

Infant and Child Foods: HMTc Program Manual

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<https://heavymetalcertified.com/manuals/infant-and-child-foods>. Retrieved 2026-09-20.

Governing Principles

The five objectives are co-equal. None may be sacrificed to advance another. Cited from [docs/governance/hmtc-governing-principles.md](#) (the ruling named in the readiness manifest).

1 Drive down contamination

The program exists to lower heavy-metal burden in products that reach people, not to decorate a label.

2 Protect consumers

Limits, testing, and the mark are instruments of consumer protection. A certificate that cannot be trusted does not protect anyone.

3 Protect brands who enter

A brand that enters in good faith, tests honestly, and stays inside the published rules is not set up to fail. Certification is offered only when the program has high confidence the brand can remain in the program.

4 Remain legally defensible

Every published number traces to a named sovereign government maximum or a disclosed read-across. Nothing is invented. Incomplete claim-surface cells are not cert-ready.

5 Become the de facto standard

The program is written to be the instrument the market, retailers, and regulators can actually use.

Method v2.0 (CLAUDE.md Part 19): every cert-ready cell is a government floor or a disclosed read-across. Species never replace the parent total. Limits do not derive from the Heavy Metal Index; every number traces to a named sovereign instrument. The Index is cited one way, outbound only.

Program lifecycle and statuses

A SKU enters by baseline testing, is assigned a status, and stays under surveillance for as long as the mark is used. Status attaches to the product, not the brand. A product is Certified only when every one of the eight limit analytes is at or below 100% of its published limit, the government floor or disclosed read-across for that cell, confirmed under the measurement-uncertainty rule. There is no band above the limit that still earns the mark.

Certified is the only status that carries the mark. A lot in violation of a government legal limit at entry is a hard stop; a lot above any published HMTc limit is not certified and enters Remediation.

Status	Meaning	Mark	Condition
Certified	Full compliance	permitted	every analyte at or below 100% of its published limit
Remediation	Not certified: applicant or corrective	withheld / removed	any analyte above its published limit, or a new applicant not yet at 100%; corrective action and intensified surveillance
Suspension	Certification halted: hard stop	removed	a government legal-limit violation, a data-integrity failure, or failure to execute directives
Revocation	Permanent termination	removed	willful misconduct, data fraud, concealment, or persistent unremediated suspension

Tiering sets how hard and fast the program reacts to an exceedance, never permission to exceed a limit and keep the mark. Tier 1 (Pb, Cd, iAs, mercury as tHg) is zero-tolerance: the most severe reaction. Tier 2 (Ni, Al, Sn, Cr) still bars the mark and enters Remediation, at an elevated rather than immediate hard-stop reaction. Any quantifiable Cr(VI) on a credible pathway is a hard fail, treated as Tier 1. No metal has a transitional band or an allowed overage.

Baseline before any status	3 lots, worst-performing lot
Prior accredited data	credits up to 2 lots
Entry hard-stop	a government legal-limit violation
Suspension reinstatement	does not require a fresh baseline

Mark, measurement uncertainty, CAPA, remediation, ratchet

The mark

The mark may be used only on Certified product: every analyte at or below 100% of its published limit. A product in Remediation carries no mark, at any margin and on any metal, and is not listed as certified while any analyte is above its limit. Suspension and Revocation remove the mark. Claims of heavy-metal free, no toxic metals, or 100% safe are prohibited. The mark certifies testing against published limits under ongoing surveillance; it does not certify safety.

Measurement uncertainty

Every result is read with the laboratory's expanded measurement uncertainty at coverage factor $k = 2$ (95%). Pass only when $(\text{result} + \text{MU}) \leq \text{limit}$. Fail when $(\text{result} - \text{MU}) > \text{limit}$. Anything between is borderline and requires confirmatory action before status issues. A borderline result alone shall not certify. Testing into compliance is prohibited.

CAPA

A Tier 2 exceedance in Remediation has a 12-month default to return to Certified. A CAPA closes only after verification of effectiveness and Operator approval.

Reaction	Initiate	Full plan	Containment
Tier 2 exceedance (Remediation)	10 business days	30 calendar days	as needed
Tier 1 exceedance (Remediation)	5 business days	15 business days	within 48 hours
Suspension (hard stop)	2 business days	10 business days	Immediate (within 48 hours)

Remediation

The Confidential Remediation Track is a confidential entry-and-support pathway for products not yet at 100% of every published limit. It is expressly not a certified status and displays no mark. After certification, Corrective Action follows the published status rules. Concealment of a known exceedance is grounds for revocation. Confidentiality never delays a recall, never overrides a reporting duty, and never withholds evidence from a regulator who asks.

