

## Certificate of Analysis

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Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System  
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

|                   |   |                             |            |
|-------------------|---|-----------------------------|------------|
| Catalog Number    | D133  | Quality Test / Release Date | 04/30/2021 |
| Lot Number        | 211520  | Expiration Date             | Apr/2026   |
| Description       | N,N-DIMETHYLFORMAMIDE, GC HEADSPACE   |                             |            |
| Country of Origin | United States   | Suggested Retest Date       | Apr/2026   |
| Chemical Origin   | Organic - synthetic   |                             |            |
| BSE/TSE Comment   | No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product. |                             |            |

| N/A                                |                   |                |                         |
|------------------------------------|-------------------|----------------|-------------------------|
| Result Name                        | Units             | Specifications | Test Value              |
| APPEARANCE                         |                   | REPORT         | Clear, colorless liquid |
| ASSAY BY GC                        | %                 | >= 99.9        | 100.0                   |
| COLOR                              | APHA              | <= 15          | <15                     |
| GC-HS CLASS 1 SOLVENT              | PARTS PER MILLION | <= 1.0         | <1                      |
| GC-HS CLASS 2 SOLVENT              | PARTS PER MILLION | <= 10          | <10                     |
| GC-HS CLASS 3 SOLVENT              | PARTS PER MILLION | <= 50          | <50                     |
| GC-HS SUITABILITY TEST (PASS/FAIL) | PASS/FAIL         | = PASS TEST    | PASS TEST               |
| IDENTIFICATION                     |                   | = PASS TEST    | PASS TEST               |
| OPTICAL ABS AT 275 NM              | AU                | <= 0.300       | 0.181                   |
| OPTICAL ABS AT 300 NM              | AU                | <= 0.050       | 0.038                   |
| OPTICAL ABS AT 350 NM              | AU                | <= 0.005       | 0.001                   |
| OPTICAL ABS AT 400 NM              | AU                | <= 0.005       | -0.001                  |
| RESIDUE                            | PARTS PER MILLION | <= 5           | <5                      |
| WATER (H2O)                        | %                 | <= 0.03        | 0.003                   |



Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.  
 If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.