Matcha powder

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CORRESPONDENCE

Corrections are logged publicly on the article page, each with its date, the affected value, and the source that resolved it.

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Abstract

Matcha powder in the HMI library has 385 reported results for lead, cadmium, total arsenic, total mercury, nickel, chromium, aluminum, tin, uranium, Co, Cu, Fe, Mn, Zn, Se, Ag, Ba, Be, Ca, Ce, Cs, Ga, Ho, K, Li, Mg, Na, P, Sr, Ta, Ti and Tl from 2 sources.

1 | Matcha powder overview

#1**#4 2026 reported lead at 404 µg/kg (mean ± 267 SD), cadmium at 30.6 µg/kg (mean ± 25 SD), total arsenic at 43.1 µg/kg (mean ± 49.2 SD) and total mercury at 11.7 µg/kg (mean ± 4.93 SD) in matcha powder from all 12 retail products, Thailand.[1]

For a buyer the practical points are the form bought, the basis a result is reported on, where the matcha powder came from and the laboratory's reporting limit. Testing finds contamination but does not remove it.

2 | What counts as matcha powder

This page covers matcha powder (385 results).[1,2]

Results stay on the basis each source reports: as sold or fresh weight, dry weight, or unstated. Dry-weight, as-sold and unstated results are never pooled, and no moisture conversion is applied.

3 | How metals reach matcha powder

No study in the library compared matcha powder from contaminated and ordinary settings, so the routes by which metals reach it are not measured here.

4 | Which forms and regions measured lower

The HMI reference for lead in matcha powder pools 12 subgroup units from 1 sampling family, with a median of 291 µg/kg and a middle half spanning 246 (lower quartile) and 518 µg/kg (upper quartile).[1] for lead in matcha powder, the reference median was below 0.01 µg/kg, with a middle half from below 0.01 to below 0.01 µg/kg across 4 units.[2] for cadmium in matcha powder, the reference median was 23.9 µg/kg, with a middle half from 22.8 to 24.4 µg/kg across 12 units.[1]

In one study, lead across 12 groups of matcha powder ranged from 184 µg/kg (retail product 08, origin Japan, Premium grade) to 1,040 µg/kg (retail product 07, origin Thailand, Culinary grade); the lowest is the lowest observed in that study, not an established sourcing preference.[1] In another study, lead across 6 groups of matcha powder ranged from 0.05 µg/kg (retail product 4) to 1.82 µg/kg (retail product 1); the lowest is the lowest observed in that study, not an established sourcing preference.[2]

5 | Processing, cooking and preparation

No processing study for metals in this food is in the library yet.

6 | Mitigation for matcha powder

Lot testing against the applicable limit is the check that can be verified.

7 | Trade-offs and limits of controls

Metals do not move together, so a lot that passes a lead limit says little about cadmium, arsenic or nickel unless those are tested as well.

8 | Testing matcha powder for metals

Results depend on the method and its reporting limit. Reporting limits for lead were 0.01 µg/kg where sources stated them.[2]

A useful lot result names the form, the basis and a quantification limit well below the limit that applies.

9 | Buying and verifying matcha powder

No maximum level for metals in matcha powder was verified from primary text for this page; buyers should confirm the limit that applies in the destination market.

10 | Exposure from matcha powder

No source in the library converted matcha powder concentrations into a verified estimate of intake for a defined population. Concentrations describe the food, not individual risk.

11 | Evidence review and remaining gaps

Every source record that names matcha powder was decided on its content: 2 occurrence extracted, 2 records in all. The occurrence table renders every extracted result; held values remain visible with their reason.

References identify the sources used in these answers. The Sources index preserves additional discovery links; inclusion there does not mean a source has been reviewed for this assessment. Corrections, completed searches, new direct evidence and changes in requirements should reopen the relevant answer.

12 | Matcha powder FAQs

The library reports lead, cadmium, total arsenic, total mercury, nickel, chromium, aluminum, tin, uranium, Co, Cu, Fe, Mn, Zn, Se, Ag, Ba, Be, Ca, Ce, Cs, Ga, Ho, K, Li, Mg, Na, P, Sr, Ta, Ti and Tl in matcha powder, most often lead, cadmium and total arsenic.[1,2]

In one study, lead across 12 groups of matcha powder ranged from 184 µg/kg (retail product 08, origin Japan, Premium grade) to 1,040 µg/kg (retail product 07, origin Thailand, Culinary grade); the lowest is the lowest observed in that study, not an established sourcing preference.[1] In another study, lead across 6 groups of matcha powder ranged from 0.05 µg/kg (retail product 4) to 1.82 µg/kg (retail product 1); the lowest is the lowest observed in that study, not an established sourcing preference.[2]

References

[1] Determination of heavy metal contents in commercial matcha powder sold in Thailand (Thai:)#4!2 *2#B%+0+ 1 I2 C %4 1 L !1 0 5H 3+ I
#1@(5@@26I2 so06.tci-thaijo.org
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[2] Free and bound amino acids, minerals and trace elements in matcha (Camellia sinensis L.): A nutritional evaluation
Koláčková T, Sumczynski D, Zálešáková L, Šenkárová L, Orsavová J, and Lanczová N · Journal of Food Composition and Analysis (2020), article 103581 (Journal Pre-proof) · 2020 · doi.org/10.1016/j.jfca.2020.103581
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STATUS AND LICENCE

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COMPETING INTERESTS

The Heavy Metal Index reports what the peer-reviewed and regulatory literature supports. It is operated separately from any certification program, does not evaluate or endorse brands, and does not use certification thresholds as evidence for the statements made here.

DATA AVAILABILITY

Every source behind this ingredient profile is listed with its own source record at https://heavymetalindex.com/ingredients/matcha-powder#sources.

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