



National Measurement Standards for Thermoelectricity and Chemistry

Catalogue

Indonesia Reference Material
(IDNRM)

2024





Laboratory of SNSU for Chemistry -BSN

The Laboratory of National Measurement Standard (SNSU) for Chemistry, which is under the Directorate of SNSU for Thermoelectricity and Chemistry, is part of SNSU-BSN as the Indonesian National Metrology Institute (NMI), which has the task of developing, providing and maintaining national measurement standard for Chemistry. The SNSU-BSN Laboratory has demonstrated the accuracy and reliability of national measurement standards in the field of chemistry through Interlaboratory Comparison (ILC) measurements with other NMIs and registered the Calibration and Measurement Capability (CMC) to the world metrology agency Bureau International des Poids et Mesures (BIPM). This is to ensure the accuracy and traceability of measurement results, especially in the chemical sector (for example for the food and environmental sectors) and to ensure international acceptance of measurement results. Efforts to disseminate the traceability of chemical measurements are carried out through the provision of reference materials and the provision of reference values for both Proficiency Test

materials and reference materials provided by other Reference Material Producers.

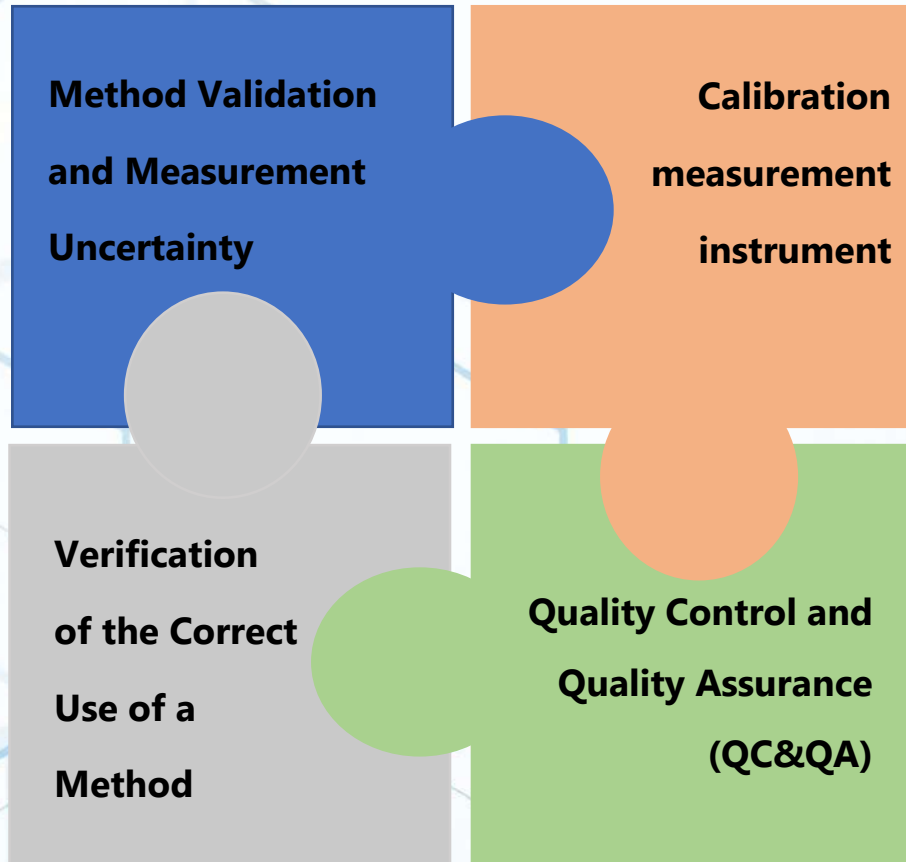
To support the dissemination function of measurement traceability, Laboratory of SNSU for Chemistry has implemented the Quality Systems of SNI ISO/IEC 17025:2017 and SNI ISO 17034:2016. To prove competence and verify its CMC, the Laboratory of SNSU for Chemistry BSN has been assessed from both management and technical aspects in the implementation of the quality system requirements above by the National Accreditation Committee (KAN) and through peer review by NMI experts from other countries from Asia Pacific Metrology Program (APMP). The Laboratory of SNSU for Chemistry BSN, has been accredited by SNI ISO/IEC 17025:2017 as a calibration laboratory and SNI ISO 17034:2016 as a reference material producer with Laboratory numbers LK-070-IDN and PBA-005-IDN.

Certified Reference Materials (CRM)

Certified Reference Materials (CRM) are widely used as measurement standards in the fields of industrial production, environmental protection, clinical measurements, etc. As an internationally recognized reference, CRM is used to provide metrological traceability and international equality of measurement results. Additionally, CRM plays an important role in ensuring the accuracy and reliability of chemical, and biological measurements and tests. The use of CRM is one of the means that can be used by laboratories to ensure the validity of measurement results. CRM

is an important tool in realizing a number of aspects of testing quality. One of the key factors that influences a laboratory's ability to produce reliable test data is the availability of reference materials with certified values that can be used as a reference for its users.

