



Certificate of Analysis

Secondary Certified Reference Standard NIST traceable

Tin Standard Solution 1000mg/L (in 10% HCL & 0.2% HNO₃)

Molecular Formula:	NA	Lot No.:	T-001
Molecular Weight:	NA	Cat No.:	NIST -028
Packing :	100 mL	Dt. of Issue of Certificate:	16/02/2026
CAS No.:	NA	Dt. of Mfg:	Feb 2026
Traceability:	To NIST SRM3161a	Exp. Dt.:	Jan 2028

TABLE :1 Certified Value

Measurand / Constituent	Certified Value	Expanded Uncertainty (K=2)
Tin mass fraction (mg/kg)	999	±9
Tin Concentration (mg/L)	1000	±9

- This Tin Standard Solution is prepared by using ISO 17034:2016 certified RM & comparing with Tin Standard solution of NIST SRM3161a.
- The Tin Standard Solution is prepared gravimetrically using ISO 17034:2016 CRM Tin Metal Powder as starting material, whose purity is determined by primary method. The Tin Standard Solution is prepared in 0.1 mol/L Hydrochloric acid. One unit of this Reference Material consists of 100 ml Tin Standard Solution packed in tightly sealed white HDPE bottles. Certified value of Tin Standard Solution along with the associated uncertainty was calculated at 95% confidence level with coverage factor $k=2$, considering major sources of uncertainty including measurement replication, instrument background, buoyancy correction.

Traceability: The test result is traceable to Standard Reference Material of National Institute of Standards and Technology (USA), SRM3161a.

Intended use: This reference material is intended to be used as a standard for AAS/ICP-OES & ICP-MS quantitative determination of Tin and calibration of instruments.

Precautions:

- The sampling should be done using clean and dry pipette/micropipette.
- Excess sample must be rejected and must not be put back into the original bottle.
- Gloves, masks, goggles and other general precautionary measure should be used while handling the reference material.

Accreditation: Sabiha Research And Development ltd. is accredited to ISO 17025:2017.

Expiry: The validity of the standard is 2 years from date of manufacturing, However once the bottle is opened the expiry shall be one year from date of opening but within overall shelf life of the standard.

Do not freeze, store the bottle tightly closed between 5 - 30°C at room temperature protected from light, keep container tightly closed. Do not put back unused solution into original bottle. For laboratory and industrial use only, not for Human/Animal consumption.

QC Supervisor
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