

## **Exposure to Metal(Loid)s Researchers Found Tampons as a Source**

A team of researchers from the United States (U.S.) investigated the presence of metals in tampons commonly used by [menstruating women](#).

The study tested 30 tampons from 18 product lines and 14 brands for 16 metals or metalloids and compared the [metal concentrations](#) based on tampon characteristics.



### **Study**

In the present study, the researchers aimed to measure the concentrations of 16 metals or metalloids in 14 brands of tampons. The presence of the following metals in tampons was investigated: arsenic, barium, [calcium](#), cadmium, cobalt, chromium, copper, iron, mercury, manganese, nickel, lead, selenium, strontium, vanadium, and zinc.

A total of 30 samples of five different [absorbencies](#), representing 18 product lines (different tampons produced by the same brand), and 14 brands were tested.

The samples included top-selling brands in online retail stores and 'store brands' belonging to some of the [large retail chains](#) in the U.S. Tampons were also purchased from online retailers in Greece and the United Kingdom (U.K.)

Tampons generally consist of an [absorbent core](#) that is surrounded, in some tampons, by an outer covering made of non-woven material and a string attached to make retrieval easier.

If present, samples of the absorbent core and the outer covering were taken. The samples were acid digested, and all samples were processed in [duplicates](#).

The concentrations of all the metals were tested using inductively coupled plasma mass spectrometry, although a slightly different method was used to measure the mercury concentration compared to that of the other metals. The method detection limit and the method quantification limit were [calculated](#).

The metal concentration distributions in the tampons were characterized, and the heterogeneity in the [metal concentrations](#) within the tampons was assessed.

The researchers also compared the variability in metal concentrations within tampons with that between [tampons](#).

Additionally, the median values of the metal concentrations in the tampons were used to compare the variability between non-organic and organic tampons, between those with a cardboard or no applicator and those with a [plastic applicator](#), between store-brand and name-brand tampons, and between those bought in the U.S. and those purchased from the U.K. or Greece.

## **Findings**

The study found the presence of all 16 metals in the assortment of widely available tampon types and [brands](#) they tested.

Several toxic metals, such as cadmium, lead, and arsenic, were found in significant concentrations, but the presence of mercury or [chromium](#) was not substantial. Calcium and zinc were found in higher concentrations as compared to that of the other metals.

The [variability](#) in metal concentrations within the tampon was low, but the variability was high across different types and brands of tampons.

Metal concentrations also varied considerably based on tampon characteristics, such as between non-organic and organic tampons, name brands versus store brands, and those bought in the U.K. or Europe versus those purchased in the U.S. However, none of these categories had consistently [low concentrations](#) of all the metals.

Of concern was the presence of lead in all the tampons tested in the study. Lead leaching into circulation can lead to its deposition in [bones](#), which replaces calcium and can persist in the body for a long time.

Even low levels of lead are known to have a toxic impact on neurological health and behaviour, as well as on renal, reproductive, immunological, cardiovascular, and [developmental health](#).

The study also discussed the toxic effects of the other metals detected in the tampon samples. The contamination of tampons with these metals can occur during the production stage, through [atmospheric deposition](#), or wastewater when the raw materials are being produced.

It can also occur during the manufacturing process or through products added intentionally to the tampons for [antimicrobial effect](#), lubrication, or odor control.

## **Conclusion**

Overall, the study reported that a wide range of tampons sold through [online retailers](#) or large retail chains in the U.S., U.K., and Europe contain trace to significant amounts of 16 metals, most of which have toxic effects on the body.

Given that these metals can leach during use and be absorbed into the body through the vaginal epithelium and directly enter the [circulatory system](#), further research is required to confirm these findings, post which strict manufacturing regulations are required for tampon production.

## **Source:**

<https://www.news-medical.net/news/20240708/Are-your-tampons-poisoning-you-Study-findings-16-metals-in-widely-available-tampon-brands.aspx>