

Certificate of Analysis

Inorganics QC CRM

Catalog Number: QCI-041
Lot Number: D0721
Manufacture Date: 05/26/21
Certified Date: 06/09/21

Expiration: 05/31/2023
Solvent: Water
Hazards: Irritant

<u>Analyte</u>	<u>Study Mean</u> (mg/L)	<u>Certified Concentration</u> (mg/L)	<u>Acceptance Limits</u> (mg/L)
Alkalinity (as CaCO ₃)	50.4	50.2 ± 0.467	45.2 - 55.2
Chloride	37.3	37.2 ± 0.346	31.6 - 42.8
Specific Conductance (µmhos/cm at 25°C)	701	708 ± 6.59	637 - 779
Fluoride	4.11	4.12 ± 0.038	3.71 - 4.53
Nitrate as N	5.66	5.68 ± 0.053	5.11 - 6.25
Nitrate + Nitrite as N (Total Nitrogen)	5.65	5.68 ± 0.053	4.83 - 6.53
Potassium	16.5	15.9 ± 0.148	13.5 - 18.3
Total Filterable Residue (TDS at 180°C)	474	450 ± 4.19	360 - 540
Sulfate	174	175 ± 1.63	149 - 201

This quality control CRM was manufactured by NSI Lab Solutions following quality procedures meeting the requirements of ISO 9001, ISO 17025, and ISO 17034. Acceptance limits are set at current NELAC standards. The study mean is set at the mean of an interlaboratory proficiency testing study with outlier rejection. This CRM is intended to be used to validate analytical methods, for detection limit studies, and analyst proficiency testing.

Storage & Instructions For Use

Store at room temperature (15-30°C).

Prior to opening, mix contents gently by inversion.

This sample is provided in whole volume format and is ready for analysis as received.

Measure an aliquot appropriate to your method.

This represents your sample for analysis.

Traceability Information

Analyte Source Materials: The highest purity analyte source materials are used in the manufacture of this CRM.

Analyte source material purity and associated uncertainty has been analytically verified against appropriate NIST SRMs, where available.

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.





Catalog Number: QCI-041

Lot Number: D0721

Glassware: All glassware used in the manufacture of our samples 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.

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 quality control CRM was thoroughly mixed in production. Batch homogeneity was established through analyses of samples chosen at random.

Stability/Expiration

The stability of this quality control 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. Guarantee is applicable to the unopened bottle.

Ewart Morris

Ewart Morris, Inorganics Technical Manager

Mark Hammersla

Mark Hammersla, President

分析证明书

水质 无机项目 质控样



产品编号: QCI-041
批号: D0721
生产日期: 2021-05-26
分析日期: 2021-06-09

保质期: 2023-05-31
基质/溶剂: 水
危害: 刺激

项目	能力验证 统计值 mg/L	确认值 mg/L	接受区间 mg/L
碱度	50.4	50.2 ± 0.467	45.2 - 55.2
氯离子	37.3	37.2 ± 0.346	31.6 - 42.8
氟离子	4.11	4.12 ± 0.038	3.71 - 4.53
总氮	5.65	5.68 ± 0.053	4.83 - 6.53
硝酸盐-氮	5.66	5.68 ± 0.053	5.11 - 6.25
K-钾	16.5	15.9 ± 0.148	13.5 - 18.3
电导率	701	708 ± 6.59	637 - 779
硫酸根	174	175 ± 1.63	149 - 201
溶解性总固体	474	450 ± 4.19	360 - 540

该质控样品配制过程符合 ISO9001, ISO17025 及 ISO17034 认证
接受区间根据当前国际能力验证行业标准设置
能力验证统计值 为 剔除不合格回报值后的实验室间能力验证结果统计值
该样品可用于: 方法验证、检测极限研究、能力验证等

储存及使用说明

室温(15-30℃)保存。

- 1, 启封前 上下翻转以混匀
- 2, 该样品为即用型包装, 收到后直接使用
- 3, 根据方法量取适量
- 4, 所得即为要分析溶液,

溯源

原料: 分析项目原料选用可用的最高纯度原料用于配制该样品。如有相应的 NIST标准物质可用, 原料纯度及不确定度会与其对照分析校验

天平: 所有天平按ISO17025校准实验室认证要求每季度校准一次, 溯源至NIST。所有天平每天按照内部标准操作程序查验, 查验所用砝码按17025认证要求每年校准一次。

温度计: 所有温度计溯源至 NIST, 每年校准一次

玻璃器皿: 此样品配制过程中涉及的所有玻璃器皿为 A 级。所有玻璃器皿启用前经过内部标准操作程序校验。移液器按17025认证要求每月校准一次。

均匀性/稳定性/保质期

该标物生产过程中已充分混匀, 批次均匀性按要求随机取样分析建立。该标物稳定性基于短期及长期对确认浓度的监测结果。保质期基于长期监测结果确保保质期内有效

不确定度

不确定度为 95%置信区间扩展系数 K=2.