

Certificate of Analysis

1,2-Dichlorobenzene-d4

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|-------------------------------------|-------------------------------------|
| Catalog Number: 776 | Expiration: 04/30/2029 |
| Lot Number: 230412 | Solvent: Methanol |
| Manufacture Date: 04/12/2023 | Hazards: Irritant, Flammable |

| <u>Analyte</u> | <u>CAS</u> | <u>Analyte Purity</u> | <u>Certified Concentration (ug/mL)</u> | <u>Uncertainty</u> |
|------------------------|------------|-----------------------|--|--------------------|
| 1,2-Dichlorobenzene-d4 | 2199-69-1 | 99.9% | 1999.8 | ± 18.62 |

This certified reference material (CRM) was manufactured and certified by NSI Lab Solutions according to quality procedures meeting our accreditation requirements of ISO/IEC 17034:2016 and ISO/IEC 17025:2017. Our certificates and scopes of accreditation may be viewed at www.anab.org.

Packaging, Storage, Instructions For Use

This CRM is packaged in a flame-sealed ampule and must be stored at 2°C to 8°C. To use this CRM, allow it to reach room temperature. Mix it gently by inversion. Inspect for precipitate. If present, sonicate for a few minutes to redissolve. Open the ampule and withdraw an aliquot appropriate for your application.

Traceability Information

Analyte Source Materials: All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of NSI CRMs are tracked and documented.

Method of Preparation: This CRM was verified Volumetrically/Gravimetrically. Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use as per ISO/IEC 17025 requirements.

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



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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 standards 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/IEC 17025 accredited calibration laboratory.

Certified Concentration: Certified concentration is the made to manufacture value corrected for the determined analyte purity.

Intended Uses

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

Homogeneity

The homogeneity of this CRM has been confirmed by procedures consistent with ISO Guide 35:2012. This CRM was thoroughly mixed in production and is guaranteed homogenous.

Uncertainty:

The \pm uncertainty of the certified concentration is the expanded uncertainty at the 95% Confidence Interval (CI) with $K=2$. This expanded uncertainty incorporates contributions from manufacturing, homogeneity, shipping and long term stability.

Ken Grzybowski

Ken Grzybowski, Certifying Officer

Quentisha Forrester

Quentisha Forrester, Quality Lead

