Menstrual cups: 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

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Abstract

The Heavy Metal Tested & Certified heavy-metal-safety standard for menstrual cups (silicone, latex, and other polymers) (Feminine Care), evaluated on the total heavy-metal content of the finished article as placed on market (mucosal basis, prolonged internal contact). No government sets a per-metal numeric content limit for this menstrual product, so every analyte is held to a disclosed read-across by analogy, the strictest health-based limit a government sets for an article in comparable prolonged mucosal contact, with inorganic arsenic and methylmercury bounded by their parent totals.

1 | How every number on this standard is set

HMTc Method v2.0 (government-limit default). Device forms carry no per-metal numeric heavy-metal content limit, so every panel cell is a disclosed read-across by analogy to the strictest health-based limit a government sets for an article in comparable prolonged mucosal contact; no occurrence percentile is computed and no number is originated by HMTc. Cosmetic forms read across the strictest sovereign mucosal-contact cosmetic contaminant limit. Two basis families (device content, cosmetic content) are never conflated, and neither is a leachate/migration number. Provenance vocabulary: {regulatory-alignment, read-across, not-material, control, ratchet}.

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	read-across (DE)
Cadmium (Cd)	100	read-across (DE)
Total arsenic (tAs)	500	read-across (DE)
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	100	read-across (DE)
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	10,000	read-across (South Korea)
Tin (Sn)	3,750,000	read-across (European Union)
Aluminium (Al)	560,000	read-across (European Union)
Total chromium (Cr)	50	read-across (AU)
Hexavalent chromium (Cr-VI)	5	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)	500	read-across (DE); toothpaste
Cadmium (Cd)	100	read-across (DE); cosmetic products in general
Total arsenic (tAs)	500	read-across (DE); cosmetic products in general except theater, fan, or carnival make-up
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	100	read-across (DE); cosmetic products in general
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	10,000	read-across (South Korea); cosmetic products other than eye makeup or color makeup products

Tin (Sn)	3,750,000	read-across (European Union); toys (accessible toy material); pacifiers/soothers reached via the EN 1400 soother standard (excluded from the TSD itself, Annex I item 16); EN 71-3 test basis
Aluminium (Al)	560,000	read-across (European Union); toys (accessible toy material); pacifiers/soothers reached via the EN 1400 soother standard (excluded from the TSD itself, Annex I item 16); EN 71-3 test basis
Total chromium (Cr)	50	read-across (AU); drinking water
Hexavalent chromium (Cr-VI)	5	read-across (European Union); toys (accessible toy material); pacifiers/soothers reached via the EN 1400 soother standard (excluded from the TSD itself, Annex I item 16); EN 71-3 test basis

4 | Cite this standard

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References

[1] DE
Binds Pb, Cd, tAs, tHg. toothpaste.
READ-ACROSS

[2] South Korea
Binds Ni. cosmetic products other than eye makeup or color makeup products.
READ-ACROSS

[3] AU
Binds Cr. drinking water.
READ-ACROSS

[4] European Union
Binds Cr-VI, Sn, Al. toys (accessible toy material); pacifiers/soothers reached via the EN 1400 soother standard (excluded from the TSD itself, Annex I item 16); EN 71-3 test basis.
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

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

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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/menstrual-cups. 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.

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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