

New materials for microwave cookware that heats faster with less energy

28 July 2008



Researchers are reporting new ceramics, such as the rice cooker above, that heat faster and stay hot longer than conventional microwave cookware. Credit: Sridhar Komarneni

You may soon be enjoying microwave popcorn and other 'nuked' foods and beverages faster than ever before, while saving on electricity. Researchers in Pennsylvania and Japan report development of new ceramic materials that heat up faster and retain heat longer than conventional microwave cookware while using less energy. Their report is scheduled for the August 26 issue of ACS' *Chemistry of Materials*.

In the new study, Sridhar Komarneni, Hiroaki Katsuki, and Nobuaki Kamochi note that researchers long have sought a commercially feasible method for using microwaves in the production of new genres of sturdy-heat-resistant ceramic materials. However, no optimal process had been developed.

The scientists describe preparation of ceramic plates from mixtures of magnetite and petalite, two naturally occurring minerals. Those new composite plates heated faster and retained heat for longer periods than commercially available microwave

cookware, researchers say.

The materials also show promise as an energy-saving component in microwave-based systems for cleaning up organic toxic waste in the environment.

Article: [dx.doi.org/10.1021/cm801138n](https://doi.org/10.1021/cm801138n)

Source: ACS

APA citation: New materials for microwave cookware that heats faster with less energy (2008, July 28) retrieved 17 October 2021 from <https://phys.org/news/2008-07-materials-microwave-cookware-faster-energy.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.