

# C E R T I F I C A T E   O F   A N A L Y S I S

## BASELINE Nitric Acid

1A

**PRODUCT NUMBER: 01**

**LOT NUMBER : 1201010**

**ASSAY : 70%**

|                                                     |  |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |  |             |  |      |  |      |  |       |  |      |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
|-----------------------------------------------------|--|-------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|--|-------------|--|------|--|------|--|-------|--|------|--|------|--|------|--|-------|--|------|--|------|--|------|--|------|--|--|--|--|--|
| PRODUCT NUMBER: 01                                  |  |       |  | LOT NUMBER : 1201010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |       |  | ASSAY : 70% |  |      |  |      |  |       |  |      |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
| 2A                                                  |  |       |  | <p>Most elements are determined by ICP-MS using sample preconcentration. The results are the average of three aliquots subsampled from three 500mL samples representative of the lot. The samples are slowly evaporated to dryness, and the residue reconstituted in a small volume of 2% Seastar <i>BASELINE</i> Nitric Acid. Operations are conducted under Class 100 or better clean-room conditions. Elements that suffer from isobaric interference(s) are analyzed by GFAAS (indicated by a + ). For volatile elements (indicated by *), the acid samples are diluted then directly injected into the ICP-MS. For all of the analyses, values below 3 times the standard deviation of the blank are given as &lt;, and no blank value is subtracted.</p> <div>3B4B5B6B7B81B2B</div> |  |       |  |             |  |      |  |      |  |       |  | 3A   |  | 4A   |  | 5A   |  | 6A    |  | 7A   |  |      |  |      |  |      |  |  |  |  |  |
| 3Li                                                 |  | 4Be   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |  |             |  |      |  |      |  |       |  | 5B   |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
| <1                                                  |  | <5    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |  |             |  |      |  |      |  |       |  | <50  |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
| 11Na                                                |  | 12Mg  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |  |             |  |      |  |      |  |       |  | 13Al |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
| <10                                                 |  | <5    |  | <10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |       |  |             |  |      |  |      |  |       |  |      |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
| 19+K                                                |  | 20+Ca |  | 21Sc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 22Ti  |  | 23V         |  | 24Cr |  | 25Mn |  | 26+Fe |  | 27Co |  | 28Ni |  | 29Cu |  | 30Zn  |  | 31Ga |  | 32Ge |  | 33As |  | 34Se |  |  |  |  |  |
| <10                                                 |  | <20   |  | <1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | <10   |  | <1          |  | <5   |  | <2   |  | <20   |  | <1   |  | <10  |  | <3   |  | <5    |  | <1   |  | <1   |  | <10  |  | <20  |  |  |  |  |  |
| 37Rb                                                |  | 38Sr  |  | 39Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 40Zr  |  | 41Nb        |  | 42Mo |  |      |  | 44Ru  |  | 45Rh |  | 46Pd |  | 47Ag |  | 48Cd  |  | 49In |  | 50Sn |  | 51Sb |  | 52Te |  |  |  |  |  |
| <1                                                  |  | <1    |  | <1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | <1    |  | <1          |  | <1   |  |      |  | <10   |  | <1   |  | <10  |  | <2   |  | <1    |  | <1   |  | <20  |  | <10  |  | <5   |  |  |  |  |  |
| 55Cs                                                |  | 56Ba  |  | 57La                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 72Hf  |  | 73Ta        |  | 74W  |  | 75Re |  |       |  |      |  | 78Pt |  | 79Au |  | 80*Hg |  | 81Tl |  | 82Pb |  | 83Bi |  |      |  |  |  |  |  |
| <0.05                                               |  | <1    |  | <0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | <0.05 |  | <10         |  | <5   |  | <1   |  |       |  |      |  | <1   |  | <10  |  | <100  |  | <0.1 |  | <1   |  | <0.1 |  |      |  |  |  |  |  |
|                                                     |  |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |  |             |  |      |  |      |  |       |  |      |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |
| ALL VALUES ARE REPORTED IN PARTS PER TRILLION (PPT) |  |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |  |             |  |      |  |      |  |       |  |      |  |      |  |      |  |       |  |      |  |      |  |      |  |      |  |  |  |  |  |

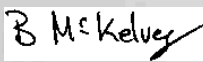
**ALL VALUES ARE REPORTED IN PARTS PER TRILLION (PPT)**

### KEY

|         |                                 |
|---------|---------------------------------|
| (1) (2) | (1) Atomic Number               |
| (3)     | (2) Elemental Symbol            |
| (4)     | (3) Concentration (mean in ppt) |
|         | (4) 1 Standard Deviation n=3)   |

|        |    |        |    |        |    |  |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |
|--------|----|--------|----|--------|----|--|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|
| 58     | Ce | 59     | Pr | 60     | Nd |  | 62     | Sm | 63     | Eu | 64     | Gd | 65     | Tb | 66     | Dy | 67     | Ho | 68     | Er | 69     | Tm | 70     | Yb | 71     | Lu |
| < 0.05 |    | < 0.05 |    | < 0.05 |    |  | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    | < 0.01 |    |
| 90     | Th |        |    | 92     | U  |  |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |
| < 0.05 |    |        |    | < 0.01 |    |  |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |        |    |



  
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