Water filters: HMTc Standard

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CITE AS

Pendergrass, K. (2026). Water filters: HMTc Standard (Standard No. 10.83138/hmtc.std.23.water-filters). Institute of Contaminant Standards. https://doi.org/10.83138/hmtc.std.23.water-filters

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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 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	HMTC LIMIT	BASIS
Lead (Pb)	5	read-across (European Union)
Cadmium (Cd)	2	read-across (AU)
Total arsenic (tAs)	10	read-across (European Union)
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	1	read-across (European Union)
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	20	read-across (European Union)
Tin (Sn)	100,000	read-across (EU 2023/915)
Aluminium (Al)	200	read-across (European Union)
Total chromium (Cr)	50	read-across (AU)
Hexavalent chromium (Cr-VI)	10	read-across (CA SWRCB)

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	read-across (European Union); water intended for human consumption
Cadmium (Cd)	2	read-across (AU); drinking water
Total arsenic (tAs)	10	read-across (European Union); water intended for human consumption
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	1	read-across (European Union); water intended for human consumption
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	20	read-across (European Union); water intended for human consumption

Tin (Sn)	100,000	read-across (EU 2023/915); canned beverages, including canned fruit and vegetable juices, except canned dried and canned powdered products
Aluminium (Al)	200	read-across (European Union); water intended for human consumption
Total chromium (Cr)	50	read-across (AU); drinking water
Hexavalent chromium (Cr-VI)	10	read-across (CA SWRCB); public water systems in California

4 | Cite this standard

Pendergrass, K. (2026). *Water filters: HMTc standard* (Standard No. 10.83138/hmtc.std.23.water-filters). Institute of Contaminant Standards. https://doi.org/10.83138/hmtc.std.23.water-filters

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References

[1] European Union
Binds Pb, tAs, tHg, Ni, Al. water intended for human consumption.
READ-ACROSS

[2] AU
Binds Cd, Cr. drinking water.
READ-ACROSS

[3] CA SWRCB
Binds Cr-VI. public water systems in California.
READ-ACROSS

[4] EU 2023/915
Binds Sn. canned beverages, including canned fruit and vegetable juices, except canned dried and canned powdered products.
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.

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.

DATA AVAILABILITY

PUBLICATION HISTORY

The works this standard draws on are listed in full in the references above and on the standard 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 revision 2026-08. The full dated record is maintained at https://heavymetalcertified.com/standards/water-filters.