

Manicuring preparations that remain on nails/skin (basecoats, polishes/enamels, cuticle softeners/creams): HMTc Standard

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KEYWORDS

heavy metals, food safety, dietary exposure

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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 manicuring preparations that remain on nails/skin (basecoats, polishes/enamels, cuticle softeners/creams) in Cosmetics and Personal Care: Leave-on, evaluated on finished leave-on cosmetic, TOTAL CONTENT as placed on market (ug/kg of product as sold), on the technically-unavoidable-impurity basis every instrument in this family uses. Not a migration/leachate basis, not a dietary basis, not an ingredient purity specification.. 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-only initial setting: every numeric cell is the strictest applicable sovereign maximum for this exact leave-on cosmetic form expressed as total content of the finished product as placed on market, or a disclosed read-across where the exact cell is unregulated, or a substantiated not-material determination, or a control. No cell is occurrence-derived, no cell is precautionary or feasibility-adjusted, and no cell is anchored on an ingredient or colour-additive purity specification.

2 | Master limit table

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

ANALYTE	TIER	HMTC LIMIT	BASIS
Lead (Pb)	Tier 1	1,000	government maximum level
Cadmium (Cd)	Tier 1	100	government maximum level
Total arsenic (tAs)	Tier 2	500	government maximum level
Inorganic arsenic (iAs)	Tier 1	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	Tier 1	100	government maximum level
Methylmercury (MeHg)	Tier 1	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	Tier 2	10,000	government maximum level
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)	1,000	government maximum level
Cadmium (Cd)	100	government maximum level

Total arsenic (tAs)	500	government maximum level
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)	100	government maximum level
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)	10,000	government maximum level
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). *Manicuring preparations that remain on nails/skin (basecoats, polishes/enamels, cuticle softeners/creams): HMTc standard* (Standard No. 10.83138/hmtc.std.13.manicuring-preparations-leave-on). Institute of Contaminant Standards. <https://doi.org/10.83138/hmtc.std.13.manicuring-preparations-leave-on>

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References

- [1] AU — human-food maximum levels
Binds Cr. Strictest applicable human-food sovereign maximum for the nearest analog.
MAXIMUM LEVEL
- [2] European Union — human-food maximum levels
Binds Sn, Al, Cr-VI. 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

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factual claim made here.

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/manicuring-preparations-leave-on>.
Primary legal instruments and expert-body assessments are
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