Standards ratchet

A published limit tightens only through the Standards Ratchet: a stated trigger, a capped step, and a dated edition. Limits do not loosen because a brand found them inconvenient. The subcategory page, not this manual, is the live derivation of each cell.

Lot Testing Schedule

Certification is a standing obligation. Totals are run on every completing lot. Speciation is a pathway reflex, not an extra panel seat. Risk tier and the surveillance schedule are assigned after application, from the brand's laboratory capability as well as the product class.

Product risk tiers

These are the nine subcategory standard pages of the live Infant and Child Foods taxonomy. The Program Operator may raise a specific SKU (for example a rice-based teething product) on documented rationale.

Tier	Subcategories
High	Infant formula (powder); infant formula (ready-to-feed); baby cereals and dry grain products
Moderate	Fruit purées; non-root vegetable purées; root-vegetable purées; mixed meals
Lower	Fruit juice (not canned); teething and snack products

Baseline frequency matrix

This grid is the starting point, not the assigned schedule. Certified is the only status that carries the mark; Remediation carries none. Reaction severity follows the tier of the exceedance and the brand's conduct, never an allowed overage: any Tier 1 exceedance, any quantifiable Cr(VI), or a concealment concern takes the every-lot, Operator-directed row regardless of risk tier.

Status	High	Moderate	Lower	Hold and release	Independent sampling
Certified	Monthly	Quarterly	Quarterly	not required	yes, per schedule
Remediation: Tier 2 exceedance	Every lot or monthly (more frequent)	Monthly	Monthly	mandatory	brand's own accredited lab, subject to audit
Remediation: Tier 1 exceedance	Every lot	Every lot	Every lot	mandatory	Operator-directed third-party sampling

Baseline

Every SKU is tested across three distinct production lots on the full eight-total panel, with required pathway speciation, before any status is assigned. Status is taken from the worst-performing lot. A single passing lot certifies nothing. Qualifying ISO/IEC 17025 prior data from the preceding twelve months may credit up to two lots, per analyte actually measured. That pathway is not available on the Confidential Remediation Track.

Reflex

A new ingredient, supplier, origin, water source, product-contact equipment, packaging, formulation, or process change triggers a full-panel reflex on the next one or two lots. A Tier 1 result at or above 80% of its limit triggers confirmatory testing, Operator notice, and speciation where a speciated form applies.

Speciation

Species $\leq$ parent. The speciated result does not replace the parent total; both ceilings must be met. Failure to perform a required speciation renders the lot ineligible. The Operator may lower the 50% trigger and shall not raise it.

Pathway	Species	When mandatory	Reflex trigger
Rice or rice-derived ingredients	iAs	all such products	total As at or above 50% of the applicable limit
Fish or marine ingredients	MeHg	all such products	total Hg at or above 50% of the applicable limit
Credible hexavalent pathway	Cr(VI)	where the pathway exists	anomalous total Cr, or Operator direction

Sampling and chain of custody

Certification testing is lot-based composite sampling with a complete custody record from collection through laboratory receipt. A custody breach invalidates the result. Testing is ISO/IEC 17025 for the methods and matrices in scope. The LOQ for each claim-surface analyte must sit at or below the published limit; where it does not, a non-detect is indeterminate. Results are reported as structured data, with MU, on the finished-product basis. PDF-only submissions are not accepted.

Lab-informed schedule

The frequency matrix is not assigned by itself. After application, the Program Operator reads what the brand's laboratory actually states and writes the schedule from that evidence.

Input	What is read
Panel	Does the lab quantify every Big-8 total on this matrix?
LOQ	Is each claim-surface LOQ at or below the published limit?
MU	Is expanded uncertainty reported at $k = 2$?
Capability	Can the lab run the required pathway speciation (rice $\rightarrow$ iAs, and so on)?
Accreditation	ISO/IEC 17025 for the methods and matrices in scope?
Turnaround	Can hold-and-release be met at the assigned frequency?

Decision owner	Program Operator
Recommendation	Technical Committee, on request
Fail: LOQ above limit	schedule not assigned; lot indeterminate
Fail: missing Big-8 total	schedule not assigned
Fail: no required speciation method	schedule not assigned
Fail: no 17025 scope	schedule not assigned

A brand is not certified against a fantasy grid. If the laboratory cannot support the published panel, LOQ, MU, or pathway speciation, the SKU stays uncertified until the capability exists.

90% stay-in-program certification gate

The program certifies only if there is at least 90% confidence the brand can remain in the program. A one-lot pass that will fail the next surveillance cycle is not a certification. This gate protects brands who enter as much as it protects consumers: entering a program the brand cannot keep is a harm.

