

Pre-treaters (spray/gel/stick) and stand-alone stain/spot removers: HMTc Standard

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

CITE AS

Pendergrass, K. (2026). Pre-treaters (spray/gel/stick) and stand-alone stain/spot removers: HMTc Standard (Standard No. 10.83138/hmtc.std.19.pre-treaters-stain-removers). Institute of Contaminant Standards.
<https://doi.org/10.83138/hmtc.std.19.pre-treaters-stain-removers>
© 2026 Institute of Contaminant Standards / Heavy Metal Certified. All rights reserved.

KEYWORDS

heavy metals, food safety, dietary exposure

PUBLICATION HISTORY

This revision 2026-08.

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 pre-treaters (spray/gel/stick) and stand-alone stain/spot removers in Laundry and Fabric-Contact Home Products, evaluated on total heavy-metal content of the finished product as placed on the market (as-sold consumer-chemical product-content basis, mg/kg of product). 5 of 11 panel analytes publish a numeric limit taken from the strictest applicable government maximum; the remainder are held under mandatory control or a substantiated not-material determination.

1 | How every number on this standard is set

HMTc Method v2.0 (government-limit default; no sovereign sets a contaminant maximum for a laundry or fabric-care product, so each toxic-panel cell is a disclosed read-across from the nearest applicable sovereign consumer-chemical maximum level in the product's native as-sold content basis, and each remaining unregulated cell is a control with a published method and escalation rule; never occurrence-derived)

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
---------	------	------------	-------

Lead (Pb)	Tier 1	2,000	human-grade read-across (DE)
Cadmium (Cd)	Tier 1	100	human-grade read-across (DE)
Total arsenic (tAs)	Tier 2	500	human-grade read-across (DE)
Inorganic arsenic (iAs)	Tier 1	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	Tier 1	100	human-grade read-across (DE)
Methylmercury (MeHg)	Tier 1	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	Tier 2	10,000	human-grade read-across (South Korea)
Tin (Sn)	Tier 2	3,750,000	human-grade read-across (European Union)
Aluminium (Al)	Tier 2	560,000	human-grade read-across (European Union)
Total chromium (Cr)	Tier 2	50	human-grade read-across (AU)
Hexavalent chromium (Cr-VI)	Tier 2	5	human-grade read-across (European Union)

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)	2,000	DE — human-food analog
Cadmium (Cd)	100	DE — human-food analog
Total arsenic (tAs)	500	DE — human-food analog

Inorganic arsenic (iAs)	≤ tAs	iAs carries no product-specific sovereign cell; it is a component of and bounded by its parent total tAs (iAs ≤ tAs), an enforceable ceiling via reflex speciation rather than an empty cell.
Mercury, total (tHg)	100	DE — human-food analog
Methylmercury (MeHg)	≤ tHg	MeHg carries no product-specific sovereign cell; it is a component of and bounded by its parent total tHg (MeHg ≤ tHg), an enforceable ceiling via reflex speciation rather than an empty cell.
Nickel (Ni)	10,000	South Korea — human-food analog
Tin (Sn)	3,750,000	European Union — human-food analog
Aluminium (Al)	560,000	European Union — human-food analog
Total chromium (Cr)	50	AU — human-food analog
Hexavalent chromium (Cr-VI)	5	European Union — human-food analog

4 | Cite this standard

Pendergrass, K. (2026). *Pre-treaters (spray/gel/stick) and stand-alone stain/spot removers: HMTc standard* (Standard No. 10.83138/hmtc.std.19.pre-treaters-stain-removers). Institute of Contaminant Standards. <https://doi.org/10.83138/hmtc.std.19.pre-treaters-stain-removers>

© 2026 Institute of Contaminant Standards / Heavy Metal Certified. All rights reserved.

References

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

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

PUBLICATION HISTORY

This revision 2026-08. The full dated record is maintained at <https://heavymetalcertified.com/standards/pre-treaters-stain-removers>.