# Cannabis vape cartridge fill (vape oil): 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 heavy-metal-safety standard for cannabis vape cartridge fill — the consumable vape oil, sometimes called 'juice' — evaluated on the finished inhalable consumable as sold. Each limit is the strictest sovereign cannabis heavy-metal action level applicable to the inhalation route (the same pool as flower); total chromium is a screening ceiling with hexavalent chromium as the binding control, and inorganic arsenic, methylmercury and Cr(VI) are enforced by reflex speciation. This standard covers the cartridge fill only; the vape hardware and its aerosol emissions are a separate reserved determination.

## 1 | How every number on this standard is set

HMTc Method v2.0 (government-limit default, route-preserving; strictest applicable sovereign cannabis maximum; occurrence never selects a value)

## 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 | sovereign maximum level (US-CA) |
| Cadmium (Cd) | 200 | sovereign maximum level (US-CA) |

| | | |
|---|---|---|
| Total arsenic (tAs) | 200 | sovereign maximum level (US-CA) |
| Inorganic arsenic (iAs) | ≤ tAs | bounded by tAs (reflex speciation) |
| Mercury, total (tHg) | 100 | sovereign maximum level (US-CA) |
| Methylmercury (MeHg) | ≤ tHg | bounded by tHg (reflex speciation) |
| Nickel (Ni) | 800 | read-across (EU 2024/1987) |
| Tin (Sn) | 250,000 | read-across (Singapore) |
| Aluminium (Al) | 100,000 | read-across (China) |
| Total chromium (Cr) | 600 | sovereign maximum level (US-MD) |
| 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) | 500 | sovereign maximum level (US-CA) |
| Cadmium (Cd) | 200 | sovereign maximum level (US-CA) |
| Total arsenic (tAs) | 200 | sovereign maximum level (US-CA) |
| Inorganic arsenic (iAs) | ≤ tAs | bounded by tAs (reflex speciation) |
| Mercury, total (tHg) | 100 | sovereign maximum level (US-CA) |
| Methylmercury (MeHg) | ≤ tHg | bounded by tHg (reflex speciation) |
| Nickel (Ni) | 800 | read-across (EU 2024/1987); cereals except durum/rice/husked-rice/-pseudocereal/oat rows |
| 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) | 600 | sovereign maximum level (US-MD) |
| Hexavalent chromium (Cr-VI) | ≤ Cr | bounded by Cr (reflex speciation) |

## 4 | Cite this standard

Pendergrass, K. (2026). *Cannabis vape cartridge fill (vape oil): HMTc standard* (Standard No. 10.83138/hmtc.std.25.cannabis-vape-cartridge-fill). Institute of Contaminant Standards. https://doi.org/10.83138/hmtc.std.25.cannabis-vape-cartridge-fill

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## References

[1] US-CA
Binds Pb, Cd, tAs, tHg.
MAXIMUM LEVEL

[2] EU 2024/1987
Binds Ni. cereals except durum/rice/husked-rice/pseudocereal/oat rows.
READ-ACROSS

[3] US-MD
Binds Cr.
MAXIMUM LEVEL

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

[5] 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

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.

### 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 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.

### 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/cannabis-vape-cartridge-fill. 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/cannabis-vape-cartridge-fill.