Docket #: S21-312

Electrochemical Dechlorination of Chloraminated Water and Wastewater Effluent

Wastewater treatment facilities commonly add chlorine or chloramines at the end of treatment as a final disinfectant. While effective, any wastewater must be dechlorinated before release to prevent killing aquatic organisms. Most facilities utilize bisulfate to neutralize chlorine, but bisulfate is expensive and generates sulfate which can build in downstream utilities. Stanford researchers have developed an electrochemical dechlorination method that circumvents the need for bisulfate. Stainless steel cathodes tested in a batch reactor were able to degrade chloramines within 20 minutes, making this a viable method for municipal scale flow reactors. Smaller scale devices could also be utilized in homes and buildings to provide dechlorinated drinking water.

Stage of Research
Proof of concept

Applications

- Wastewater treatment
- Water dechlorination

Advantages

- Eliminates need to use expensive bisulfate
- Avoids increasing salinity of treated water
- Eliminates chlorine taste from water

Patents

- Published Application: 20230074165

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