Nuts and seeds (general tree nuts and non-sunflower oilseeds — almonds, pistachios, hazelnuts, pecans, macadamias, sesame, flax, pumpkin, other): 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

This revision 2026-08.

Abstract

The Heavy Metal Tested & Certified standard for Nuts and seeds (general tree nuts and non-sunflower oilseeds — almonds, pistachios, hazelnuts, pecans, macadamias, sesame, flax, pumpkin, other) (Nuts, Seeds, and Their Butters), stated as sold. Each analyte carries the strictest applicable government maximum level in the product's native basis, with a disclosed read-across or a mandatory control where no government regulates the exact product.

1 | How every number on this standard is set

HMTc Method v2.0 (government-limit default; regulatory-alignment / read-across / not-material / control)

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)	200	government maximum level (GB 2762)
Cadmium (Cd)	100	government maximum level (EU 2023/915)
Total arsenic (tAs)	800	government maximum level (Brazil)
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	400	government maximum level (Israel)
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	3,500	government maximum level (EU 2024/1987)
Tin (Sn)	250,000	read-across (Singapore)
Aluminium (Al)	100,000	read-across (China)
Total chromium (Cr)	1,000	read-across (GB 2762)
Hexavalent chromium (Cr-VI)	≤ 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)	200	government maximum level (GB 2762)
Cadmium (Cd)	100	government maximum level (EU 2023/915)
Total arsenic (tAs)	800	government maximum level (Brazil)
Inorganic arsenic (iAs)	≤ tAs	bounded by tAs (reflex speciation)
Mercury, total (tHg)	400	government maximum level (Israel)
Methylmercury (MeHg)	≤ tHg	bounded by tHg (reflex speciation)
Nickel (Ni)	3,500	government maximum level (EU 2024/1987)
Tin (Sn)	250,000	read-across (Singapore); any food

Aluminium (Al)	100,000	read-across (China); baked foods (bread, pastries, cakes, biscuits, cookies, crackers); deep-fried flour products; batter, breading, and frying powder
Total chromium (Cr)	1,000	read-across (GB 2762); grains and grain products including cereals and milled grain products
Hexavalent chromium (Cr-VI)	≤ Cr	bounded by Cr (reflex speciation)

4 | Cite this standard

Pendergrass, K. (2026). *Nuts and seeds (general tree nuts and non-sunflower oilseeds — almonds, pistachios, hazelnuts, pecans, macadamias, sesame, flax, pumpkin, other): HMTc standard* (Standard No. 10.83138/hmtc.std.28.nuts-seeds-other). Institute of Contaminant Standards. https://doi.org/10.83138/hmtc.std.28.nuts-seeds-other

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References

[1] GB 2762
Binds Pb, Cr.
MAXIMUM LEVEL

[2] EU 2023/915
Binds Cd.
MAXIMUM LEVEL

[3] Brazil
Binds tAs.
MAXIMUM LEVEL

[4] Israel
Binds tHg.
MAXIMUM LEVEL

[5] EU 2024/1987
Binds Ni.
MAXIMUM LEVEL

[6] Singapore
Binds Sn. any food.
READ-ACROSS

[7] China
Binds Al. baked foods (bread, pastries, cakes, biscuits, cookies, crackers); deep-fried flour products; batter, breading, and frying powder.
READ-ACROSS

STATUS AND LICENCE

COMPETING INTERESTS

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.

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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/nuts-seeds-other. 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.

PUBLICATION HISTORY

This revision 2026-08. The full dated record is maintained at https://heavymetalcertified.com/standards/nuts-seeds-other.