

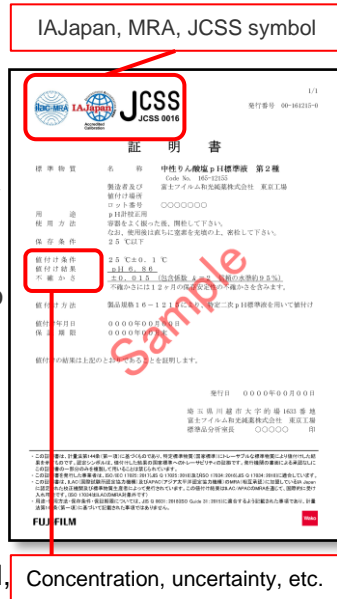
# Japan Calibration Service System JCSS Reference Material (CRM)

JCSS (Japan Calibration Service System) is a traceability system based on the Measurement Law of Japan. It is developed from time to time and used as a reference material for various official methods in Japan. JCSS reference materials are SI traceable CRM that ensure traceability to specific reference materials, manufactured by CERI (Chemicals Evaluation and Research Institute, Japan), a designated calibration institute under the Measurement Law of Japan. JCSS standard solutions are accompanied by a calibration certificate bearing the IAJapan and MRA (Mutual Recognition Agreement) symbols, and the concentrations on the calibration certificate are accepted internationally through the MRA of ILAC/APAC. Fujifilm Wako provides JCSS reference materials such as inorganic (ion/metal), organic, and pH standard solutions.

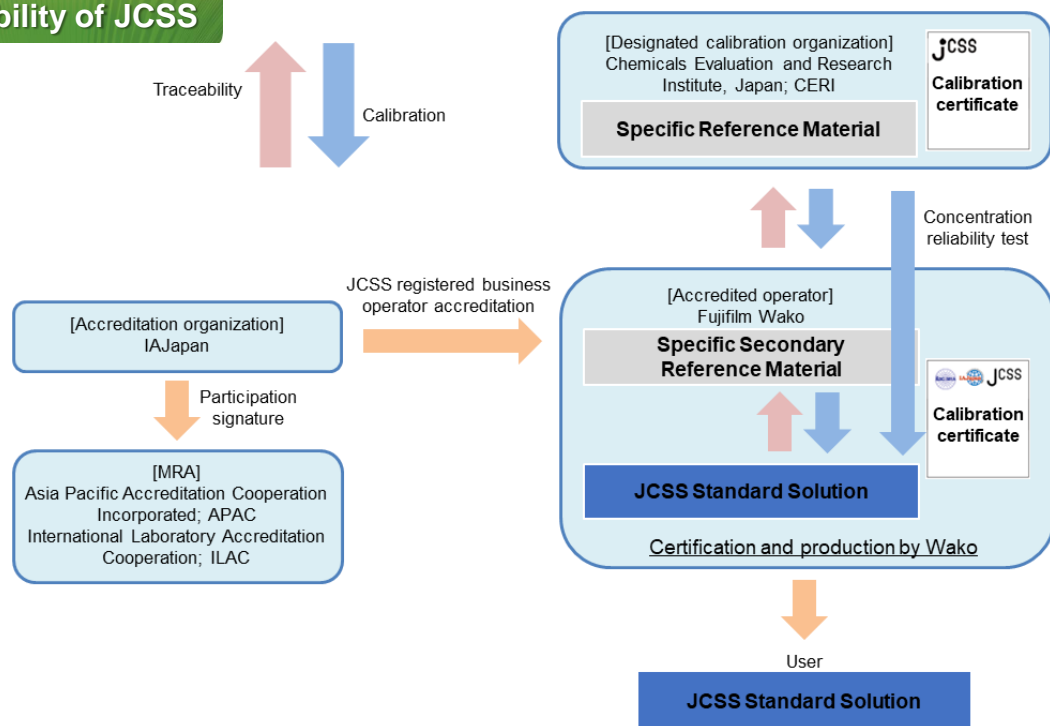
## Features

- ✓ CRM with guaranteed SI traceable characteristic values (concentration, factor, etc.)
- ✓ By valuing our products using specific reference materials and conducting concentration reliability tests on the valued products at CERI, we maintain the high reliability of the value.
- ✓ The calibration certificate bears the IAJapan and JCSS symbols, indicating that it meets all the requirements for CRM under ISO 17034.
- ✓ The calibration certificate bears the MRA symbol, which indicates that the listed characteristic values are internationally acceptable.

