



## TECHNOLOGY

# A Biodegradable and Less Toxic Alternative to Lead Removal From Water

## OVERVIEW

### Background

The World Health Organization (WHO) estimates that lead poisoning contributes to 0.6% of the global disease burden in terms of disability adjusted life years (DALYs). Food and drinking water are chief sources for lead poisoning, which can be remediated through elimination of lead use, improved monitoring, and preventive mechanisms that include active lead removal processes. Several plant, animal, synthetic, and mineral-based materials can be used to remove lead from water. An effective removal strategy must include considerations of cost, metal ion selectivity, and environmental burden posed upon disposal.

### Innovative Technology

Researchers at the University of Maryland developed a self-assembled hydrogel based formulation comprising naturally occurring materials that are biodegradable and less toxic to selectively remove high amounts of lead from water. Such a formulation not only removes lead but also is recoverable/reusable, which potentially might provide for a cost-effective lead-removal strategy. In addition, the biodegradability of the material reduces environmental burden while being robust on metal ion selectivity and cost-effectiveness.

### Advantages

- Biodegradable material that is less toxic than many current alternatives
- Fast removal of high concentrations of metals with specific selectivity to lead (Pb<sup>2+</sup>)

### Applications

- Lead/heavy metal removal from water

## CONTACT INFO

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## Additional Information

### INSTITUTION

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### LICENSE STATUS

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### EXTERNAL RESOURCES

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