

# Certificate of Analysis

## Ammonia Nitrogen Standard, 10 ppm N (12.2 ppm NH<sub>3</sub>)

**Lot Number:** 4403L01

**Product Number:** 5450

**Manufacture Date:** MAR 19, 2024

**Expiration Date:** MAR 2025

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

| Name              | CAS#       | Grade           |
|-------------------|------------|-----------------|
| Water             | 7732-18-5  | ACS/ASTM/USP/EP |
| Ammonium Chloride | 12125-02-9 | High Purity     |

| Test               | Specification    | Result      |
|--------------------|------------------|-------------|
| Appearance         | Colorless liquid | Passed      |
| Assay (Calculated) | 9.95-10.05 ppm N | 10.00 ppm N |

| Specification   | Reference                     |
|---|-------------------------------|
| Ammonia Solution, Standard (1.0 mL = 0.01 mg ammonia nitrogen)            | ASTM (D 3590 A)               |
| Ammonia Solution, Standard (1.0 mL = 0.01 mg ammonium nitrogen)           | ASTM (D 3590 B)               |
| Standard Ammonium Chloride Solution, 10.0 mg NH <sub>3</sub> -N/L         | APHA (4500-CN- L)             |
| Standard Ammonium Solution  | APHA (4500-NH <sub>3</sub> C) |
| Ammonium Chloride, Standard Solution, 1.0 mL = 0.01 mg NH <sub>3</sub> -N | EPA (350.2)                   |
| Ammonium Chloride, Standard Solution, 1.0 mL = 0.01 mg NH <sub>3</sub> -N | EPA (350.3)                   |
| Ammonium Chloride, Standard Solution, 1.0 mL = 0.01 mg NH <sub>3</sub> -N | EPA (351.4)                   |
| Standard Solution A, 1 mL = 0.01 mg NH <sub>3</sub> -N                    | EPA (350.1)                   |
| Ammonium Chloride, Standard Solution, 1.0 mL = 0.01 mg NH <sub>3</sub> -N | EPA (351.3)                   |
| Nitrogen Standard Solution (0.01 mg of N in 1 mL)                         | ACS (N/A)                     |

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 5450-16     | 500 mL natural poly | 12 months                       |
| 5450-4      | 120 mL natural poly | 12 months                       |

**Recommended Storage:** 15°C - 30°C (59°F - 86°F)



Paul Brandon (03/19/2024)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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