

Water and Sanitation in the News

New Polymer Could 'Revolutionize' Water Purification

Researchers at Cornell University have found a new polymer that can purify water in seconds. The findings, published in the scientific journal Nature, "demonstrate the promise of porous cyclodextrin-based polymers for rapid, flow-through water treatment," the researchers said. "The discovery could revolutionize the water-purification industry, make the process cheaper, and involve minimum energy," RT recently reported.

How promising is this approach? The study noted:

The polymer can be regenerated several times using a mild washing procedure with no loss in performance. Finally, the polymer outperformed a leading activated carbon for the rapid removal of a complex mixture of organic micropollutants at environmentally relevant concentrations.



Will Dichtel, the lead researcher and an associate professor of chemistry, weighed in on the findings. "What we did is make the first high-surface-area material made of cyclodextrin [sugar molecules bound together in a ring], combining some of the advantages of the activated carbon with the inherent advantages of the cyclodextrin... These materials will remove pollutants in seconds, as the water flows by. So there's a potential for really low-energy, flow-through water purification, which is a big deal," he said, per RT.

How did the study work?

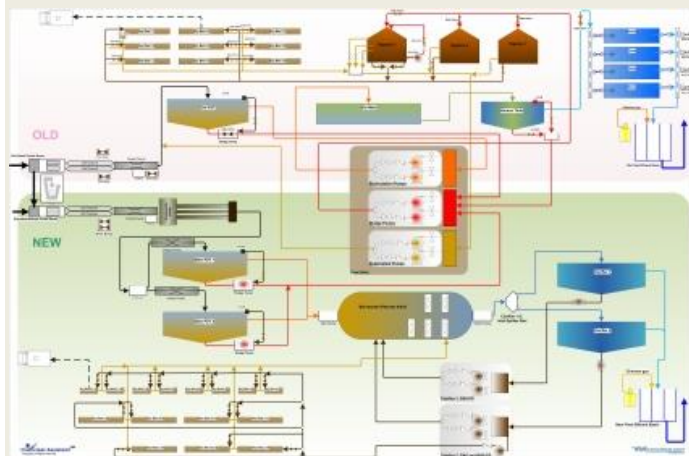
"The group invented a porous form of cyclodextrin that has displayed uptake of pollutants through adsorption at rates vastly superior to traditional activated carbon — 200 times greater in some cases," according to an announcement from the university. The researchers "used the same material found in Febreze, cyclodextrin."

The team brought in Damian Helbling, a water expert and assistant professor of civil and environmental engineering. "Helbling noted that his group challenged the polymer in a way that [the original] group hadn't, to see if it would adsorb various pollutant mixtures at lower concentrations relevant for real-world water purification," the university said. "[Our contribution was] proving that even under environmentally relevant conditions, the phenomena that they were observing were repeatable. And they were," Helbling said.

Sources: [Water Online](#), 13 January 2016

The **Municipal Assistant™** software system helps to prevent incidents of water purification failures by facilitating the efficient asset management and operational activities WTW and WWTW.

The Municipal Assistant™ was developed as an operational information system to assist with the assessment (on component level including cost and lifespan), operations, maintenance (preventive and reactive) and management of water and wastewater facilities and related infrastructure.



All WTWs and WWTWs are unique and before the MA™ system is implemented, or as a standalone service, **WAMTechnology** can conduct asset assessments and produce technical drawings such as plant layout, water cycle and process flow diagrams. In doing so, WAMTech will provide custom made operational manuals and maintenance plans which would provide local water services authorities with a clear 'road map' of the best way to reach the 'destination' of clean drinking water and sustainable service delivery.

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