Use of CRM

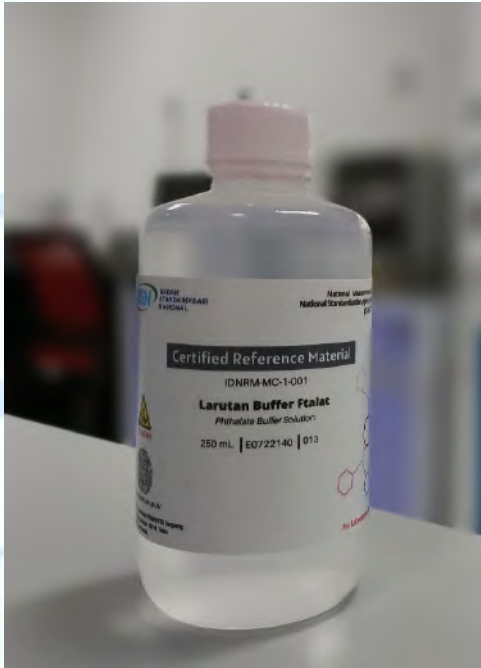


Benefit of CRM



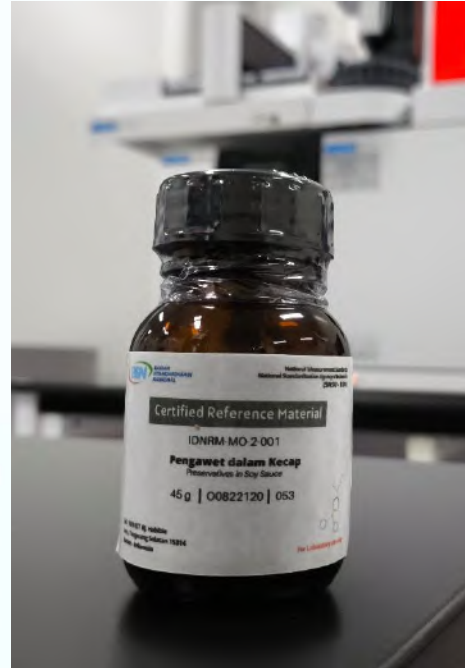
IDNRM-KATALOG

Category	CRM No	Description	Form/Size	Analytes	Certified Value & Uncertainty	Classified (CRM or RM)	Institute service identifier
pH Standard	IDNRM-MC-1-001	Phthalate Buffer	Liquid 250 mL/bottle	pH	4.002 ± 0.018	CRM	MC-1
Food (other preservatives)	IDNRM-MO-2-001	Preservatives in Soy Sauce	Thick liquid 45 g/bottle	Benzoic acid	(493 ± 36) mg/kg	CRM	MO-2
				Methyl paraben	(90.0 ± 7.0) mg/kg		
				n-butyl paraben	(76.7 ± 7.8) mg/kg		
Food (Mineral water)	IDNRM-MI-1-001	Elements in mineral water	Liquid 250 mL/bottle	As	(8.44 ± 0.36) µg/L	CRM	MI-1
				Cd	(3.08 ± 0.23) µg/L		
				Cu	(225 ± 10) µg/L		
				Ni	(61.1 ± 3.0) µg/L		
Environmental (River water)	IDNRM-MI-2-001	Elements in river water	Liquid 250 mL/bottle	As	(24.0 ± 1.3) µg/L	CRM	MI-1
				Cd	(4.50 ± 0.29) µg/L		
				Fe	(239 ± 15) µg/L		
				Mn	(123.5 ± 5.7) µg/L		
				Zn	(73.9 ± 4.5) µg/L		
Environmental (Gases)	IDNRM-MG-1-007	CO ₂ in N ₂	Gas 100 bar, 4 L/cylinder	CO ₂	(999.56 ± 9.59) µmol/mol	CRM	MG-1
	IDNRM-MG-1-014	CO ₂ in N ₂	Gas 50 bar, 4 L/cylinder	CO ₂	(2.78 ± 0.02) %mol/mol	CRM	MG-1
	IDNRM-MG-1 (on demand)	CO ₂ in N ₂	Gas 100 bar, 4 L/cylinder	CO ₂	1 - 500 mmol/mol (± 0.65% relative)	CRM	MG-1
	IDNRM-MG-1 (on demand)	CO ₂ in N ₂	Gas 100 bar, 4 L/cylinder	CO ₂	400 - 1000 µmol/mol (± 1% relative)	CRM	MG-1



