

Certificate of Analysis

Perchlorate IC CRM - 1000 mg/L

Catalog Number: IC-037, IC-037-5
Lot Number: 210112
Manufacture Date: 01/12/21
Certified Date: 01/13/21

Expiration: 01/31/2025
Matrix: Water
Hazards: Irritant
 (See MSDS)

<u>Bulk Number</u>	<u>Analyte</u>	<u>CAS #</u>	<u>Purity</u>	<u>Certified Concentration</u> (mg/L ClO ₄)
W-1625M-05	Sodium perchlorate	7601-89-0	100%	1000 ± 4.60

Packaging, Storage, Instructions For Use

Store at room temperature (15-30°C). After opening, this solution should be stored tightly capped at 2-8°C.

This certified reference material (CRM) is packaged in low density polyethylene. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. A 1 mL sample size is recommended. Smaller sample volumes may negatively affect estimated uncertainty. This CRM was manufactured by NSI Lab Solutions following quality procedures meeting the requirements of ISO 9001, ISO 17025, and ISO 17034.

Traceability Information

Analyte Source Materials: The highest purity analyte source materials are used in the manufacture of this CRM. The actual purity is referenced above. Analyte source material purity and associated uncertainty has been analytically verified against appropriate NIST SRMs, if available.

Method: Certified concentration confirmed by IC analysis against an independent reference standard with n=5.

Balance: All analytical balances are calibrated on a semiannual basis by an ISO 17025 accredited calibration laboratory and are traceable to NIST. Traceable Calibration Certificate available upon request.

All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request.

Thermometer: All thermometers are NIST traceable through thermometers that are calibrated annually by an ISO 17025 accredited calibration laboratory.

Glassware: All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. Volumetric pipetors are calibrated every four months by an ISO 17025 accredited calibration laboratory.





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Intended Uses

- Calibration of analytical instruments
- Validation of analytical methods
- Preparation of working level reference materials, i.e. "check standards"
- Detection limit studies

Uncertainty

The \pm uncertainty associated with the certified concentration is the expanded uncertainty at 95% confidence interval (CI) with K=2. This expanded uncertainty incorporates contributions from manufacturing, homogeneity, and stability.

Homogeneity

This CRM was thoroughly mixed in production. Batch homogeneity was established through analysis of samples chosen at random. A minimum 1 mL sample size is recommended.

Stability/Expiration

The stability of this CRM is based on short-term and long-term monitoring of the certified concentration. The expiration date is guaranteed to be valid from the manufacture date and is based on results of long-term monitoring.

Ewart Morris

Ewart Morris, Inorganics Technical Manager

Mark Hammersla

Mark Hammersla, President

