

# Proposed Amendments to the Food Adulteration (Metallic Contamination) Regulations (Cap.132V)

**Third technical meeting with trade on  
12 September 2025**

## 2. Overview of testing methods related to the Food Adulteration (Metallic Contamination) (Amendment) Regulation 2025

# Purpose of this Technical Meeting

- ✿ **Part I: To recap the reference methodology from the first technical meeting on testing of metallic contaminants in food**
- ✿ **Part II: To provide method reference for Total Cocoa Solids Content in chocolate and Dry Matters/Moisture Content in food**

# Part I: Methodology on testing of metallic contaminants in food

# Testing Methods for MeHg



## Reference international / national standards

- ✓ GB 5009.17-2021 (LC-AFS)
- ✓ BS EN 16801-2016 (GC-ICP-MS)
- ✓ US FDA EAM 4.8 (LC-ICP-MS)

# Testing Methods for Cd



## Reference international / national standards

- ✓ GB 5009.15-2023 (GFAAS)
- ✓ GB 5009.268-2016 (ICP-MS)
- ✓ AOAC Official Method 2015.01 (ICP-MS)
- ✓ BS EN 17851:2023 (ICP-MS)

# Testing Methods for Pb



## Reference international / national standards

- ✓ GB 5009.12-2023 (GFAAS/FAAS)
- ✓ GB 5009.268-2016 (ICP-MS)
- ✓ AOAC Official Method 2015.01 (ICP-MS)
- ✓ BS EN 17851:2023 (ICP-MS)

# Part II: Method reference for Total Cocoa Solids Content in Chocolate and Dry Matters/Moisture Content in Food



# Total Cocoa Solids Content in Chocolates

- ✿ **“Total cocoa solids” refers to all cocoa components, and therefore, is the sum of cocoa butter and non-fat cocoa solids**

# Reference Approach for Estimating Content of Cocoa Butter

- ✱ **Method listed in Codex Alimentarius “Standard for Chocolate and Chocolate Products (CXS 87-1981)”**
  - ✓ AOAC Official Method 963.15 (Soxhlet extraction)
- ✱ **Determine the content of the cocoa butter equivalents in cocoa butter and plain chocolate by triacylglycerol (TAG) profiling#**
  - ✓ ISO 23275:2006
  - # For correcting the content of cocoa butter from fats in chocolate products

# Reference Approach for Estimating Content of Fat-Free Cocoa Solid

✿ **Method listed in Codex Alimentarius “Standard for Chocolate and Chocolate Products (CXS 87-1981)”**

✓ AOAC Official Method 931.05 (Gravimetric)

✿ **Determine the content of the cocoa alkaloids, theobromine and caffeine and converted into amount of Fat-Free Cocoa Solid**

✓ AOAC Official Method 980.14

✓ FOODINTEGRITY HANDBOOK - A Guide to Food Authenticity

Issues and Analytical Solutions – Plant Products : Cocoa, cocoa preparation, chocolate and chocolate-based confectionery

(ISBN 978-2-9566303-0-2)

# Methods of Analysis for Dry Matter/Moisture Content for Food

**The dry matter content of food should be determined on a part of the homogenised sample, using a method that has been demonstrated to determine the dry matter content accurately.**

**Reference methods on determination of dry matter/moisture content in foods:**

- ✿ Codex Alimentarius Recommended Methods of Analysis and Sampling (CXS 234-1999)**
- ✿ National Food Safety Standard Determination of Moisture in Foods (GB 5009.3 – 2016)**

# Methods of Analysis

- ✿ **Internationally/nationally recognised standards are preferred or other national technical criteria and reference testing methods**
- ✿ **Methods used shall be fully validated with established reliability**
- ✿ **Practicability for routine use**

**- END -**  
**(Thank you)**