

# Could chemical in dishware raise your risk for kidney stones?

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Small Taiwanese study shows higher concentrations of melamine in urine tied to presence in plastic bowls.

(HealthDay)—A chemical called melamine that's found in some dishware might raise your risk for kidney stones, a small new study suggests.

"[Melamine](#) is a chemical used widely in industry and found in many [household products](#)," noted one expert not connected to the study, Dr. Kenneth Spaeth.

"For consumers, one of the most common sources of exposure to melamine is from kitchenware including plates, bowls, mugs, etcetera, as melamine has long been known to migrate from these into food," said Spaeth, who is director of the Occupational and Environmental Medicine Center at North Shore University Hospital in Manhasset, NY.

He noted that both higher temperatures (from hot soups, for example) or more acidic foods can encourage melamine to contaminate food, especially in older or low-quality kitchenware.

The new Taiwanese study included 12 healthy men and women who ate hot noodle soup from either a melamine or ceramic bowl. [Urine samples](#) were collected from the participants for 12 hours after they ate the soup.

Three weeks later, the participants consumed the same kind of soup but the type of bowl they used was reversed. Urine samples were collected again.

Total melamine levels in urine for 12 hours after eating the soup was 8.35 [micrograms](#) when the participants ate out of the melamine bowls versus about 1.3 micrograms when they ate out of ceramic bowls.

"Melamine tableware may release large amounts of melamine when used to serve high-temperature foods. The amount of melamine released into food and beverages from melamine tableware varies by brand, so the results of this study of one brand may not be generalized to other brands," a team led by Chia-Fang Wu, of Kaohsiung Medical University in Taiwan, wrote in the study.

They added that it's not yet clear what effect all of this might have on [human health](#). However, prior studies have linked chronic, low-dose melamine exposures to an increased risk for [kidney stones](#) in both children and adults, the researchers said.

The study was published online Jan. 21 in the journal *JAMA Internal Medicine*.

Would melamine absorbed into the body via food cause harm?  
According to Spaeth, "there is little human health data to adequately

characterize the risk such exposure poses." However, he said that, "studies of melamine toxicity in animals indicate that ingestion can cause kidney stones, kidney damage and may induce cancer."

Spaeth said that, since scientists really have no clear idea as to the level of the danger (if any), "it is not unreasonable to try and reduce one's exposure [to melamine]" by avoiding using melamine-containing kitchenware.

He added that the same advice would apply to other plastics chemicals suspected of causing harm to humans, such as phthalates and bisphenol-A. "Avoid storing food in these products and avoid putting these in the microwave to heat food," Spaeth advised.

The most notorious episode involving melamine occurred in 2008, when the chemical was found to be widespread, and at high levels, in milk and baby formula fed to babies in China.

**More information:** The U.S. National Institute of Diabetes and Digestive and Kidney Diseases has more about [kidney stones](#).

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