## JCSS calibration certificate



## Traceability of JCSS



### Organic standard solution (single standard solution)

Code No.	Product Name	Concentration (mg/L)	Volume
066-06561	Formaldehyde Standard Solution (Methanol Solution)	1,000	2 mL×5A
086-10571	Heptaoxyethylene Dodecyl Ether Standard Solution (Methanol Solution)	100	2 mL×5A
205-20711	Total Organic Carbon Standard Solution	1,000	10 mL

### Organic standard solution (mixture standard solution)

Code No.	Product Name	Concentration (mg/L)	Volume
084-10491	4 Haloacetic Acid Mixture Standard Solution ( <i>t</i> -Butyl Methyl Ether Solution)	1,000	2 mL×5A
<b>Constituent</b>	Bromoacetic Acid, Chloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid		
134-18901	2 Musty Odor Substances Mixture Standard Solution (Methanol Solution)	100	2 mL
<b>Constituent</b>	Geosmin, 2-Methylisoborneol		
163-28521	6 Phenols Mixture Standard Solution (Acetone Solution)	1,000	2 mL×5A
<b>Constituent</b>	2-Chlorophenol, 4-Chlorophenol, 2,4-Dichlorophenol, 2,6-Dichlorophenol, Phenol, 2,4,6-Trichlorophenol		

### Inorganic standard solution

Li	Be												B	C	N	O	F	Ne
Na	Mg												Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
Fr	Ra																	
			La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
			Ac	Th	Pa	U												

Ion 

Br <sup>-</sup>	BrO <sub>3</sub> <sup>-</sup>	Cl <sup>-</sup>	ClO <sub>3</sub> <sup>-</sup>	F <sup>-</sup>	NH <sub>4</sub> <sup>+</sup>	NO <sub>2</sub> <sup>-</sup>	NO <sub>3</sub> <sup>-</sup>	PO <sub>4</sub> <sup>3-</sup>	SO <sub>4</sub> <sup>2-</sup>	ClO <sub>2</sub> <sup>-</sup>
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### Ion standard solution (mixture standard solution)

Code No.	Product Name	Volume
019-24011	Anion Mixture Standard Solution 1	50 mL
<b>Constituent (mg/L)</b>	Br <sup>-</sup> : 100, Cl <sup>-</sup> : 20, F <sup>-</sup> : 20, NO <sub>2</sub> <sup>-</sup> : 100, NO <sub>3</sub> <sup>-</sup> : 100, PO <sub>4</sub> <sup>3-</sup> : 200, SO <sub>4</sub> <sup>2-</sup> : 100	
012-28021	5 Anion Mixture Standard Solution	50 mL
<b>Constituent (mg/L)</b>	NO <sub>3</sub> <sup>-</sup> (as N): 100, NO <sub>2</sub> <sup>-</sup> (as N): 10, F <sup>-</sup> : 100, Cl <sup>-</sup> : 200, ClO <sub>3</sub> <sup>-</sup> : 100	

