SCOPE OF ACCREDITATION TO ISO 17034:2016

NATIONAL INSTITUTE FOR FOOD CONTROL
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REFERENCE MATERIAL PRODUCER

Valid To: July 31, 2024 Certificate Number: 4254.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this Reference Material Producer for the production of the certified reference materials and reference materials of the following categories:

CERTIFIED REFERENCE MATERIALS

I. Matrix Materials

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Matrix or Artifact	Test, Analysis, Measurement, Methods
[2]Vitamin group B (B1, B2, B6)	Vitamin B1, Vitamin B2, Vitamin B6: Concentration Range: (100 to 300) mg/100g Uncertainty: (10 to 20) %	[2]Health supplements, Fortified food	HPLC
[2]Heavy metals and Minerals	Pb: Concentration Range: (10 to 5000) µg/mL Uncertainty: (5 to 20) % Cd: Concentration Range: (5 to 1000) µg/mL Uncertainty: (5 to 20) % As: Concentration Range: (10 to 5000) µg/mL Uncertainty: (5 to 20) % Hg: Concentration Range: (0 to 1000) µg/mL Uncertainty: (5 to 20) %	[2]Mix heavy metals in water	ICP-MS ICP-MS ICP-MS ICP-MS

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Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Matrix or Artifact	Test, Analysis, Measurement, Methods
[1]Heavy metals and minerals	$Pb(NO_3)_2$ in HNO_3, 0.5 mol/l: Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %	Mix heavy metals in stated solutions	ICP-MS
	$Cd(NO_3)_2$ in HNO_3, 0.5 mol/l: Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-MS
	H_3AsO_4 in HNO_3, 0.5 mol/l: Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-MS
	$Hg(NO_3)_2$ in HNO_3, 2 mol/L: Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-MS
	$SnCL_4$ in HCl, 2 mol/l: Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-MS
	KNO_3 in HNO_3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES
	$NaNO_3$ in HNO_3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES
	$Ca(NO_3)_2$ in HNO3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES
	$Mg(NO_3)_2$ in HNO_3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES
	KH_2PO_4 in H_2O Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Matrix or Artifact	Test, Analysis, Measurement, Methods
[1]Heavy metals and minerals (cont)	$Cu(NO_3)_2$ in HNO_3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %	Mix heavy metals in stated solutions	ICP-OES
	$Fe(NO_3)_3$ in HNO_3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES
	$Zn(NO_3)_2$ in HNO_3, 0.5 mol/l Concentration Range: (1 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES
	$Mn(NO_3)_2$ in HNO_3, 0.5 mol/l Concentration Range: (0 to 1000) mg/L Uncertainty: (1 to 5) %		ICP-OES

II. Microbiology

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Matrix or Artifact	Test, Analysis, Measurement, Methods
[2]Food Microbiology	Enterobacteriaceae Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value	Milk based products, Cereals based products	ISO 21528-2:2017
	Listeria monocytogenes Concentration Range and Uncertainty: Positive/Negative		ISO 11290-1:2017
	Total Plate Count Concentration Range; (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value		TCVN 4884-1,2:2015/ISO 4833-1,2:2013
	Coliforms, Escherichia coli Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value		TCVN 6848:2007 ISO 4832:2007

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Matrix or Artifact	Test, Analysis, Measurement, Methods
[2]Food Microbiology (cont)	Yeasts and moulds Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value Bacillus cereus Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value Salmonella spp. Concentration Range and Uncertainty: Positive/Negative Clostridium perfringens Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value Staphylococcus aureus positive Coagulase Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value	Milk based products, Cereals based products	TCVN 8275-2:2010 ISO 21527-2:2008 TCVN 4992:2005 ISO 7932:2004 TCVN 4992:2005 ISO 7932:2004 TCVN 4991:2005 ISO 7937:2004 TCVN 107801:2017 ISO 6579-1:2017
[2] Feedstuff microbiology	Escherichia coli Concentration Range: (0 to 10^5) CFU/g/ml Uncertainty: within ±0.5 of a log of the assigned value Salmonella spp. Concentration Range and Uncertainty: Positive/Negative	Animal feeding stuffs	TCVN 7924-2:2008 ISO 16649-2:2001 TCVN 10780-1:2017/ISO 6579-1:2017

