

Dry pet food (complete & balanced kibble): 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 human-grade standard for dry pet food (complete & balanced kibble), stated as sold. Pet food is legally feed; HMTc voluntarily certifies each analyte to the strictest human-food sovereign maximum for the nearest analog, with the laxer feed-law floor disclosed for contrast.

1 | How every number on this standard is set

Pet food is legally governed by feed law — EU Directive 2002/32/EC on undesirable substances in animal feed, FDA Center for Veterinary Medicine guidance, and AAFCO model regulations — whose maximum levels are generally laxer than the corresponding human-food limits. Japan (FAMIC pet-food standard) and China (draft pet-food guidance) set enforced or proposed pet-food maxima in the same lax range. The HMTc standard for each analyte is not the feed limit: it is the strictest applicable human-food sovereign maximum for the nearest human-food analog, adopted as a voluntary human-grade over-compliance. The feed floor is disclosed on every row and never selects the number.

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
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Lead (Pb)	Tier 1	20	human-grade read-across (Hong Kong)
Cadmium (Cd)	Tier 1	40	human-grade read-across (European Union)
Total arsenic (tAs)	Tier 2	100	human-grade read-across (Paraguay)
Inorganic arsenic (iAs)	Tier 1	100	human-grade read-across (Israel)
Mercury, total (tHg)	Tier 1	20	human-grade read-across (Hong Kong)
Methylmercury (MeHg)	Tier 1	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	Tier 2	800	human-grade read-across (European Union)
Tin (Sn)	Tier 2	250,000	human-grade read-across (Singapore)
Aluminium (Al)	Tier 2	100,000	human-grade read-across (China)
Total chromium (Cr)	Tier 2	500	human-grade read-across (Hong Kong)
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)	20	Hong Kong — Cereal-based food intended to be consumed principally by persons under the age of 36 months
Cadmium (Cd)	40	European Union — pulses, general
Total arsenic (tAs)	100	Paraguay — pulses, dried legume seeds, except soybean
Inorganic arsenic (iAs)	100	Israel — Dried legumes, including peanuts and soybeans

Mercury, total (tHg)	20	Hong Kong — Rice, husked rice, polished rice, maize, maize flour, wheat, wheat flour
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)	800	European Union — cereals except durum/rice/husked-rice/-pseudocereal/oat rows
Tin (Sn)	250,000	Singapore — human-food analog
Aluminium (Al)	100,000	China — human-food analog
Total chromium (Cr)	500	Hong Kong — Vegetables, other than pulses
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 Al. Strictest applicable human-food sovereign maximum for the nearest analog.
 MAXIMUM LEVEL
- [2] European Union — human-food maximum levels
 Binds Cd, Ni. Strictest applicable human-food sovereign maximum for the nearest analog.
 MAXIMUM LEVEL
- [3] Hong Kong — human-food maximum levels
 Binds Pb, tHg, Cr. Strictest applicable human-food sovereign maximum for the nearest analog.
 MAXIMUM LEVEL
- [4] Israel — human-food maximum levels
 Binds iAs. Strictest applicable human-food sovereign maximum for the nearest analog.
 MAXIMUM LEVEL

[5] Paraguay — human-food maximum levels

Binds tAs. Strictest applicable human-food sovereign maximum for the nearest analog.

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[6] Singapore — human-food maximum levels

Binds Sn. 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/pet-food-dry-kibble>. 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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