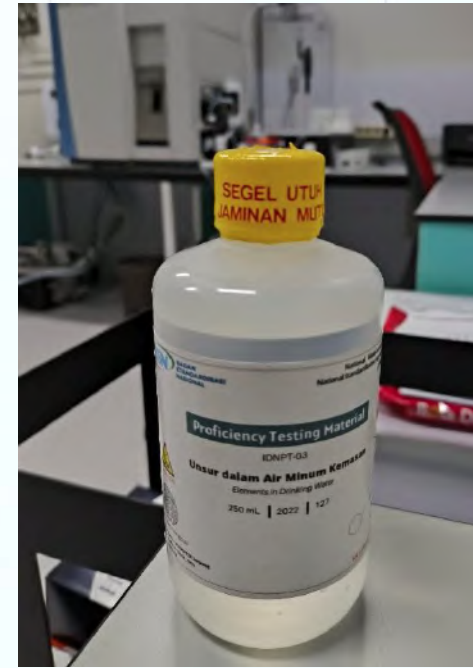
CRM No : IDNRM-MC-1-001
Description : Phthalate Buffer
Form/Size : Liquid 250 mL/bottle
Analyze and Certified Value & Uncertainty :
pH 4.002 ± 0.018

Classified CRM or RM) : CRM
Institute service identifier : MC-1



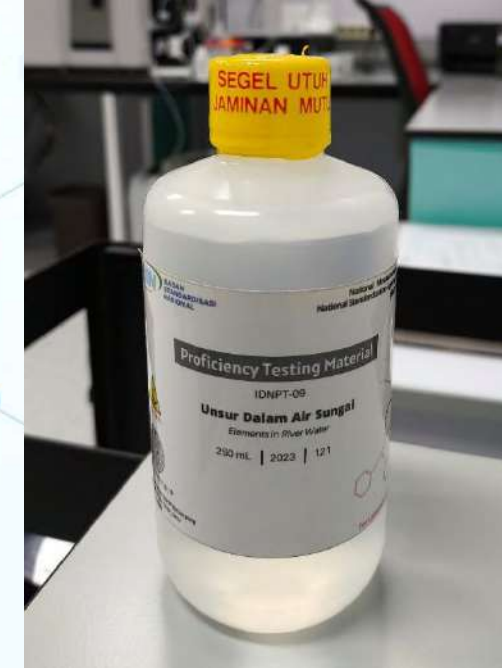
CRM No : IDNRM-MO-2-001
Description : Preservatives in Soy Sauce
Form/Size : Thick liquid 45 g/bottle
Analyze and Certified Value & Uncertainty :
Benzoic acid : (493 ± 36) mg/kg
Methyl paraben : (90.0 ± 7.0) mg/kg
n-butyl paraben : (76.7 ± 7.8) mg/kg

Classified CRM or RM) : CRM
Institute service identifier : MO-2



CRM No : IDNRM-MI-1-001
Description : Elements in mineral water
Form/Size : Liquid 250 mL/bottle
Analyze and Certified Value & Uncertainty :
As : (8.44 ± 0.36) µg/L
Cd : (3.08 ± 0.23) µg/L
Cu : (225 ± 10) µg/L
Ni : (61.1 ± 3.0) µg/L

Classified CRM or RM) : CRM
Institute service identifier : MI-1



CRM No : IDNRM-MI-2-001
Description : Elements in river water
Form/Size : Liquid 250 mL/bottle
Analyze and Certified Value & Uncertainty :
As : (24.0 ± 1.3) µg/L
Cd : (4.50 ± 0.29) µg/L
Fe : (239 ± 15) µg/L
Mn : (123.5 ± 5.7) µg/L
Zn : (73.9 ± 4.5) µg/L

Classified CRM or RM) : CRM
Institute service identifier : MI-1



CRM No : IDNRM-MC-1-001
Description : CO₂ in N₂
Form/Size : 100 bar, 4 L/cylinder
Analyze and Certified Value & Uncertainty :
CO₂ : (999.56 ± 9.59) μmol/mol

Classified CRM or RM) : CRM
Institute service identifier : MG-1



CRM No : IDNRM-MG-1-014
Description : CO₂ in N₂
Form/Size : 50 bar, 4 L/cylinder
Analyze and Certified Value & Uncertainty :
CO₂ : (2.78 ± 0.02) %mol/mol

Classified CRM or RM) : CRM
Institute service identifier : MG-1



CRM No : IDNRM-MG-1(on demand)
Description : CO₂ in N₂
Form/Size : 100 bar, 4 L/cylinder
Analyze and Certified Value & Uncertainty :
CO₂ : 1 - 500 mmol/mol (± 0.65% relative)

Classified CRM or RM) : CRM
Institute service identifier : MG-1



CRM No : IDNRM-MG-1(on demand)
Description : CO₂ in N₂
Form/Size : 100 bar, 4 L/cylinder
Analyze and Certified Value & Uncertainty :
CO₂ : 400 - 1000 μmol/mol (± 1% relative)


Classified CRM or RM) : CRM
Institute service identifier : MG-1

Thank You

More Information

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