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## BioBarrier Offers New Approach to Treating Wastewater Onsite

By Brent Ehrlich

Treating wastewater for onsite use could take a burden off our aging infrastructure while creating high-quality water that won't contaminate local watersheds (as septic systems can), but capturing and treating wastewater for reuse is tricky. For example, reusing graywater from bathing and washing clothes requires separating it from blackwater from toilets and kitchen sinks, and to prevent growth of bacteria it has to be chemically treated or used immediately for landscape irrigation. Kansas manufacturer Bio-Microbics has developed a residential wastewater treatment system, BioBarrier, that can process combined household wastewater, including blackwater, into non-potable water clean enough to be reused onsite, even indoors. BioBarrier is currently the only system that meets the ANSI/NSF Standard 350 for Onsite Residential and Commercial Water Reuse Treatment Systems.



The MBR unit in this 500-gallon-per-day BioBarrier system uses micro- and ultrafiltration to process blackwater into water suitable for non-potable reuse.

BioBarrier is a modular system that treats a household's wastewater using membrane bioreactors (MBR), simplified versions of technology found in many municipal wastewater treatment systems. It is not a full water reuse system, in that it does not contain water storage or distribution networks; those would have to be purchased and installed separately. BioBarrier units certified to NSF 350 use a two-compartment septic tank, an MBR cartridge, a blower, a pump, and controls. Household wastewater (influent) flows into the first chamber, where solids settle out to be pumped out later, like in other septic systems. The company's SaniTEE device (essentially a cleanable pre-filter) separates out remaining larger pieces before the water flows into a second chamber.

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