

Glass jars: HMTc Standard

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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 glass jars in Food-Contact Consumer Goods and Kitchenware, evaluated on element RELEASE FROM THE GLAZE, VITREOUS ENAMEL OR GLASS NETWORK INTO FOOD OR A FOOD SIMULANT, $\mu\text{g/kg}$ of food, determined by the 4 percent (v/v) acetic acid filled-article or contact-surface extraction convention used for this material family, with decoration within 20 mm of the lip determined separately. This is the glaze-and-glass RELEASE basis; it is deliberately NOT the Reg (EU) 10/2011 plastics-simulant convention, and a plastics specific migration limit is never substituted for a release limit on this family.. 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 ($\mu\text{g/kg}$), as sold basis. A brand meeting every value qualifies for the mark.

ANALYTE	TIER	HMTC LIMIT	BASIS
Lead (Pb)	Tier 1	10	human-grade read-across (European Union)
Cadmium (Cd)	Tier 1	2	human-grade read-across (European Union)
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	10	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 (China)
Aluminium (Al)	Tier 2	1,000	human-grade read-across (European Union)
Total chromium (Cr)	Tier 2	10	human-grade read-across (European Union)
Hexavalent chromium (Cr-VI)	Tier 2	≤ Cr	bounded by Cr (reflex speciation)

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)	10	European Union — human-food analog

Cadmium (Cd)	2	European Union — 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)	10	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	China — human-food analog
Aluminium (Al)	1,000	European Union — human-food analog
Total chromium (Cr)	10	European Union — human-food analog
Hexavalent chromium (Cr-VI)	$\leq$ Cr	Cr-VI carries no product-specific sovereign cell; it is a component of and bounded by its parent total Cr (Cr-VI $\leq$ Cr), an enforceable ceiling via reflex speciation rather than an empty cell.

4 | Cite this standard

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References

- [1] China — human-food maximum levels
 Binds Sn. Strictest applicable human-food sovereign maximum for the nearest analog.
 MAXIMUM LEVEL

[2] European Union — human-food maximum levels

Binds Pb, Cd, tAs, tHg, Ni, Al, Cr. 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/food-packaging-glass-jars>. 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.

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