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(54) Title: METHODS OF SIMULTANEOUSLY CLEANING AND DISINFECTING INDUSTRIAL WATER SYSTEMS

(57) Abstract: On-line and Off-line methods of simultaneously cleaning and disinfecting an industrial water system are described and claimed. The methods involve the addition to the water of the industrial water system of a Compound selected from the group consisting of the alkali salts of chlorite and chlorate and mixtures thereof; and an acid, followed by allowing the water in the industrial water system to circulate for several hours. The reaction of the alkali salts of chlorite and chlorate and acid produces chlorine dioxide in-situ in the water of the industrial water system. The chlorine dioxide kills microorganisms and the acid acts to remove deposits upon the water-contact surfaces of the equipment. An alternative method involves the use of a chelating agent and a biocide. Other possible cleaning and disinfection reagents may be added as needed including corrosion inhibitors, chelating agents, biocides, surfactants and reducing agents. These cleaning and disinfecting methods work in a variety of industrial water systems including cooling water and boiler water systems.



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