sodium polymethacrylate. Sodium silicate. Sodium sulfate. Sodium sulfite (neutral or alkaline). Sodium triphosphosphate.</p>	<p>Less than 1 part per million cyanide in the sodium glucoheptonate.</p>

§ 173.315

21 CFR Ch. I (4-1-07 Edition)

Substances	Limitations
<p>Sorbitol anhydride esters: a mixture consisting of sorbitan monostearate as defined in § 172.842 of this chapter; polysorbate 60 ((polyoxyethylene (20) sorbitan monostearate) as defined in § 172.836 of this chapter; and polysorbate 20 ((polyoxyethylene (20) sorbitan monolaurate)), meeting the specifications of the Food Chemicals Codex, 4th ed. (1996), pp. 306-307, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the National Academy Press, 2101 Constitution Ave. NW., Box 285, Washington, DC 20055 (Internet <a href="http://www.nap.edu">http://www.nap.edu</a>), or may be examined at the Center for Food Safety and Applied Nutrition's Library, Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <a href="http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html">http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html</a>.</p> <p>Tannin (including quebracho extract). Tetrasodium EDTA. Tetrasodium pyrophosphate.</p>	<p>The mixture is used as an anticorrosive agent in steam boiler distribution systems, with each component not to exceed 15 parts per million in the steam.</p>

(d) Substances used alone or in combination with substances in paragraph (c) of this section:

Substances	Limitations
Cyclohexylamine .....	Not to exceed 10 parts per million in steam, and excluding use of such steam in contact with milk and milk products.
Diethylaminoethanol .....	Not to exceed 15 parts per million in steam, and excluding use of such steam in contact with milk and milk products.
Hydrazine .....	Zero in steam.
Morpholine .....	Not to exceed 10 parts per million in steam, and excluding use of such steam in contact with milk and milk products.
Octadecylamine .....	Not to exceed 3 parts per million in steam, and excluding use of such steam in contact with milk and milk products.
Trisodium nitrilotriacetate .....	Not to exceed 5 parts per million in boiler feedwater; not to be used where steam will be in contact with milk and milk products.

(e) To assure safe use of the additive, in addition to the other information required by the Act, the label or labeling shall bear:

(1) The common or chemical name or names of the additive or additives.

(2) Adequate directions for use to assure compliance with all the provisions of this section.

[42 FR 14526, Mar. 15, 1977, as amended at 45 FR 73922, Nov. 7, 1980; 45 FR 85726, Dec. 30, 1980; 48 FR 7439, Feb. 22, 1983; 49 FR 5748, Feb. 15, 1984; 49 FR 10106, Mar. 19, 1984; 50 FR 49536, Dec. 3, 1985; 53 FR 15199, Apr. 28, 1988; 54 FR 31012, July 26, 1989; 55 FR 12172, Apr. 2, 1990; 61 FR 14245, Apr. 1, 1996; 64 FR 1759, Jan. 12, 1999; 64 FR 29227, June 1, 1999]

**§ 173.315 Chemicals used in washing or to assist in the peeling of fruits and vegetables.**

Chemicals may be safely used to wash or to assist in the peeling of fruits and vegetables in accordance with the following conditions:

(a) The chemicals consist of one or more of the following:

(1) Substances generally recognized as safe in food or covered by prior sanctions for use in washing fruits and vegetables.

(2) Substances identified in this subparagraph and subject to such limitations as are provided: