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[Continued on next page]

(54) Title: ELECTROLYTIC PRODUCTION OF HALOGEN BASED DISINFECTANT SOLUTIONS FROM WATERS CONTAINING HALIDES AND AMMONIA

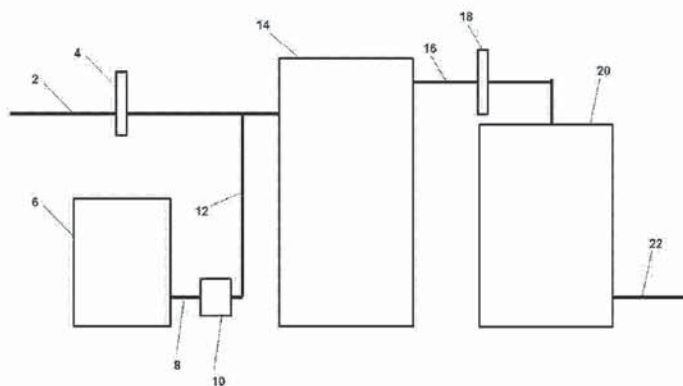


FIG. 1

(57) Abstract: Disclosed in the present invention are methods and apparatuses for the electrochemical conversion of halide ion containing brines into halogen based disinfection solutions while the impact of scale formation on electrochemical system operations. This is accomplished by controllably modifying the brine with one or more of halide ions, a halogen stabilization compound, an acid component, or a buffering component. These chemical modifications of the brine allow for the production of stabilized halogen solutions, which can then be used as disinfectants. The present invention is especially useful in the production of halogen-based biocides from flowback or produced waters resulting from oil and gas production, but can be applied to any halide ion containing water stream, including reject water from reverse osmosis filtration processes or ocean water, that contains ammonia.

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