## Ion standard solution (single standard solution)

Code No.	Product Name	Concentration (mg/L)	Constituent	Volume
024-15331	Bromide Ion Standard Solution	Br <sup>-</sup> : 1,000	KBr in H <sub>2</sub> O	50 mL
024-18913	Bromate Ion Standard Solution	BrO <sub>3</sub> <sup>-</sup> : 2,000	KBrO <sub>3</sub> in H <sub>2</sub> O	100 mL
038-16153	Chloride Ion Standard Solution	Cl <sup>-</sup> : 1,000	NaCl in H <sub>2</sub> O	100 mL
036-25581	Chlorite Ion Standard Solution	ClO <sub>2</sub> <sup>-</sup> : 1,000	Na <sub>2</sub> ClO in H <sub>2</sub> O	100 mL
031-24953	Chlorate Ion Standard Solution	ClO <sub>3</sub> <sup>-</sup> : 1,000	NaClO <sub>3</sub> in H <sub>2</sub> O	100 mL
066-03401	Fluoride Ion Standard Solution	F <sup>-</sup> : 1,000	NaF in H <sub>2</sub> O	50 mL
019-15461	Ammonium Ion Standard Solution	NH <sub>4</sub> <sup>+</sup> : 1,000	NH <sub>4</sub> NO <sub>3</sub> in 0.02 mol/L HNO <sub>3</sub>	50 mL
011-17241	Ammonium Nitrogen Standard Solution	NH <sub>4</sub> <sup>+</sup> (as N): 1,000	NH <sub>4</sub> Cl in H <sub>2</sub> O	50 mL
146-06453	Nitrite Ion Standard Solution	NO <sub>2</sub> <sup>-</sup> : 1,000 (as N: 304)	NaNO <sub>2</sub> in H <sub>2</sub> O	100 mL
147-09901	Nitrite Nitrogen Standard Solution	NO <sub>2</sub> <sup>-</sup> (as N): 1,000	NaNO <sub>2</sub> in H <sub>2</sub> O	100 mL
149-06443	Nitrate Ion Standard Solution	NO <sub>3</sub> <sup>-</sup> : 1,000 (as N: 225)	NaNO <sub>3</sub> in H <sub>2</sub> O	100 mL
144-09891	Nitrate Nitrogen Standard Solution	NO <sub>3</sub> <sup>-</sup> (as N): 1,000	NaNO <sub>3</sub> in H <sub>2</sub> O	100 mL
164-17463	Phosphate Ion Standard Solution	PO <sub>4</sub> <sup>3-</sup> : 1,000	NaH <sub>2</sub> PO <sub>4</sub> in H <sub>2</sub> O	100 mL
198-10823	Sulfate Ion Standard Solution	SO <sub>4</sub> <sup>2-</sup> : 1,000	Na <sub>2</sub> SO <sub>4</sub> in H <sub>2</sub> O	100 mL

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TOP>Analytical Chemistry>Reference Material (SI Traceable)>JCSS Ion Standard Solution  
<https://labchem-wako.fujifilm.com/asia/category/01833.html>



## Metal standard solution (single standard solution)

Code No.	Product Name	Concentration (mg/L)	Constituent	Volume
191-18691	Silver Standard Solution	Ag: 1,000	Ag(NO <sub>3</sub> ) in 5w/w% HNO <sub>3</sub>	100 mL
016-15471	Aluminium Standard Solution	Al: 1,000	Al(NO <sub>3</sub> ) <sub>3</sub> in 0.5 mol/L HNO <sub>3</sub>	100 mL
013-15501	Arsenic Standard Solution	As: 100	As <sub>2</sub> O <sub>3</sub> and NaOH in H <sub>2</sub> O	100 mL
013-15481		As: 1,000	pH 5.0 with HCl	100 mL
027-15321	Barium Standard Solution	Ba: 1,000	BaCO <sub>3</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
025-16581	Boron Standard Solution	B: 1,000	H <sub>3</sub> BO <sub>3</sub> in H <sub>2</sub> O	100 mL
021-12661	Bismuth Standard Solution	Bi: 1,000	Bi(NO <sub>3</sub> ) <sub>3</sub> in 0.5 mol/L HNO <sub>3</sub>	100 mL
039-16161	Calcium Standard Solution	Ca: 1,000	CaCO <sub>3</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
030-16211	Cadmium Standard Solution	Cd: 100	Cd(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
036-16171		Cd: 1,000		100 mL
033-16181	Cobalt Standard Solution	Co: 1,000	Co(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
037-16221	Chromium Standard Solution	Cr: 100	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
030-16191		Cr: 1,000		100 mL
030-21341	Cesium Standard Solution	Cs: 1,000	CsCl in H <sub>2</sub> O	100 mL
034-16231	Copper Standard Solution	Cu: 100	Cu(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
033-16201		Cu: 1,000		100 mL
091-03851	Iron Standard Solution	Fe: 100	Fe(NO <sub>3</sub> ) <sub>3</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
094-03841		Fe: 1,000		100 mL
070-05781	Gallium Standard Solution	Ga: 1,000	Ga in 0.5 mol/L HNO <sub>3</sub>	100 mL
135-13671	Mercury Standard Solution	Hg: 100	HgCl <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
138-13661		Hg: 1,000		100 mL
092-05841	Indium Standard Solution	In: 1,000	In in 0.5 mol/L HNO <sub>3</sub>	100 mL
165-17471	Potassium Standard Solution	K: 1,000	KCl in H <sub>2</sub> O	100 mL
129-05221	Lithium Standard Solution	Li: 1,000	Li <sub>2</sub> CO <sub>3</sub> in 0.2 mol/L HNO <sub>3</sub>	100 mL
136-12121	Magnesium Standard Solution	Mg: 1,000	Mg(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
139-12111	Manganese Standard Solution	Mn: 100	Mn(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
130-14961	Molybdenum Standard Solution	Mo: 1,000	Mo in 0.4 mol/L HCl-0.2 mol/L HNO <sub>3</sub>	100 mL
199-10831	Sodium Standard Solution	Na: 1,000	NaCl in H <sub>2</sub> O	100 mL
147-06461	Nickel Standard Solution	Ni: 1,000	Ni(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
127-04301	Lead Standard Solution	Pb: 100	Pb(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
124-04291		Pb: 1,000		100 mL
167-28921	Phosphorus Standard Solution	PO <sub>4</sub> <sup>3-</sup> (as P): 1,000	H <sub>3</sub> PO <sub>4</sub> in H <sub>2</sub> O	100 mL
188-01951	Rubidium Standard Solution	Rb: 1,000	RbCl in H <sub>2</sub> O	100 mL
010-15491	Antimony Standard Solution	Sb: 1,000	SbCl <sub>3</sub> in 3 mol/L HCl	100 mL



