

# Antimicrobial Particle with Affinity for Diverse Bacteria and Bacterial Films

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## ABSTRACT

Researchers at the University of California, Davis have developed an antimicrobial particle with the ability to bind bacteria and biofilm.

## FULL DESCRIPTION

Contamination can occur thought the entire food production process, starting at production through processing, distribution and preparation. Washing food (including produce) with water can still leave behind bacteria and microbes on the surface. Current chemical treatments, such as chlorine in wash water, reduce the amount of microbes and bacteria but more efficient cleaning methods could improve both food safety and shelf life.

Researchers at the University of California, Davis have developed a sanitation method that uses surface bound chlorine-particles for the treatment of fresh produce, raw meat and food contact surfaces. The particles can be used thought the food production process - on the soil during food production to any food contact surfaces in processing, distribution and preparation. The designed particles can carry a variety of antimicrobial agents to bind specific and diverse bacteria and biofilms. In tests completed by the researchers, a concentration of 2 mg/ml of this sanitizer led to a greater than 5 log reduction in both pathogenic and spoilage microbes. Chlorine in wash water only produced a 2 log reduction. These particles can substantially decrease the costs associated with sanitation products and increase the speed of sanitation processes.

## APPLICATIONS

- ▶ Rapid inactivation of bacteria and microbes throughout the food production process
- ▶ Sanitation of food contacting surfaces
- ▶ Remove microbes from the surface of fresh produce (including organic produce) and raw meat

## FEATURES/BENEFITS

- ▶ Improve food safety and shelf life
- ▶ Effective at low concentrations
- ▶ Carry diversity of antimicrobial agents
- ▶ Target specific and diverse bacteria and biofilms
- ▶ Rapid inactivation
- ▶ Works on food (including seed coating) and environment (including soil) and can be implemented throughout the food production process

## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	<a href="#">20200337304</a>	10/29/2020	2017-874

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## OTHER INFORMATION

### KEYWORDS

produce, antimicrobial, food science, particle-cased, sanitizer, surface chemistry, chlorine, organic, food safety, shelf life, raw meat, food contact surfaces, particle-based, fresh food products

### CATEGORIZED AS

- ▶ **Agriculture & Animal Science**
  - ▶ Chemicals
  - ▶ Processing and Packaging

### RELATED CASES

2017-874-0

