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Title 21 - Food and Drugs

Chapter I - Food and Drug Administration, Department of Health and Human Services

Subchapter B - Food for Human Consumption

Part 173 - Secondary Direct Food Additives Permitted in Food for Human Consumption

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

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

Subpart D - Specific Usage Additives

Editorial Note: Nomenclature changes to part 173 appear at 61 FR 14482, Apr. 2, 1996, 66 FR 56035, Nov. 6, 2001, 66 FR 66742, Dec. 27, 2001, 81 FR 49896, July 29, 2016.

§ 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-ClO₂ E in the "Standard Methods for the Examination of Water and Wastewater," 20th ed., 1998, or an equivalent method. Method 4500-ClO₂ 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 Office of Food Additive Safety (HFS-200), Center for Food Safety and Applied Nutrition, Food and Drug Administration, 5001 Campus Dr., 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 Food and Drug Administration's Main Library, 10903 New Hampshire Ave., Bldg. 2, Third Floor, Silver Spring, MD 20993, 301-796-2039, 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.

(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-ClO₂ 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-ClO₂ 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.