Coffee: HMTc Standard

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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.

KEYWORDS

heavy metals, food safety, dietary exposure

PUBLICATION HISTORY

This revision 2026-08.

Abstract

The Heavy Metal Tested & Certified heavy-metal-safety standard for coffee in Beverages, evaluated on dry commodity as sold (green beans, roasted whole beans, ground coffee, coffee pods and capsules assessed on their coffee fill, instant coffee solids), reported on the as-sold article; this is the lot the applicant packages and the auditor samples. Every panel analyte carries a limit: eight numeric ceilings drawn from the strictest applicable government maximum level or a disclosed read-across, and three toxic species (inorganic arsenic, methylmercury, hexavalent chromium) bounded by their parent total under reflex speciation. The ready-to-drink coffee beverage is certified separately in its own as-consumed basis.

1 | How every number on this standard is set

HMTc Method v2.0 (government-limit-only): the strictest applicable sovereign maximum level for this exact beverage form and analyte in the row's declared native basis, with disclosed read-across where the exact cell is unregulated, a substantiated not-material determination where a species is bounded or is a method artifact, and a control where no defensible sovereign number and no supportable near-neighbour exist. Never occurrence-derived. Ready-to-drink and dry-commodity bases are never mixed and no brewing, dilution or reconstitution factor is invented.

2 | Master limit table

All values in ppb (µg/kg), as sold basis. A brand meeting every value qualifies for the mark.

ANALYTE	HMTC LIMIT	BASIS
Lead (Pb)	500	government maximum level (Hong Kong)
Cadmium (Cd)	100	government maximum level (Mercosur)
Total arsenic (tAs)	200	government maximum level (Mercosur)
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	20	government maximum level (Thailand)
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	15,000	read-across (EU 2024/1987)
Tin (Sn)	250,000	government maximum level (Singapore)
Aluminium (Al)	100,000	read-across (China)
Total chromium (Cr)	1,000	read-across (GB 2762)
Hexavalent chromium (Cr-VI)	≤ Cr	bounded by Cr (reflex speciation)

3 | Derivation — where each number comes from

Every cell traces to one named sovereign maximum level (the strictest for the nearest analog), or to an explicit control, not-material, or species-bounded determination. No occurrence statistic selects a certification value.

ANALYTE	HMTC	SOVEREIGN ANALOG / DETERMINATION
Lead (Pb)	500	government maximum level (Hong Kong)
Cadmium (Cd)	100	government maximum level (Mercosur)
Total arsenic (tAs)	200	government maximum level (Mercosur)
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	20	government maximum level (Thailand)
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)

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Nickel (Ni)	15,000	read-across (EU 2024/1987); cocoa powder / fat-reduced cocoa powder (drinking chocolate)
Tin (Sn)	250,000	government maximum level (Singapore)
Aluminium (Al)	100,000	read-across (China); baked foods (bread, pastries, cakes, biscuits, cookies, crackers); deep-fried flour products; batter, breading, and frying powder
Total chromium (Cr)	1,000	read-across (GB 2762); grains and grain products including cereals and milled grain products
Hexavalent chromium (Cr-VI)	≤ Cr	bounded by Cr (reflex speciation)

4 | Cite this standard

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References

[1] Hong Kong
Binds Pb.
MAXIMUM LEVEL

[2] Mercosur
Binds Cd, tAs.
MAXIMUM LEVEL

[3] Thailand
Binds tHg.
MAXIMUM LEVEL

[4] EU 2024/1987
Binds Ni. cocoa powder / fat-reduced cocoa powder (drinking chocolate).
READ-ACROSS

[5] GB 2762
Binds Cr. grains and grain products including cereals and milled grain products.
READ-ACROSS

[6] Singapore
Binds Sn.
MAXIMUM LEVEL

[7] China
Binds Al. baked foods (bread, pastries, cakes, biscuits, cookies, crackers); deep-fried flour products; batter, breading, and frying powder.
READ-ACROSS

STATUS AND LICENCE

A normative certification standard, editorially reviewed and version-controlled in-house; every value traces to a named sovereign maximum level, disclosed in the derivation. © 2026 Institute of Contaminant Standards / Heavy Metal Certified. All rights reserved.

DATA AVAILABILITY

The works this standard draws on are listed in full in the references above and on the standard page at https://heavymetalcertified.com/standards/coffee. Primary legal instruments and expert-body assessments are named with their public identifiers; the underlying occurrence and toxicology corpus is maintained on the Heavy Metal Index.

COMPETING INTERESTS

This standard is published by the Heavy Metal Tested & Certified (HMTc) program, operated by the Institute of Contaminant Standards. Its statements about government regulations, toxicology, and occurrence are sourced to the cited primary and expert-body records and to the independently maintained Heavy Metal Index; the program's own certification thresholds are not used as evidence for any factual claim made here.

PUBLICATION HISTORY

This revision 2026-08. The full dated record is maintained at https://heavymetalcertified.com/standards/coffee.