

Water filters: HMTc Standard

Karen Pendergrass ·  · Heavy Metal Tested & Certified, Institute of Contaminant Standards

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KEYWORDS

heavy metals, food safety, dietary exposure

PUBLICATION HISTORY

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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.

Abstract

The Heavy Metal Tested & Certified heavy-metal-safety standard for water filters in Food-Contact Consumer Goods and Kitchenware, evaluated on nET ELEMENT RELEASE FROM THE TREATMENT DEVICE INTO THE TREATED WATER, µg/L reported as µg/kg, determined as device effluent minus a matched influent blank so that any contribution BY the device is resolved separately from what the device removes. This is a device-release basis on the water leaving the device; the sovereign drinking-water parametric values are a WATER basis on the supply as delivered and are disclosed as companions, never republished as the device's release ceiling.. No government sets a numeric heavy-metal limit for this product form, so every panel analyte is held under mandatory analytical control or a substantiated not-material determination rather than an invented ceiling.

1 | How every number on this standard is set

HMTc Method v2.0 (government-limit-only): the strictest applicable sovereign maximum for this exact product form expressed as specific element migration into food or a food simulant; a disclosed read-across from the nearest applicable sovereign value in the same basis where the food-contact material family is expressly excluded from or not reached by that instrument; a substantiated not-material determination; or a control. No cell is occurrence-derived, and no cell borrows a value across a basis.

2 | Master limit table

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

ANALYTE	TIER	HMTc LIMIT	BASIS
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Lead (Pb)	Tier 1	5	human-grade read-across (European Union)
Cadmium (Cd)	Tier 1	2	human-grade read-across (AU)
Total arsenic (tAs)	Tier 2	10	human-grade read-across (European Union)
Inorganic arsenic (iAs)	Tier 1	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	Tier 1	1	human-grade read-across (European Union)
Methylmercury (MeHg)	Tier 1	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	Tier 2	20	human-grade read-across (European Union)
Tin (Sn)	Tier 2	100,000	human-grade read-across (European Union)
Aluminium (Al)	Tier 2	200	human-grade read-across (European Union)
Total chromium (Cr)	Tier 2	50	human-grade read-across (AU)
Hexavalent chromium (Cr-VI)	Tier 2	10	human-grade read-across (US-CA)

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)	5	European Union — human-food analog
Cadmium (Cd)	2	AU — human-food analog
Total arsenic (tAs)	10	European Union — human-food analog

Inorganic arsenic (iAs)	$\leq$ tAs	iAs carries no product-specific sovereign cell; it is a component of and bounded by its parent total tAs (iAs $\leq$ tAs), an enforceable ceiling via reflex speciation rather than an empty cell.
Mercury, total (tHg)	1	European Union — human-food analog
Methylmercury (MeHg)	$\leq$ tHg	MeHg carries no product-specific sovereign cell; it is a component of and bounded by its parent total tHg (MeHg $\leq$ tHg), an enforceable ceiling via reflex speciation rather than an empty cell.
Nickel (Ni)	20	European Union — human-food analog
Tin (Sn)	100,000	European Union — human-food analog
Aluminium (Al)	200	European Union — human-food analog
Total chromium (Cr)	50	AU — human-food analog
Hexavalent chromium (Cr-VI)	10	US-CA — human-food analog

4 | Cite this standard

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References

- [1] AU — human-food maximum levels
Binds Cd, Cr. Strictest applicable human-food sovereign maximum for the nearest analog.
MAXIMUM LEVEL
- [2] European Union — human-food maximum levels
Binds Pb, tAs, tHg, Ni, Sn, Al. Strictest applicable human-food sovereign maximum for the nearest analog.
MAXIMUM LEVEL
- [3] US-CA — human-food maximum levels
Binds Cr-VI. Strictest applicable human-food sovereign maximum for the nearest analog.
MAXIMUM LEVEL

STATUS AND LICENCE

COMPETING INTERESTS

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 reference draws on are listed in full in the references above and on the briefing page at <https://heavymetalcertified.com/standards/water-filters>. 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.

This briefing 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.

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