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(54) Title: STABLE COMPOSITIONS OF UNCOMPLEXED IODINE AND METHODS OF USE

(57) Abstract: The present invention is directed to a composition in solution (often, an aqueous solution) which comprises a combination of molecular iodine (I₂) and an acceptable source of iodate (IO₃⁻), and an acid (inorganic or organic), wherein iodide and iodate are present in the composition at a molar ratio of about 0.1 to about 25, the concentration of uncomplexed molecular iodine is a disinfectant, biocidal and/or antimicrobial (depending upon the end use of the composition) effective amount the concentration of acid in the composition is effective to provide a buffering pH in the composition ranging from about 1.5 to about 6.5. Compositions according to the present invention are storage stable for unexpectedly long periods of time (up to about 5 years), and find use as disinfecting solutions, as germicides and/or biocides (e.g. antiviral, antibacterial, antifungal, antisporic etc.) for various surfaces and solutions including living and inanimate surfaces and are particularly useful because of their low cost, their reduced use of iodine, their activity (because of the high concentration of free molecular iodine in solution), their reduced environmental impact, their long term storage stability and their reduced toxicity. They also have particular utility in treating food surfaces to retard spoilage, increase useful shelf-life and minimize the human and economic cost of food waste. The compositions inactivate viruses, bacteria (both gram negative and positive), spores and fungi. Compositions according to the present invention may be used and stored in a variety of materials, given the substantial absence of corrosion (non-corrosive) these compositions display. Dental compositions (e.g. preprocedural rinses and other compositions) and methods related thereto are also disclosed.

