

CRIQ and INRS awarded a patent for a system that removes micropollutants from wastewater

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A US patent was recently awarded jointly to Centre de recherche industrielle du Québec (CRIQ) and Institut national de recherche

scientifique (INRS) for a system and a process that remove emerging micropollutants from industrial wastewater.

In preliminary studies the patented membrane bioreactor system eliminated 99% of bisphenol-A (BPA) and other compounds in heavily contaminated wastewater. BPA, which is used in the manufacture of plastics, is a micropollutant thought to disrupt various physiological mechanisms. The system is designed for installation at factory outlets to treat wastewater at the source and can also be incorporated into wastewater treatment plants.

Other efforts ongoing to treat hospital wastewater

Further work conducted by INRS and CRIQ are underway to confirm that this system can also treat water contaminated by six classes of drugs: antidepressants, antibiotics, analgesics, hormones, anticonvulsants, and chemotherapy products. Its installation at hospital outlets would prevent these pollutants from dispersing into the environment, where they could have adverse effects and ultimately end up in the food chain. Université de Montréal, the Natural Sciences and Engineering Research Council of Canada, and Centre d'expertise en analyse environnementale du Québec also contributed to implementation of this project.

"Since emerging micropollutants are not entirely eliminated by processes in existing wastewater treatment plants, CRIQ and its partners in 2008 began developing solutions to allow their removal before they reach municipal wastewater collection systems. Results indicate this is an especially promising approach toward protecting the environment from micropollutants, which carry real risks for human and animal health", notes Gerardo Buelna, research officer at CRIQ.

"The presence of [micropollutants](#) in effluents carries risks that justify research efforts. The technology developed by CRIQ and INRS, when

installed directly at the source in hospitals, could reduce or even eliminate those risks," adds Patrick Drogui, professor at Institut national de recherche scientifique.

Provided by Institut national de la recherche scientifique - INRS

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