CERTIFICATE OF ANALYSIS

BASELINE® Hydrofluoric Acid

1A	P	RODUC	T NUM	BER: B	A-05	L	OT NU	MBER:	52070	41		ASSAY	(HF, w	/w): 4	8%	[
3 Li <1	2A 4 Be <5	average evaporate Nitric Aci	of three aliced to drynes d. Operatio	quots subs ss, the resul ons are con	by magnetic ampled fron ting residue ducted und	n three sam is reconstitu er Class 10	nples repres uted in a sm 00 particle o	sentative of all volume of or better cle	the lot. The f 2% SEAS ⁻ ean-room co	e samples a FAR [™] BAS enditions. F	are slowly SELINE [®] or volatile	3A 5 B <10	4A	5A	6A	7A	
11 Na <10	12 Mg <5				icid samples ne blank are 6B					-MS. Value	s below 3	13 AI <20					
19 K <10	20 Ca <10	21 Sc <1	22 T i <10	23 V <1	24 Cr <10	25 Mn <1	26 Fe <10	27 Co <1	28 Ni <10	29 C u <10	30 Z n <5	31 Ga <1	32 Ge <1	33 As <10	34 Se <50		
37 Rb	38 Sr <1	39 Y <0.5	40 Z r <10	41 Nb <5	42 Mo <5		44 Ru <1	45 Rh <1	46 Pd <10	47 Ag <1	48 Cd <0.1	49 In <0.1	50 Sn <10	51 Sb <10	52 Te <1		
55 Cs <0.5	56 Ba <5	57 La <0.1	72 Hf <1	73 Ta <20	74 W <10	75 Re <0.1			78 Pt <10	79 Au <10	80 Hg <20	81 TI <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										
	1											



HF (47 - 51%): Properties

Molar Mass: 20.01g/mol
Density: 1.18 g/ml
Molarity: 29 moles/litre

Normality: 29 moles/litre

Analyte Maximum Actual Specification Value (in ppb)

Total Sulfur (S) 100 ppb <50

3 M=2/

Dr. B. McKelvey QA/QC Manager June 11, 2007

June 11, 2010

Release Date:

Expiry Date:

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.

Dr. B. McKelvey QA/QC Manager

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