



21•01•19-NITE-AC-001
2021-01-19

Certificate of Accreditation

International Accreditation Japan (IAJapan) hereby accredits the following conformity assessment body as a Reference Material Producer of ASNITE accreditation program.

Accreditation Identification: ASNITE 0020 RMP

Name of Conformity Assessment Body: Institute of Geology and Geoinformation
Geological Survey of Japan
National Institute of Advanced Industrial Science
and Technology

Name of Legal Entity: National Institute of Advanced Industrial Science
and Technology

Location of Conformity Assessment Body: 1-1-1, Higashi, Tsukuba, Ibaraki 305-8567, Japan

Scope of Accreditation: as the following pages

Accreditation Requirement: ISO 17034:2016*

* The relevant accreditation requirements described in the ASNITE-R (General) Accreditation Scheme Document are also applied.

Effective Date of Accreditation: 2020-01-27

Expiry Date of Accreditation: 2024-01-26

Date of Initial Accreditation: 2007-10-24

KISHIMOTO Isao

Chief Executive, International Accreditation Japan (IAJapan)

National Institute of Technology and Evaluation

- International Accreditation Japan (IAJapan) is an RMP accreditation body which has signed MRAs of ILAC (International Laboratory Accreditation Cooperation) and APAC (Asia Pacific Accreditation Cooperation).

- MRA requirements are, in addition to relevant international standards and guides, requirements for participation in proficiency testing programs, surveillance and reassessment, and the policy on the traceability of measurement for MRA purpose.

- This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system in accordance with the recognized International Standard ISO 17034:2016.

- The latest accreditation information is publicly available on IAJapan Website as an accreditation certificate.

Category: Chemical Reference Materials

Type: Certified Reference Material

The Approach Used to Assign a Property Value: Characterization of an operationally-defined measurand using two or more methods of demonstrable accuracy in one or more competent laboratories (ISO 17034:2016 7.12.3.c)

Sub-category	Name of Materials	Property	Range of Property Value	Range of Expanded Uncertainty (Level of Confidence Approximately 95 %)	Characterization Technique (s)	Effective Date of Accreditation
Geochemical Certified Reference Material	Rock Sediment Soil Clay	Silicon dioxide	35 w/w% to 80 w/w %	1.5 % to 0.1 %	Gravimetric analysis, Molecular absorption spectrometry, ICP-AES ^{*1} , AAS ^{*2}	2020-01-27
		Titanium oxide	0.1 w/w% to 2 w/w %	5 % to 0.5 %	ICP-AES ^{*1} , AAS ^{*2}	
		Aluminium oxide	3 w/w% to 30 w/w %	3 % to 0.2 %		
		Iron (III) oxide	1 w/w% to 20 w/w %	3 % to 0.2 %		
		Iron (II) oxide	0.5 w/w% to 10 w/w %	5 % to 0.5 %	Titrimetry	
		Manganese oxide	0.05 w/w% to 3 w/w %	5 % to 0.5 %	ICP-AES ^{*1} , AAS ^{*2}	
		Magnesium oxide	1 w/w% to 45 w/w %	3 % to 0.5 %		
		Calcium oxide	0.5 w/w% to 20 w/w %	3 % to 0.3 %		
		Sodium oxide	0.2 w/w% to 10 w/w %	8 % to 0.3 %		
		Potassium oxide	0.1 w/w% to 5 w/w %	5 % to 0.5 %		
	Phosphorus pentoxide	0.05 w/w% to 2 w/w %	10 % to 0.3 %			
	Carbonate Rock	Calcium oxide	50 w/w% to 56 w/w %	1 % to 0.2 %	ICP-AES ^{*1} , AAS ^{*2}	2020-01-27
		Barium	5 mg/kg to 15 mg/kg	10 % to 5 %		
		Iron	15 mg/kg to 30 mg/kg	15 % to 5 %		
		Potassium	80 mg/kg to 200 mg/kg	10 % to 4 %		
		Magnesium	200 mg/kg to 1000 mg/kg	2 % to 0.5 %		
		Manganese	0.2 mg/kg to 2 mg/kg	15 % to 5 %		
		Sodium	4000 mg/kg to 5000 mg/kg	1 % to 0.3 %		
		Phosphorus	3 mg/kg to 10 mg/kg	20 % to 30 %		
Strontium		1000 mg/kg to 8000 mg/kg	5 % to 0.5 %			

*1 ICP-AES: Inductivity coupled plasma-atomic emission spectroscopy

*2 AAS: Atomic absorption spectrometry

Sub- category	Name of Materials	Property	Range of Property Value	Range of Expanded Uncertainty (Level of Confidence Approximately 95 %)	Characterization Technique (s)	Effective Date of Accreditation
Geochemical Certified Reference Material	Ore Mineral	Titanium oxide	0.01 w/w% to 1 w/w %	10 % to 4 %	ICP-AES ^{*1} , AAS ^{*2}	2020-01-27
		Aluminium oxide	0.2 w/w% to 15 w/w %	5 % to 0.3 %		
		Iron (III) oxide	8 w/w% to 26 w/w %	2 % to 0.5 %		
		Manganese oxide	0.5 w/w% to 2 w/w %	2 % to 0.5 %		
		Magnesium oxide	1 w/w% to 4 w/w %	5 % to 1 %		
		Calcium oxide	4 w/w% to 25 w/w %	2 % to 0.3 %		
		Sodium oxide	0.05 w/w% to 1 w/w %	10 % to 1 %		
		Potassium oxide	0.01 w/w% to 3 w/w %	10 % to 1 %		
		Copper	3 w/w% to 4 w/w %	2 % to 1 %		
		Zinc	0.05 w/w% to 5 w/w %	3 % to 0.3 %		
		Lead	0.1 w/w% to 1 w/w %	2 % to 1 %		
		Titanium oxide	0.01 w/w% to 1 w/w %	10 % to 4 %		
		Aluminium oxide	0.2 w/w% to 15 w/w %	5 % to 0.3 %		

*1 ICP-AES: Inductivity coupled plasma-atomic emission spectroscopy

*2 AAS: Atomic absorption spectrometry

(End of Attachment)