Input	Read as
Baseline lots	three-lot record, worst lot, not the best lot
Headroom	distance to the published limit, not a knife-edge pass
Lab capability	the lab-informed schedule inputs above
Pathway risk	rice, marine, hexavalent, or other documented pathways
Schedule feasibility	can the brand actually run the assigned frequency and hold-and-release?
CAPA capacity	can the brand open and close CAPA on the published windows?

Decision owner	Program Operator
Pass	≥90% confidence the brand can remain under the assigned schedule
Fail: knife-edge baseline	do not certify
Fail: lab cannot support the schedule	do not certify
Fail: would enter only to be suspended	do not certify
Fail: concealment or data-integrity doubt	do not certify; Suspension / Revocation path

Cat-1 Standards Register

Every Cat-1 compiled record and every live subcategory page. Cert-ready means the live page carries a house DOI under prefix 10.83138 and every joined compiled variant has a complete claim-surface (Big-8 totals numeric; rice rows have numeric iAs; species $\leq$ parent). Incomplete cells stay listed as not cert-ready. This table is generated from the compiled corpus and page frontmatter; it is not typed.

Claim-surface panel: the eight totals (Pb, tAs, Cd, tHg, Ni, Sn, Al, Cr). Species (iAs, MeHg, Cr-VI) are pathway reflexes and never replace the parent. Rice and rice-derived infant cereals require numeric iAs. A blank claim-surface cell is HOLD, not cert-ready.

Standard	Status	cert_doi	HOLD reason
Infant formula (powder)	cert-ready	10.83138/hmtc.std.1.infant-formula-powder	—
Infant formula (ready-to-feed, liquid)	cert-ready	10.83138/hmtc.std.1.infant-formula-ready-to-feed	—
Baby cereals & dry grain products	cert-ready	10.83138/hmtc.std.1.baby-cereals-dry	—
Fruit purées	cert-ready	10.83138/hmtc.std.1.fruit-purees	—
Non-root vegetable purées	cert-ready	10.83138/hmtc.std.1.non-root-vegetable-purees	—
Root-vegetable purées	cert-ready	10.83138/hmtc.std.1.root-vegetable-purees	—
Mixed meals (meat & grain combinations)	cert-ready	10.83138/hmtc.std.1.mixed-meals	—
Fruit juice (not canned)	cert-ready	10.83138/hmtc.std.1.fruit-juice-not-canned	—
Teething biscuits & finger snacks	cert-ready	10.83138/hmtc.std.1.teething-and-snacks	—
Mixed meals (meat & grain combos), rice-containing	HOLD	—	compiled record not joined to a live /standards/ page

About this edition

This is Manual v3, the Method v2 governing instrument for Category 1. It supersedes the earlier deposited Zenodo edition [10.5281/zenodo.20771543](#) (concept DOI [10.5281/zenodo.20270511](#)). That earlier deposited edition never certified a brand. V1 is retired. It remains citable only as an earlier deposited edition.

House mint, when the CEO deposits live, uses suffix `hmtc.manual.infant-and-child-foods` under prefix 10.83138 (Fabrica VAJU.HDAWAI). This page does not invent that DOI.

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Version history

The dated editions of this manual. Each is kept at a stable permalink, so a regulator or brand can reconstruct exactly what the manual required on any date: the edition record, not an editorial commit trail. Version-pinned DOIs link here once each edition is deposited.

Version	Date	Status	DOI	What changed
Manual v3	2026-09-19	current	USER-RUN live deposit under 10.83138/hmtc.manual.infant-and-child-foods	Method v2 governing instrument. Thin TOC: five Governing Principles; program lifecycle; mark/MU/CAPA/remediation/ratchet; Lot Testing Schedule with lab-informed assignment and the 90% stay-in-program gate; live Cat-1 Standards Register. V1 Zenodo edition retired as an earlier deposited edition only.
2026 web edition	2026-08-06	superseded	-	Nine-subcategory web reorganization under Method v2.0. Superseded by Manual v3. Did not mint a house DOI.
2026 deposit (rev.)	2026-06-20	superseded	10.5281/zenodo.20771543	Earlier deposited 384-page volume. Never certified a brand. Retired; citable only as an earlier deposited edition.
2026 deposit (v0)	2026-05-18	superseded	10.5281/zenodo.20270512	First public Zenodo deposit of the standalone 384-page volume. Retired.

The Zenodo concept DOI [10.5281/zenodo.20270511](#) resolves to the latest Zenodo deposited edition, which is retired. It is not the current Manual v3 identifier. House mint uses prefix 10.83138 / suffix `hmtc.manual.infant-and-child-foods` after CEO PASS.