Code No.	Product Name	Concentration (mg/L)	Constituent	Volume
192-13861	Selenium Standard Solution	Se: 1,000	Se in 0.1 mol/L HNO <sub>3</sub>	100 mL
202-16311	Tin Standard Solution	Sn: 1,000	Sn in 3 mol/L HCl	100 mL
191-19051	Sulfur Standard Solution	SO <sub>4</sub> <sup>2-</sup> (as S): 1,000	H <sub>2</sub> SO <sub>4</sub> in H <sub>2</sub> O	100 mL
199-13871	Strontium Standard Solution	Sr: 1,000	SrCO <sub>3</sub> in 0.1 mol/L HNO <sub>3</sub>	100 mL
209-17921	Tellurium Standard Solution	Te: 1,000	Te in 1 mol/L HCl	100 mL
205-16301	Thallium Standard Solution	Tl: 1,000	TlNO <sub>3</sub> in 1 mol/L HNO <sub>3</sub>	100 mL
221-01851	Vanadium Standard Solution	V: 1,000	V in 0.2 mol/L HCl·0.5 mol/L HNO <sub>3</sub>	100 mL
261-01431	Zinc Standard Solution (Zn 100)	100	Zn(NO <sub>3</sub> ) <sub>2</sub> in 0.1 mol/l HNO <sub>3</sub>	100 mL
264-01421		1,000		100 mL

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TOP>Analytical Chemistry>Elemental Analysis>Single Element Standard Solutions

>Standard for JCSS and AAS Analysis <https://labchem-wako.fujifilm.com/asia/category/01299.html>



## pH standard solution

Code No.	Product Name	pH	Volume
151-01845	Oxalate pH Standard Solution	1.68	500 mL
166-12141	Phthalate pH Standard Solution	4.01	100 mL
168-12145			500 mL
163-12151	Phosphate pH Standard Equimolal Solution	6.86	100 mL
165-12155			500 mL
166-17445	Phosphate pH Standard Solution	7.41	500 mL
203-08771	Tetraborate pH Standard Solution	9.18	100 mL
205-08775			500 mL
037-16145	Carbonate pH Standard Solution	10.01	500 mL

Please check our website for details.

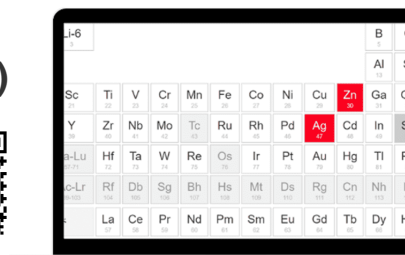
TOP>Analytical Chemistry>Reference Material (SI Traceable)>JCSS pH Standard Solution

<https://labchem-wako.fujifilm.com/asia/category/01297.html>



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