

# Semi-moist pet food: HMTc Standard

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

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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 semi-moist pet food, 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                               |
|-----------|--------|------------|-------------------------------------|
| 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.  
 MAXIMUM LEVEL

[6] Singapore — human-food maximum levels

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

MAXIMUM LEVEL

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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-semi-moist>. 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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