

**Fresh water - Trace elements, Product Expiration Date: 01 August 2025**

Art. ID                      NIST-1643f  
Unit                         250 mL  
Deliverydetails            ADR Limited Quantity (LQ) / AIR Dangerous Good (DG) UN1760 II E2

**Description**

This Standard Reference Material (SRM®) is intended primarily for use in evaluating methods used in the determination of trace elements in fresh water. NIST-1643f consists of approximately 250 mL of acidified water in a polyethylene bottle, which is sealed in an aluminized plastic bag to maintain stability. NIST-1643f simulates the elemental composition of fresh water. The solution contains nitric acid at a volume fraction of approximately 2 %, equivalent to an amount of substance concentration (molarity) of approximately 0.32 mol/L. Certified values /// Sample value(s) - please ask for current certificate.

Text/Information	Analyte/Parameter	CAS number	Concentration/Value	Unit	Method	Source
Coverage Factor (k): 1, 9	Aluminium (Al)	[7429-90-5]	132,5 ± 1,2	µg/kg		
Coverage Factor (k): 1, 9	Aluminium (Al)	[7429-90-5]	133,8 ± 1,2	µg/L		
Coverage Factor (k): 1, 9	Antimony (Sb)	[7440-36-0]	54,90 ± 0,39	µg/kg		
Coverage Factor (k): 2	Antimony (Sb)	[7440-36-0]	55,45 ± 0,40	µg/L		
Coverage Factor (k): 2	Arsenic (As)	[7440-38-2]	56,85 ± 0,37	µg/kg		
Coverage Factor (k): 2	Arsenic (As)	[7440-38-2]	57,42 ± 0,38	µg/L		
Coverage Factor (k): 2, 1	Barium (Ba)	[7440-39-3]	513,1 ± 7,3	µg/kg		
Coverage Factor (k): 2, 1	Barium (Ba)	[7440-39-3]	518,2 ± 7,3	µg/L		
Coverage Factor (k): 2, 1	Beryllium (Be)	[7440-41-7]	13,53 ± 0,11	µg/kg		
Coverage Factor (k): 2, 1	Beryllium (Be)	[7440-41-7]	13,67 ± 0,12	µg/L		
Coverage Factor (k): 1, 9	Bismuth (Bi)	[7440-69-9]	12,50 ± 0,10	µg/kg		
Coverage Factor (k): 1, 9	Bismuth (Bi)	[7440-69-9]	12,62 ± 0,11	µg/L		
Coverage Factor (k): 2, 2	Boron (B)	[7440-42-8]	150,8 ± 6,6	µg/kg		
Coverage Factor (k): 2, 2	Boron (B)	[7440-42-8]	152,3 ± 6,6	µg/L		
Coverage Factor (k): 2,	Cadmium (Cd)	[7440-43-9]	5,83 ± 0,13	µg/kg		

