Title Sanitization potency of slightly acidic electrolyzed water against pure cultures of *Escherichia coli* and *Staphylococcus aureus*, in comparison with that of other food sanitizers

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Abstract

The sanitization potency of slightly acidic electrolyzed water (SAEW) on pure cultures of *Staphylococcus aureus* (*S. aureus*) and *Escherichia coli* (*E. coli*) was evaluated. The potency was compared with that of strong acidic electrolyzed water (StAEW) and sodium hypochlorite (NaOCl) solution. SAEW (ca. pH 5.8 and 21 mg/l available chlorine concentration; ACC) resulted into >5 $\log_{10}$CFU/ml reduction of *E. coli* and *S. aureus* after 90 s of exposure. The relative bacterial reduction potency at each exposure time was in the order StAEW > NaOCl > SAEW and increased with exposure time, with relative effect being 90 s > 60 s > 30 s. The results indicate that SAEW with low ACC and near neutral pH can potentially sanitize *E. coli* and *S. aureus* within a short period of exposure presenting a potential replacement to NaOCl solution commonly used in the food industry.