1490 Lammers Pike Batesville, IN 47006 http://www.riccachemical.com 1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

Iodine (Iodine-Iodide), 0.100 Normal (N/10)

Lot Number: 4402N73 Product Number: 4000

Manufacture Date: FEB 27, 2024

Expiration Date: FEB 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

To meet USP specifications for Iodine, Tenth-Normal (0.1 N) Volumetric Solution (VS) and Test Solution (TS) add 3-drops of Hydrochloric acid per Liter of R4000.

| Name | CAS# | Grade |
|------------------|-----------|-----------------|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Potassium Iodide | 7681-11-0 | ACS |
| Iodine | 7553-56-2 | ACS |

| Test | Specification | Result | NIST SRM# |
|---------------------------------------|-------------------------|------------------|-----------|
| Appearance | Dark brown liquid | Passed | |
| Assay (vs. Sodium Thiosulfate/Starch) | 0.0998-0.1002 N at 20°C | 0.1001 N at 20°C | 136 |

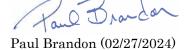
| Specification | Reference |
|--|---------------------|
| Standard Iodine, 0.1 N | APHA (4500-Cl B) |
| Standard iodine Solution, 0.1 N | APHA (4500-C1 C) |
| Iodine Solution | APHA (3500-Pb B) |
| Standard Iodine Solution (0.1 N) | EPA (330.2) |
| Iodine, 0.1 N | TAPPI (T 622 cm-84) |
| Standard Iodine Solution (0.1 N) | EPA (330.3) |
| Iodine, 0.1 Normal Volumetric Solution | 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) |
|-------------|---------------------|---------------------------------|
| 4000-1 | 4 L amber glass | 12 months |
| 4000-16 | 500 mL amber glass | 12 months |
| 4000-32 | 1 L amber glass | 12 months |

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

Version: 1.3 Lot Number: 4402N73 Product Number: 4000 Page 1 of 2



Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials $^{\rm --}$ Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Version: 1.3 Lot Number: 4402N73 Product Number: 4000 Page 2 of 2