Breastmilk

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CORRESPONDENCE

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PUBLICATION HISTORY

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Abstract

Breastmilk in the HMI library has 1,008 reported results for lead, cadmium, total arsenic, total mercury, methylmercury, nickel, chromium, aluminum, tin, uranium, Co, Cu, Fe, Mn, Zn, Se, Ba, Be, Ca, K, Mg, Mo, Na, S, Th and Tl from 17 sources. WHO GEMS/Food submissions reported total arsenic in breastmilk as sold from 1 result in 1 reporting region, with subgroup medians below 16 µg/kg, mostly non-detects.

1 | Breastmilk overview

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

2 | What counts as breastmilk

This page covers breastmilk as sold (1,008 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 breastmilk

No study in the library compared breastmilk 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 cu in breastmilk as sold pools 4 subgroup units from 1 sampling family, with a median of 555 µg/kg and a middle half spanning 450 (lower quartile) and 615 µg/kg (upper quartile).[9] for fe in breastmilk as sold, the reference median was 275 µg/kg, with a middle half from 245 to 305 µg/kg across 4 units.[9] for se in breastmilk as sold, the reference median was 10 µg/kg, with a middle half from 10 to 15 µg/kg across 4 units.[9]

5 | Processing, cooking and preparation

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

6 | Mitigation for breastmilk

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 breastmilk for metals

Results depend on the method and its reporting limit.

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

9 | Buying and verifying breastmilk

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

10 | Exposure from breastmilk

No source in the library converted breastmilk 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 breastmilk was decided on its content: 17 occurrence extracted, 17 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 | Breastmilk FAQs

The library reports lead, cadmium, total arsenic, total mercury, methylmercury, nickel, chromium, aluminum, tin, uranium, Co, Cu, Fe, Mn, Zn, Se, Ba, Be, Ca, K, Mg, Mo, Na, S, Th and Tl in breastmilk, most often lead, cadmium

and total arsenic.[1,2,3,4] WHO GEMS/Food submissions reported total arsenic in breastmilk as sold from 1 result in 1 reporting region, with subgroup medians below 16 µg/kg, mostly non-detects.[1]

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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

PUBLICATION HISTORY

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

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