

REPORT OF ANALYSIS

Single-Element Aqueous RM

Titanium (Ti) - 10,000 µg/mL

Matrix: 5% HNO₃/2% HF

Product #: LK1-00220102 Lot #: 161694-24

Density: 1.045

Element	Certified Concentration
т	9981 µg/mL (w/v)
11	9547 µg/g (w/w)

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **9001 (TUV NORD Certificate No. 44 100 16560231)**, **ISO Guide 34**, and **ISO/IEC 17025 (certificate number 2848.01)** by the American Association of Laboratory Accreditation (A2LA). This RM was prepared to a nominal concentration of 10,000 μ g/mL by gravimetric methods using 99.99+% pure titanium (Ti) dissolved in high purity nitric acid (HNO₃), hydrofluoric acid (HF) and diluted with filtered (0.22 μ m), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

	race concentrations (µg/L)													
Ag	8	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	TI	<5	
AI	<20	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	Tm	<2	
As	<20	Cs	<5	Hf	12	Mn	<10	Pr	<2	Sm	<2	U	<5	
Au	<5	Cr	6	Hg	<5	Мо	154	Pt	<5	Sn	20	V	<10	
В	<50	Cu	13	Ho	<2	Na	<250	Rb	<5	Sr	<10	W	<5	
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Та	<5	Y	<5	
Be	<5	Er	<2	lr	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2	
Bi	<2	Eu	<2	К	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20	
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	46	
Cd	<5	Ga	<5	Li	<20	Р	<1000	Sc	<50	Ti	MAJOR			

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: LabKings ensures the accuracy of this solution for 18 months from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

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 See Exp. Date on Container

 Chuck Goudreau, Certifying Officer

 LabKings waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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