

# Lead released from African cookware contaminates food

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Dr. Jeffrey Weidenhamer, professor of chemistry at Ashland University and an author of the study, discusses research results with Ashland University senior Peter Kobunski, a biochemistry major from Nashport, Ohio. Credit: Ashland University EagleEye Photography

Lead levels in foods prepared in aluminum pots from Cameroon exceed U.S. guidelines for lead consumption according to a new study published this month. A typical serving contains almost 200 times more lead than California's Maximum Allowable Dose Level (MADL) of 0.5 micrograms per day.

Researchers at Ashland University and Occupational Knowledge International tested 29 samples of [aluminum](#) cookware made in Cameroon and found almost all had considerable lead content. This cookware is common throughout Africa and Asia and is made from recycled scrap metal including auto and computer parts, cans, and other industrial debris.

The study, "Lead Exposure from Aluminum Cookware in Cameroon," was conducted in partnership with the Cameroonian NGO Research and Education Centre for Development (CREPD) and published in the August issue of the journal of *Science of the Total Environment*.

There are no regulatory standards for lead in cookware but the World Health Organization (WHO) and the U.S. Centers for Disease Control have determined that there is no safe level of exposure to lead.

"This previously unrecognized [lead exposure](#) source has the potential to be of much greater public health significance than lead paint or other well-known sources that are common around the world." said Perry Gottesfeld, Executive Director of Occupational Knowledge International.

Recently conducted surveys of lead exposure in Africa and Asia have suggested that blood lead levels have remained stubbornly elevated despite the ban on lead in gasoline in most of the world. "The presence of lead in food cooked in these pots may be one contributing factor to the ongoing lead poisoning epidemic." Gottesfeld said.

"Unlike some other sources of lead contamination, lead poisoning from cookware can impact entire families over a life-time. Even low-level lead exposures can result in reduced IQ and neurological deficits, and contribute to cardiovascular disease." according to Jeffrey Weidenhamer, Professor of Chemistry at Ashland University and an author of the study.

The investigation simulated cooking by boiling acidic solutions in the cookware for two hours and measuring the lead extracted in solution. The researchers also found significant levels of aluminum and cadmium leached from the cookware along with the lead.

According to Gilbert Kuepouo, Executive Director of CREPD and an author of the study, "These locally made aluminum pots are the most commonly used in Cameroon and throughout Africa, so the [lead levels](#) we found are alarming and a threat to public health."

In the past aluminum from cookware and other sources was cited as a possible cause of Alzheimer's disease but multiple studies have failed to identify a consistent link. Although the U.S. has set limits for lead leaching from ceramic ware, no regulations address lead exposures from aluminum or other [cookware](#).

Lead exposure in children is linked to brain damage, mental retardation, lower educational performance, and a range of other health effects. Globally [lead](#) accounts for more than 674,000 deaths per year.

**More information:** Lead exposure from aluminum cookware in Cameroon, [www.sciencedirect.com/science/.../ii/S0048969714010316](http://www.sciencedirect.com/science/.../ii/S0048969714010316)

Provided by Ashland University

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