

The Trouble With Spices

Consumer Reports tested 126 herbs and spices from 38 brands for arsenic, cadmium, and lead. (We did not test spices that tend to be used in baking, such as cinnamon and nutmeg.) We looked at national and private-label brands, such as Great Value (Walmart), La Flor, McCormick, Penzeys, Spice Islands, and Trader Joe's. We tested two or three samples from different lots of each product.

Findings

- Roughly one-third of the tested products (40 in total) had high enough levels of arsenic, lead and cadmium combined, on average, to pose a health concern for children when regularly consumed in typical serving sizes. Most raised concern for adults too.
- All thyme and oregano products tested had levels that Consumer Reports experts say are concerning.
- In 31 products, levels of lead were so high that they exceeded the maximum amount anyone should have in a day.
- There was no single predictor of which products contained higher levels of heavy metals -- for example, brand name didn't matter, and neither did "organic" or "packed in USA" claims.
- The good news is that many products performed well in the tests. In seven of the 15 types of spices tested, all the brands had heavy metal levels below our thresholds for concern, and in most others, we found at least one brand that fit into our No Concern category.
- Also in the good news category is that none of the tested spices were contaminated with Salmonella bacteria, which may cause foodborne illness.
- Consumer Reports' tests show that dried herbs and spices can be a surprising, and worrisome source of heavy metals for children and adults, even in the small amounts used in cooking.
- These findings represent a spot check of the market and cannot be used to draw definitive conclusions about brands.

Background

- Regularly consuming $\frac{3}{4}$ teaspoon or more daily of a product in one of the concerning categories could, over time, pose a health risk to children as a result of the combined levels of the three heavy metals; it can affect brain development, increasing the risk for behavioral problems and lower IQ.
- Frequent exposure to even small amounts of lead, arsenic, cadmium, and other heavy metals is dangerous in part because it's difficult for the human body to break them down or excrete them. In adults, it can contribute to central nervous system problems, reproductive problems, and hypertension, and can damage kidney and immune function.
- Heavy metals can show up in food if the water or soil where food is grown contains them naturally or is contaminated because of pesticides or industrial uses. Heavy metals may also get into food, including spices, during manufacturing—from processing equipment or packaging, for example.

Tips for Consumers

- **Choose products with the lowest levels of heavy metals.** CR's tests found at least one product that fit in our No Concern category for every spice and herb we tested except oregano and thyme.
- **Focus on spices and herbs that are lower in heavy metals.** These were black pepper, coriander, curry powder, garlic powder, saffron, sesame seeds, and white pepper. That doesn't mean that every brand of these herbs and spices is low in heavy metals, because we didn't test them all. But it is easy to find low-risk versions of those spices.
- **Don't assume some brands are safer than others.** CR's tests could not determine whether one brand was consistently better or worse than any other. And organic products did not have consistently lower levels than conventionally grown ones. USDA's organic standards don't include heavy metal testing.
- **Grow and dry your own.** That might be a particularly good idea if you use a lot of basil, oregano, and thyme; in our tests all or almost all the brands tested were high in heavy metals.
- **Think twice about bringing back spices from abroad.** Heavy metal content can be much higher in those spices, according to other research. U.S. companies may buy the highest quality spices to import which could leave lower-quality spices to be sold in the country of origin.
- **Consider your total potential exposure to heavy metals.** This is especially important if you have kids at home. Our tests are a reminder that you should take steps to limit your potential exposure from heavy metals from all sources. That means not only choosing seasonings that pose little risk when you can but also, for example, testing your water for lead and arsenic and, if levels are high, installing a water filter.