

Heavy Metals Testing

Basic FAQ Guide

Commonly asked questions about heavy metals testing for cosmetics, OTC drugs, and personal care products.

1. What is heavy metals analytical testing for cosmetics?

Laboratory analysis used to measure trace amounts of metals such as lead, arsenic, cadmium, and mercury in a cosmetic product. It helps brands evaluate contamination risk in finished products and raw materials.

2. Which heavy metals are typically tested?

A common panel includes lead, arsenic, cadmium, and mercury. FDA has also surveyed cosmetics for chromium, cobalt, and nickel, since some metals can be toxic and others can contribute to skin sensitization in some users.

3. Why am I being asked for this testing?

The Modernization of Cosmetics Regulation Act (MoCRA) requires cosmetic companies to ensure their products are safe before they are marketed. Heavy metals testing is one common way to help substantiate safety, especially when contamination could come from pigments, minerals, botanicals, or other raw materials.

4. How do I know whether my result is acceptable?

Acceptance depends on the product, the element being tested, and the applicable regulations. As a general reference, the FDA recommends a maximum of 10 ppm of lead and 1 ppm of mercury in cosmetics, while some states have stricter requirements. For example, Washington's Toxic-Free Cosmetics Act (TFCA) limits lead to 1 ppm in cosmetic products sold in the state.

An exception is certain eye area cosmetics, where the FDA permits up to 65 ppm of mercury as a preservative when no suitable alternative is available. Your acceptance criteria should align with the applicable regulations and your internal quality specifications.

5. Are some cosmetics higher risk than others?

Yes. Products that use pigments, minerals, or certain naturally derived ingredients may present higher heavy metals risk, and FDA's cosmetics surveys found higher metal levels more often in products such as eye shadows, blushes, and compact powders than in some other cosmetic categories.

6. What is ICP-MS, and why do labs use it?

ICP-MS stands for Inductively Coupled Plasma Mass Spectrometry. Labs often use it for heavy metals testing because it can detect very low levels of metals in cosmetic samples.

7. What does "ND" or "Not Detected" mean on a lab report?

It means the metal was not detected above the method's detection limit. It does not necessarily mean absolute zero; it means the level, if present, was below what the method could reliably detect. This explanation is based on standard analytical reporting practice.

8. If my product passes heavy metals testing, am I fully compliant?

Not by itself. Heavy metals testing is only one part of cosmetic safety support. Brands are still responsible for broader safety substantiation, labeling, ingredient review, and overall product quality.

9. What happens if a heavy metals result is too high?

Common next steps include reviewing raw materials, pigments, minerals, manufacturing conditions, packaging, and whether confirmatory testing is needed. FDA can take action against unsafe cosmetics on the market.

10. How often should cosmetic heavy metals testing be done?

There is no one FDA rule that sets a universal testing frequency for every cosmetic. Brands usually decide frequency based on risk, such as new formulas, new suppliers, high-risk ingredients, product category, and customer requirements.

11. What affects the cost of heavy metals testing?

Cost is usually driven by the number of metals requested, whether you are testing raw materials or finished product, the complexity of the cosmetic matrix, the number of samples, and whether rush turnaround is needed. Our lab can work with you to develop a testing plan that provides the data you need at your price point.

12. What is ISO 21392 Heavy Metals Testing, and what does it test for?

ISO 21392 is an internationally recognized method used to detect and quantify heavy metals in cosmetic products. It tests for:

- Arsenic (As)
- Cadmium (Cd)
- Lead (Pb)
- Antimony (Sb)
- Chromium (Cr)
- Cobalt (Co)
- Nickel (Ni)

This testing helps support product safety, quality, and regulatory compliance.



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