2	Coverage Factor (k): 2,	Cadmium (Cd)	[7440-43-9]	5,89 ± 0,13	µg/L
2	Coverage Factor (k): 2,	Calcium (Ca)	[7440-70-2]	29140 ± 320	µg/kg
1	Coverage Factor (k): 2,	Calcium (Ca)	[7440-70-2]	29430 ± 330	µg/L
1	Coverage Factor (k): 2	Chromium (Cr)	[7440-47-3]	18,32 ± 0,10	µg/kg
	Coverage Factor (k): 2,	Chromium (Cr)	[7440-47-3]	18,50 ± 0,10	µg/L
1	Coverage Factor (k): 2	Cobalt (Co)	[7440-48-4]	25,05 ± 0,17	µg/kg
	Coverage Factor (k): 2	Cobalt (Co)	[7440-48-4]	25,30 ± 0,17	µg/L
	Coverage Factor (k): 2,	Copper (Cu)	[7440-50-8]	21,44 ± 0,70	µg/kg
1	Coverage Factor (k): 2,	Copper (Cu)	[7440-50-8]	21,66 ± 0,71	µg/L
2	Coverage Factor (k): 2,	Iron (Fe)	[7439-89-6]	92,51 ± 0,77	µg/kg
1	Coverage Factor (k): 2,	Iron (Fe)	[7439-89-6]	93,44 ± 0,78	µg/L
1	Coverage Factor (k): 2	Lead (Pb)	[7439-92-1]	18,303 ± 0,081	µg/kg
	Coverage Factor (k): 2,	Lead (Pb)	[7439-92-1]	18,488 ± 0,084	µg/L
1	Coverage Factor (k): 2,	Lithium (Li)	[7439-93-2]	16,42 ± 0,35	µg/kg
2	Coverage Factor (k): 2,	Lithium (Li)	[7439-93-2]	16,59 ± 0,35	µg/L
2	Coverage Factor (k): 1,	Magnesium (Mg)	[7439-95-4]	7380 ± 58	µg/kg
9	Coverage Factor (k): 2	Magnesium (Mg)	[7439-95-4]	7454 ± 60	µg/L
	Coverage Factor (k): 2,	Manganese (Mn)	[7439-96-5]	36,77 ± 0,58	µg/kg
1	Coverage Factor (k): 2,	Manganese (Mn)	[7439-96-5]	37,14 ± 0,60	µg/L
2	Coverage Factor (k): 2,	Molybdenum (Mo)	[7439-98-7]	114,2 ± 1,7	µg/kg
1	Coverage Factor (k): 2,	Molybdenum (Mo)	[7439-98-7]	115,3 ± 1,7	µg/L
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Coverage Factor (k): 2, 2	Nickel (Ni)	[7440-02-0]	59,2 ± 1,4	µg/kg
Coverage Factor (k): 2, 2	Nickel (Ni)	[7440-02-0]	59,8 ± 1,4	µg/L
Coverage Factor (k): 2	Potassium (K)	[7440-09-7]	1913,3 ± 9,0	µg/kg
Coverage Factor (k): 2, 1	Potassium (K)	[7440-09-7]	1932,6 ± 9,4	µg/L
Coverage Factor (k): 2	Rubidium (Rb)	[7440-17-7]	12,51 ± 0,12	µg/kg
Coverage Factor (k): 2	Rubidium (Rb)	[7440-17-7]	12,64 ± 0,13	µg/L
Coverage Factor (k): 2	Selenium (Se)	[7782-49-2]	11,583 ± 0,078	µg/kg
Coverage Factor (k): 2	Selenium (Se)	[7782-49-2]	11,700 ± 0,081	µg/L
Coverage Factor (k): 2	Silver (Ag)	[7440-22-4]	0,9606 ± 0,0053	µg/kg
Coverage Factor (k): 2	Silver (Ag)	[7440-22-4]	0,9703 ± 0,0055	µg/L
Coverage Factor (k): 2, 1	Sodium (Na)	[7440-23-5]	18640 ± 240	µg/kg
Coverage Factor (k): 2, 1	Sodium (Na)	[7440-23-5]	18830 ± 250	µg/L
Coverage Factor (k): 2, 1	Strontium (Sr)	[7440-24-6]	311 ± 18	µg/kg
Coverage Factor (k): 2, 2	Strontium (Sr)	[7440-24-6]	314 ± 19	µg/L
Coverage Factor (k): 2	Tellurium (Te)	[13494-80-9]	0,9672 ± 0,0082	µg/kg
Coverage Factor (k): 2	Tellurium (Te)	[13494-80-9]	0,9770 ± 0,0084	µg/L
Coverage Factor (k): 1, 9	Thallium (Tl)	[7440-28-0]	6,823 ± 0,034	µg/kg
Coverage Factor (k): 2	Thallium (Tl)	[7440-28-0]	6,892 ± 0,035	µg/L
Coverage Factor (k): 2	Vanadium (V)	[7440-62-2]	35,71 ± 0,27	µg/kg
Coverage Factor (k): 2	Vanadium (V)	[7440-62-2]	36,07 ± 0,28	µg/L
Coverage Factor (k): 2, 1	Zinc (Zn)	[7440-66-6]	73,7 ± 1,7	µg/kg
Coverage Factor (k): 2, 1	Zinc (Zn)	[7440-66-6]	74,4 ± 1,7	µg/L