# CERTIFICATE OF ANALYSIS

## BASELINE Hydrochloric Acid

**PRODUCT NUMBER: 04** **LOT NUMBER : 4201030** **ASSAY : 33%**

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 *BASELINE* 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 <, and no blank value is subtracted.

| 1A | 2A | 3B | 4B | 5B | 6B | 7B | 8 | 1B | 2B | 3A | 4A | 5A | 6A | 7A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 5 B <50 | | | | | |
| 3 Li <1 | 4 Be <5 | | | | | | | | | | | | | | |
| 11 Na <5 | 12 Mg <5 | | | | | | | | | 13 Al <20 | | | | | |
| 19 +K <10 | 20 +Ca <20 | 21 Sc <1 | 22 Ti <10 | 23 V <1 | 24 Cr <10 | 25 Mn <2 | 26 +Fe <20 | 27 Co <1 | 28 Ni <20 | 29 Cu <5 | 30 Zn <5 | 31 Ga <1 | 33 | 34 As <20 | 34 Se <50 | | |
| 37 Rb <1 | 38 Sr <1 | 39 Y <0.1 | 40 Zr <1 | 41 Nb <1 | 42 Mo <10 | 44 | 45 Rh <1 | 46 Pd <1 | 47 Ag <10 | 48 Cd <1 | 49 In <0.1 | 50 Sn <0.1 | 51 Sb <20 | 52 Te <50 | <10 | | |
| 55 Cs <0.1 | 56 Ba <2 | 57 La <0.1 | 72 Hf <0.1 | 73 Ta <20 | 74 W <10 | 75 Re <0.1 | 78 | Pt <1 | 79 Au <5 | 80 *Hg <100 | 81 Tl <0.1 | 82 Pb <1 | 83 Bi <0.1 | | | | |

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

**KEY**

(1) (2)
(3)
(4)

(1) Atomic Number
(2) Elemental Symbol
(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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <0.1 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| 90 Th | 92 U |
|---|---|
| <0.1 | <0.1 |

BASELINE

B McKelvey

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SEASTAR CHEMICALS INC