III. Purity Materials

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[2]Food Additives	Sodium Cyclamate Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[2]Food Additives (cont)	Aspartame Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Sodium Saccharin Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Acesulfame K Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Potassium Sorbate Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Sodium Benzoate Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Sunset yellow Concentration Range: (85 to 95) % Uncertainty: (1 to 5) %	HPLC/Titration
	Tartrazine Concentration Range: (80 to 90) % Uncertainty: (1 to 5) %	HPLC/Titration
	Brilliant Blue Concentration Range: (85 to 95) % Uncertainty: (1 to 5) %	HPLC/Titration
[1]Amino acids and active ingredients	Hesperidin Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Alpha lipoic acid Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[1]Amino acids and active ingredients (cont)	Coensyme Q10 Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Citicoline Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Cystine Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Glutathione reduced Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Lysine HCl Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	Titration/HPLC
	Piperin Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Taurine Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	Titration/HPLC
	Threanin Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	Methionine Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	Titration/HPLC
	Arginine HCl Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	Titration/HPLC

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[1]Amino acids and active ingredients (cont)	Threonine Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	Titration/HPLC
	Tryptophan Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC/TLC
	2-Fucrosyllactose (2'FL) Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC-FLR/HPAEC-PAD
[1]Vitamins and nutrients	Vitamin B1 (Thiamin) Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC
	Vitamin B2 (Riboflavin) Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/UV-Vis
	Vitamin B3 (Niacinamide) Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Vitamin B5 (Calcium D-pantothenate) Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Vitamin B9 (Acid folic) Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/UV-Vis
	Biotin Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/UV-Vis

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[1]Vitamins and nutrients (cont)	Vitamin E (D, L-Alpha Tocopheryl acetate) Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/UV-Vis
	Caffeine Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC/Titration
	Glucose Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC-RID
	Fructose Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC-RID
	Lactose Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC-RID
	Sorbitol Concentration Range: (95 to 100) % Uncertainty: (1 to 5) %	HPLC-RID
[1]Chemical residues	Enrofloxacin Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC
	Oxytetracycline dihydrate Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	HPLC
	Dexamthasone Acetate Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	LC-MS/MS
	Diclofenac sodium Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	LC-MS/MS

Certified Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[1]Chemical residues (cont)	Ketoprofen Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	LC-MS/MS
	Meloxicam Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	LC-MS/MS
	Paracetamol Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	LC-MS/MS
	Phenylbutazone Concentration Range: (90 to 100) % Uncertainty: (1 to 5) %	LC-MS/MS

REFERNCE MATERIALS

I. Characterized in accredited NIFC PT schemes

Reference Material	Properties Characterized/Concentration Range and Uncertainty	Test, Analysis, Measurement, Methods
[3]Stable samples from previous rounds of Proficiency Testing	Listed on NIFC website	Test method as mentioned in the Instruction sheet for each Proficiency Testing scheme

[1] CRMs characterized by NIFC laboratory
[2] CRMs characterized by a network of competent laboratories
[3] RMs characterized by all participants in a PT scheme

Accredited Reference Material Producer

A2LA has accredited

NATIONAL INSTITUTE FOR FOOD CONTROL

Ha Noi Capital, VIETNAM

This accreditation covers the specific reference materials listed on the agreed upon Scope of Accreditation. This provider is accredited in accordance with the recognized International Standard ISO/IEC 17034:2016 *Conformity assessment - General requirements for the competence of RMPs*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 28th day of June 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4254.02
Valid to July 31, 2024

For the types of reference materials to which this accreditation applies, please refer to the provider's Scope of Accreditation.