CERTIFICATE OF ANALYSIS BASELINE[®] Hydrofluoric Acid

IA	F	PRODU	CT NUM	MBER: \$	5020502	2 1		MBER:	521104	0		ASSAY	(HF, w/\	w): 49%	, 0		
3 Li < 0.5	2A 4 Be < 1	average evaporat Nitric Aci	of three ali ed to dryne d / 2% Hydr	quots subsa ss. The resu ogen Perox	ampled fron ulting residu ide. Operati	n three san e is recons ons are cor	nples repre tituted in a s nducted und	sentative of mall volume er Class 10	f the lot. The e of SEAST/ 0 or better c	n. The results e samples are AR [™] BASELIN ean-room con	slowly IE [®] 2% ditions.	3A 5 B < 10	4A	5A	6A	7A	
11 Na < 5	12 Mg < 1								/ injected int lue is subtra	o the ICP-MS. cted.	Values	13 AI < 10					
10 16		3B	4B	5B	6B	7B		8		1B	2B						
19 K < 5	20 C a < 10	21 Sc < 1	22 Ti < 10	23 V < 0.5	24 Cr < 1	25 Mn < 1	26 Fe < 10	27 Co < 1	28 Ni < 5	29 Cu 30 < 5	0 Zn < 5	31 Ga < 0.5	32 Ge < 1	33 As * < 20	34 Se < 50		
37 Rb < 1	38 Sr < 1	39 Y < 0.1	40 Zr < 0.5	41 Nb < 1	42 Mo < 1		44 Ru < 1	45 Rh < 1	46 Pd < 10	-	8 Cd < 0.1	49 In < 0.1	50 Sn < 5	51 Sb < 10	52 Te < 0.5		
55 Cs < 0.05	56 Ba < 1	57 La < 0.05	72 Hf < 0.05	73 Та < 20	74 W < 20	75 Re < 0.1			78 Pt < 5	79 Au 80 < 1) Hg < 20	* <mark>81 TI</mark> < 0.05	82 Pb < 1	83 Bi < 0.05			

ALL VALUES ARE REPORTED IN PARTS PER TRILLION (PPT)

KEY	(1) Atomic Number	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
	(2) Elemental Symbol	< 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
	 (3) Concentration (mean in ppt) (4) 1 Standard Deviation 													
		90 Th		92 U				-						
	(4) 1 Standard Deviation (N=3)	< 0.05		< 0.01										
	(11-3)													

B M º M Dr. B. McKelvey QA/QC Manager

	HF (47 - 51%): Properties Molar Mass: 20.01g/mol	Analyte	Maximum Specification	Actual Value (in ppb)	Release Date:	April 27, 2011	
-	Density: 1.18 g/ml	Total Sulphur (S)	100 ppb	< 50	Expiry Date:	April 27, 2014	
	Molarity: 29 moles/litre						

Normality: 29 moles/litre



1Δ

IN SEASTAR CHEMICALS INC



Product Integrity:

Based on extensive testing results, SEASTAR CHEMICALS INC have found our products, unopened and sealed, maintain the certified integrity, or product quality, for a minimum of three years under the following conditions:

- Stored at room temperature, maximum range 15°C (59°F) to 25°C (77°F).
- Minimum exposure to light.
- For limited time, storage/transport temperature range 5°C (41°F) to 35°C (95°F)

Upon opening the product, the product's integrity will depend on proper handling and exposure to contaminants. The product has been bottled under CLASS 100 clean room conditions, to maintain the certified quality it should be used under these conditions. Furthermore to reduce trace metal contamination, the inner pack of plastic bags and bottle should be opened under CLASS 100 particle conditions to maintain the integrity of the product. The use of plastic gloves, hair net and a clean room suit is also advised.

Safety:

PRIOR to opening or storing this product be sure to consult the Material Safety Data Sheet (MSDS) Section 7 Handling and Storage to ensure safe storage and handling with regards to this hazardous material. This information must be understood prior to its use or storage.

SAFETY HANDLING NOTES: Consult your MSDS, PRIOR to handling these materials. Use proper safety apparel according to the recommendations of the MSDS. Exposure controls and personal protection should include: a properly functioning fume hood, protection for eyes (safety glasses), hands (chemically compatible gloves), feet (chemically compatible boots) and exposed skin (splash protection and a chemically compatible apron). All of these items must conform to local/regional/national regulatory requirements.

BMer

Dr. B. McKelvey QA/QC Manager

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