

Using an activated-carbon filtering pitcher significantly reduces chemicals in tap water

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A study conducted by Université Laval researchers concludes that using an activated-carbon filtering pitcher is the most effective way to reduce disinfection by-products in tap water. The results of the study, funded by the Natural Sciences and Engineering Research Council of Canada, were published in a recent edition of the scientific journal *Water Research*.

Researchers Steven Lévesque, Christine Beaulieu, Jean Sérodes, François Proulx, and Manuel Rodriguez, from Université Laval's Center for Research in Regional Planning and Development, measured concentrations of the two main drinking water disinfection by-products--trihalomethanes (THMs) and haloacetic acids (HAAs)--in samples subjected to different types of indoor handling. These by-products result from chemical reactions between chlorine used to disinfect water and organic matter normally present in it. "They don't affect the smell or the flavor of water, but in high concentrations they are suspected of increasing the risk of certain types of cancer," points out Rodriguez.

Researchers subjected samples collected in private residences to three treatments often used to improve taste, smell and appearance of water: storing water in the refrigerator, boiling water followed by storage in the refrigerator, and filtering water with an activated-carbon filtering pitcher followed by storage in the refrigerator.

Analysis revealed that after a 48-hour period these treatments reduced THMs by respectively 30%, 87%, and 92%. However, results were less

convincing with HAAs: direct storage and storage after boiling had no effect on AHAs. The carbon-activated filter, on the other hand, reduced HAA concentration by 66%.

In spite of these results, Rodriguez does not recommend the systematic use of such filtering pitchers. "If you live in a city with adequate water treatment facilities, HAAs are probably within regulation levels and there's no need to subject water to additional treatment," notes the researcher. "However, if I lived in a place where there were regular notifications to boil water or if I knew the water contained high levels of HAAs, I'd consider using home water-treatment devices," concludes Rodriguez.

Source: Université Laval

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