Frankfurter

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CORRESPONDENCE

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Abstract

Frankfurter in the HMI library has 65 reported results for lead, cadmium, total arsenic, total mercury, nickel, chromium, aluminum, tin, uranium, Cu, Fe, Zn and Se from 7 sources. WHO cooked gems/food submissions reported lead in frankfurter from 7 results in 1 reporting region, with a subgroup median of 3.2 µg/kg. In the US Total Diet Study, cooked frankfurter had a median lead result below 4 µg/kg across 22 composites from 2017-2020.

1 | Frankfurter overview

Across 2 other studies of ordinary farms and markets, reported lead means and medians on an as-sold or fresh-weight basis ranged from 3 µg/kg (Spungen et al. 2024) to 5 µg/kg (Korfali et al. 2013).[3,4] For cadmium, 2 studies on an as-sold or fresh-weight basis reported means and medians from 2.9 µg/kg (Spungen et al. 2024) to 29 µg/kg (Korfali et al. 2013).[3,4]

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

2 | What counts as frankfurter

This page covers frankfurter in 3 forms kept separate in every comparison: canned frankfurter (27 results), cooked frankfurter (26 results) and frankfurter as sold (12 results).[1,2,3,4,5,6]

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 frankfurter

No study in the library compared frankfurter 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 cooked hmi reference for lead in frankfurter pools 24 subgroup units from 2 sampling families, with a median of between 3 and 4 µg/kg and a middle half spanning below 3.5 (lower quartile) and 4.35 µg/kg (upper quartile).[1,2] for lead in frankfurter as sold, the reference median was below 20 µg/kg, with a middle half from below 16.5 to below 20 µg/kg across 20 units.[1] cooked for cadmium in frankfurter, the reference median was 9 µg/kg, with a middle half from 3.35 to 13.2 µg/kg across 23 units.[1,2]

5 | Processing, cooking and preparation

Processed or prepared forms were compared only with unprocessed frankfurter in the same study and group. Cooked frankfurter (PAHO) had cadmium higher at 13.2 µg/kg, against 4 µg/kg for the unprocessed form in the same group (frankfurter as sold).[1]

Forms differ in water content, so a per-kilogram difference is not by itself a measured removal or gain of metal.

6 | Mitigation for frankfurter

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 frankfurter for metals

Results depend on the method and its reporting limit. Reporting limits for lead ranged from 0.4 µg/kg (WHO GEMS/Food) to 3,000 µg/kg (WHO GEMS/Food), so a non-detect from a less sensitive method says much less.[1] Reporting limits for cadmium ranged from 1 µg/kg (FDA Total Diet Study) to 7 µg/kg (WHO GEMS/Food), so a non-detect from a less sensitive method says much less.[1,2] Reporting limits for total arsenic ranged from 3 µg/kg (FDA Total Diet Study) to 20 µg/kg (WHO GEMS/Food), so a non-detect from a less sensitive method says much less.[1,2]

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

9 | Buying and verifying frankfurter

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

10 | Exposure from frankfurter

No source in the library converted frankfurter 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 frankfurter was decided on its content: 7 occurrence extracted, 7 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 | Frankfurter FAQs

The library reports lead, cadmium, total arsenic, total mercury, nickel, chromium, aluminum, tin, uranium, Cu, Fe, Zn and Se in frankfurter, most often lead, cadmium and total arsenic.[1,2,3,4] WHO cooked gems/food submissions reported lead in frankfurter from 7 results in 1 reporting region, with a subgroup median of 3.2 µg/kg.[1]

Only comparisons between forms in the same study are available, not before-and-after measurements of the same frankfurter.[1] cooked frankfurter (PAHO) had cadmium higher at 13.2 µg/kg, against 4 µg/kg for the unprocessed form in the same group (frankfurter as sold).[1]

References

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[3] Essentail and Toxic Metals in Lebanese Marketed Canned Food: Impact of Metal Cans
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PEER-REVIEWED

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STATUS AND LICENCE

Editorially reviewed in-house; no external peer review has been completed on this ingredient profile. Published as an institutional technical report with its review state tracked on the article page. Released under CC BY 4.0.

DATA AVAILABILITY

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

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.

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This revision 2026-10-22. The full dated record is maintained at https://heavymetalindex.com/ingredients/frankfurter.