FDA Foods Program Compendium of Analytical Laboratory Methods: Chemical Analytical Manual (CAM)

METHOD NUMBER: C-008.01

POSTING DATE: September 23, 2019

POSTING EXPIRATION DATE: None

PROGRAM AREA: Toxic and Nutrient Elements

METHOD TITLE: EAM 4.7 Inductively Coupled Plasma-Mass Spectrometric Determination of Arsenic, Cadmium, Chromium, Lead, Mercury, and Other Elements in Food Using Microwave Assisted Digestion (follow link for method write-up).

VALIDATION STATUS: Multilaboratory Validated (MLV) under Foods Program Method Development, Validation and Implementation Program

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METHOD SUMMARY/SCOPE:

Analyte(s): As, Cd, Cr, Pb, Hg, Mn, Ni, Cu, Zn, Se, Mo

Matrices: Foods

An analytical portion of food is decomposed in acid inside a high-pressure digestion vessel using microwave heating. The analytical solution is analyzed using an inductively coupled plasma mass spectrometer (ICP-MS). Elemental concentrations are quantified using external calibration and quality controls are incorporated to ensure data quality.

REVISION HISTORY:

This method is currently posted as a single-laboratory method in the FDA's Elemental Analysis Manual (EAM). The method has undergone a successful multilaboratory validation (MLV) under the Foods Program Method Development, Validation and Implementation process and the updated version of the MLV method will be posted at the EAM website.

OTHER NOTES: