

CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by Intertek Global
Certificate Number: CERT-0120633

| | |
|---------------------------|---|
| Catalogue Number | J75825 |
| Lot Number | 252468 |
| Description | TRIS, 99.8-100.1%, MOLECULAR BIOLOGY GRADE, ULTRAPURE |
| CAS Number | 77-86-1 |
| Quality Test/Release Date | 12/Jan/2026 |
| Suggested retest date | 13/Jul/2028 |
| Country of Origin | United States |
| Declaration of Origin | Organic - Synthetic |
| BSE/TSE | The product is produced from chemicals that have no origin from animal sources. The raw materials for this product are produced from organic chemical syntheses. To the best of our knowledge, there should be no Bovine Spongiform Encephalopathy (BSE)/ Transmissible Spongiform Encephalopathy (TSE) issues with this product because of the sources of raw materials. |

| Result Name | Units | Specifications | Test Value |
|--------------------------------|----------------------|--------------------------------|--------------------------|
| APPEARANCE | | REPORT | White crystalline powder |
| ABSORBANCE 1M SOL AT 250NM | ABS. UNITS | <= 0.1 | 0.02 |
| ABSORBANCE 40% W/W SOL @ 290NM | ABS. UNITS | <= 0.2 | 0.03 |
| ARSENIC (As) | ppm | <= 1 | <1 |
| ASSAY | % | Inclusive Between 99.8 - 100.1 | 100.1 |
| BARIUM (Ba) | ppm | <= 1 | <1 |
| CADMIUM (Cd) | ppm | <= 1 | <1 |
| CALCIUM (Ca) | ppm | <= 1 | <1 |
| COPPER (Cu) | ppm | <= 1 | <1 |
| DNASE (ENDO) | PASS/FAIL | = PASS TEST | PASS TEST |
| DNASE (EXO) | PASS/FAIL | = PASS TEST | PASS TEST |
| IDENTIFICATION, I.R. | Matches Reference | = MATCHES REFERENCE | MATCHES REFERENCE |
| INSOLUBLE MATTER | % | <= 0.005 | <0.005 |
| IRON (Fe) | ppm | <= 1 | <1 |
| LEAD (Pb) | ppm | <= 1 | <1 |
| LOSS ON DRYING | % | <= 1.0 | 0.3 |
| MAGNESIUM (Mg) | ppm | <= 1 | <1 |
| MANGANESE (Mn) | ppm | <= 1 | <1 |
| MELTING POINT | DEG C | Inclusive Between 168 - 172 | 170.9 |
| MOISTURE | % | <= 1.0 | 0.3 |
| PH OF 5% SOLUTION | | Inclusive Between 10.0 - 11.5 | 10.9 |
| PKA AT 20 DEGREES C | | Inclusive Between 8.15 - 8.45 | 8.4 |
| PROTEASE | PASS/FAIL | = PASS TEST | PASS TEST |
| RESIDUE AFTER IGNITION | % | <= 0.1 | <0.1 |
| RNASE | PASS/FAIL | = PASS TEST | PASS TEST |
| SOLUBILITY 1M IN 500ML | Clear Solution | = CLEAR AND COLORLESS | CLEAR AND COLORLESS |
| ZINC (Zn) | ppm | <= 1 | <1 |

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.



Harout Sahagian
QC Manager

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research use or further manufacturing. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

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