Arsenic, Lead Found in Popular Protein Supplements

By Jesse Hirsch

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Whether for weight loss, muscle building, or simply as a convenient quick meal on the go, many Americans turn to protein powders and drinks.

But a new study shows that many of the top-selling powders and drinks may contain concerning levels of heavy metals such as arsenic, cadmium, mercury, and lead, and toxins like bisphenol A (BPA), a chemical found in some plastic containers and food can liners.

These substances have been linked to cancer, brain damage, and reproductive issues.

The new study from the Clean Label Project, (a nonprofit organization that examines labeling safety issues) found that virtually all of the 134 products tested contained detectable levels of at least one heavy metal and 55 percent tested positive for BPA.

“These toxins accumulate in your body and can stay there for years,” says Tunde Akinleye, a test program leader in Consumer Reports’ Food Safety Division. “Frequent consumption of foods that contain them can have adverse health effects over the long run.”

This is not the first research that has shown high contaminant levels in such products: A 2010 Consumer Reports’ study detected arsenic, cadmium, lead and/or mercury in samples of all the 15 powders tested.

What the Study Showed

The Clean Label Project measured the levels of heavy metals, BPA, pesticides, and other contaminants (more than 150 in all) in protein powders and drinks.

The contaminant levels were measured in a single serving of the products. Those amounts varied, so the lab used the serving size listed on each product's label(e.g., "two rounded scoops"). However, Jaclyn Bowen, executive director of Clean Label Project, points out that many consumers use protein products multiple times per day.

Overall, the products made from sources of plant protein such as soy or hemp fared worse than those made from whey (milk) or egg, containing on average twice as much lead and measurably higher amounts of other contaminants.

Plant-based proteins may have higher contamination levels because the plants are especially prone to absorbing heavy metals from soil, says Sean Callan, Ph.D., a neuroscientist and director of operations at Ellipse Analytics, the lab that tested the protein products.

Whey and egg proteins may have lower levels of heavy metals because the source of the contamination would likely be the feed given to the animals. Callan suspects the animals' digestive systems diffuse some of the toxins.

Also important: Buying a product with an "organic" label did not reduce the chances of getting a contaminated product. In fact, organic protein supplements had higher levels of heavy metals, on average, than nonorganic.

"That probably has more to do with these products being plant-based than being organic," says Callan.

The Worst and the Best

In its analysis, the Clean Label Project assigned each product a score for four individual elements: heavy metals, pesticides, contaminants like BPA, and nutrition. Then it calculated an overall score. The heavy metal levels accounted for 60 percent of the overall score because their effects have been shown in studies to pose greater harm to health.

The five products that received the poorest overall scores in this test were:

- **Garden of Life** Organic Shake & Meal Replacement Chocolate Cacao Raw Organic Meal
- **Nature's Best** Isopure Creamy Vanilla Zero Carb
- **Quest** Chocolate Milkshake Protein Powder
- **360Cut** Performance Supplements 360PRO Whey Chocolate Silk Premium Whey Protein
- **Vega** Sport Plant-Based Vanilla Performance Protein

Consumer Reports asked each of the five to comment on the study. Only Garden of Life responded and it declined to comment.

The five products that got the best overall scores were:

- **Pure Protein** Vanilla Cream 100% Whey
- **Performix Pro** Whey Sabor Vanilla Protein with Amino Beads
- **BodyFortress** Super Advanced Vanilla 100% Whey Protein
- **BioChem** Vanilla 100% Whey Protein
- **Puori** PW1 Vanilla Pure Whey Protein

(NOTE: Juice Plus+® Complete is NSF Certified. "NSF Certified" is to provide the average consumer with an additional level of independently and professionally verified confidence about the safety and quality of our product. To achieve this certification, Juice Plus+® products met the requirements of NSF International's dietary supplements and functional foods certification program. These requirements are part of NSF/ANSI Standard 173, the only accredited American National Standard for dietary supplements and functional foods.
They include:
Product testing for contaminants and heavy metals,
Label and formulation review to verify that what is on the label is in the bottle and that the product does not contain undeclared ingredients or contaminants,
Manufacturing facility audits to ensure the products are produced in accordance with Good Manufacturing.)

The fact that the higher-scoring products are made with whey makes sense, in keeping with Callan's theories on plant-based vs. whey-based proteins and their differing absorption of toxins.

However, the vanilla aspect is more curious, and possibly coincidental. Bowen has one possible theory, though: The cacao plants used to make the chocolate in some flavored supplements are susceptible to absorbing heavy metals.

CR's Akinleye says it would be very difficult to create a system where protein powders contained absolutely no trace of any heavy metals. Given this goal, he says, you have to measure how each product stacks up against the others.

"When you have a protein supplement that is very, very clean," he says, "that proves, to the companies with high levels of heavy metals, that it is possible to do better."

Do You Need Protein Powder?

Given the number of protein powders and drinks on store shelves, you might think that Americans are woefully deficient in this nutrient. However, the vast majority of people get plenty of protein from the foods they eat, says Maxine Siegel, R.D., who heads CR's food testing lab.

Protein products typically contain between 15 and 25 grams of protein per serving (although some do contain more). By comparison, a 5-ounce container of plain, nonfat Greek yogurt has around 17 grams of protein, and 3.5 ounces of chicken breast has 31 grams. Protein needs range from 0.4 to 0.6 grams of protein per pound of weight a day (that would be 64 to 96 grams per day for a 160-pound person).

"That's not a difficult amount to get in your diet, if you include natural sources of protein such as legumes, nuts, low-fat dairy, fish, and lean meats," says Siegel. "You'll benefit not just from the protein itself, but from all the other nutrients found in whole foods."

So even though some protein supplements have lower contaminant levels than others, you probably don't need to be taking them anyway, says Siegel.

Additionally, supplements in general are only loosely regulated. Though they fall under the purview of the Food and Drug Administration, the agency classifies them differently from drugs. The companies that make and sell them aren't required to prove that they're safe, that they work as advertised, or even that their packages contain what the labels say they do.

As always, consult your physician before taking protein—or any dietary supplement.

https://www.consumerreports.org/dietary-supplements/heavy-metals-in-protein-supplements/