Ultrafiltration of phenol from water using a non-toxic, biodegradable, sugar-based surfactant

Technology #m07-088

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Traditional monomeric surfactants used in micellar-enhanced ultrafiltration (MEUF) of water are not biodegradable. Since they can pass through ultrafiltration membranes, they may potentially re-contaminate filtered water. Therefore, there is a need for non-toxic, biodegradable surfactants that can be used to remove organic pollutants from industrial waste water or contaminated ground water without risk of water recontamination. The technology is a novel, biodegradable surfactant made from a renewable resource, sugar.

By using a non-toxic and biodegradable surfactant, pollutants can be removed without fear of recontamination

This technology is an ultrafiltration technique for removing phenol and other organic compounds from contaminated water by adding a surfactant to the water and passing the resulting micellar solution through an ultrafiltration membrane. The surfactants used by the technology (n-dodecyl-B-D-maltoside and other alkylglycosides) are biodegradable compounds derived from sugar.

Applications:

* Removes phenol and other somewhat water-soluble organic compounds from water without recontamination
* Low energy costs

Advantages:

* Because the technology is non-toxic, it cannot re-contaminate filtered water
* The technology is biodegradable
* The technology is developed from sugar which is a renewable resource

Patent information:
Patent Pending (US20080308495) ~ see link below.

Licensing Status: Available for Sponsored Research Support

Related Publications:

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