CERTIFICATE OF ANALYSIS

BASELINE® Perchloric Acid

	PRODUCT NUMBER: 02			LOT NUMBER: 2201080					ASSAY: 70							
2A	Man & alama				to- ICD \	AC volen a			The many	lta ava av	3A	4A	5A	6A	7A	
4 Be <5	average of three aliquots subsampled from three samples representative of the lot. The samples are slow ly evaporated to dryness, the resulting residue is reconstituted in a small volume of 2% SEASTAR™ BASELINE ®															
12 Mg <20											13 AI <100					
	3B	4B	5B	6B	7B		8		1B	2B						
20 Ca <100	21 Sc <20	22 Ti <20	23 V <20		25 M n <5	26 Fe <50	27 Co <5	28 Ni <30	29 C u <20	30 Z n <20	31 Ga <5					
38 Sr <1	39 Y <1	40 Z r <3	41 Nb <10	42 Mo <10			45 Rh <5	46 Pd <10	47 Ag <5	48 Cd <1	49 In <1	50 Sn <20	51 Sb <50	52 Te <20		
56 Ba	57 La <1	72 Hf <1	73 Ta <30	74 W <20				78 Pt <1			81 TI <1	82 Pb <2	83 Bi <2			
7	4 Be <5 Mg <20 Ca <100 SR Sr <1 SF	Most elemate Most elemate A	Most elements are de average of three alice evaporated to drynes Nitric Acid. Operation (indicated by *), the standard deviation of 3B 4B 20 Ca 21 Sc 22 Ti <100 <20 <20 <38 Sr 39 Y 40 Zr <1 <3 <56 Ba 57 La 72 Hf	Most elements are determined by average of three aliquots subsate evaporated to dryness, the resundincial properties of the properties of	Most elements are determined by magnetic average of three aliquots subsampled from evaporated to dryness, the resulting residue (indicated by *), the acid samples are dilute standard deviation of the blank are shown with the standard deviation of the standard d	Most elements are determined by magnetic sector ICPA average of three aliquots subsampled from three sam evaporated to dryness, the resulting residue is reconstit Nitric Acid. Operations are conducted under Class 100 (indicated by *), the acid samples are diluted then direct standard deviation of the blank are shown with "<", no 3B 4B 5B 6B 7B 20 Ca 21 Sc 22 Ti 23 V 25 Mn <100 <20 <20 <20 <5 38 Sr 39 Y 40 Zr 41 Nb 42 Mo <1 <3 <10 <10 <10 56 Ba 57 La 72 Hf 73 Ta 74 W	Most elements are determined by magnetic sector ICP-MS using sale average of three aliquots subsampled from three samples represe evaporated to dryness, the resulting residue is reconstituted in a sometic Acid. Operations are conducted under Class 100 or better of (indicated by *), the acid samples are diluted then directly injected standard deviation of the blank are shown n with "<", no blank value 3B 4B 5B 6B 7B 20 Ca 21 Sc 22 Ti 23 V 25 Mn 26 Fe < 100 < 20 < 20 < 20 < 5 < 50 < 50 < 50 < 5	Most elements are determined by magnetic sector ICP-MS using sample precedure average of three aliquots subsampled from three samples representative of evaporated to dryness, the resulting residue is reconstituted in a small volume Nitric Acid. Operations are conducted under Class 100 or better clean-room (indicated by *), the acid samples are diluted then directly injected into the ICI standard deviation of the blank are shown n with "<", no blank value is subtracted as 3B 4B 5B 6B 7B 8 20 Ca 21 Sc 22 Ti 23 V 25 Mn 26 Fe 27 Co < 100 < 20 < 20 < 20 < 5 < 50 < 5 38 Sr 39 Y 40 Zr 41 Nb 42 Mo < 5 < 5 < 5 < 5 < 5 < 5 < 5 < 5 < 5 <	Most elements are determined by magnetic sector ICP-MS using sample preconcentration average of three aliquots subsampled from three samples representative of the lot. The evaporated to dryness, the resulting residue is reconstituted in a small volume of 2% SEA Nitric Acid. Operations are conducted under Class 100 or better clean-room conditions. (indicated by *), the acid samples are diluted then directly injected into the ICP-MS. Value standard deviation of the blank are shown n with "<", no blank value is subtracted. 3B 4B 5B 6B 7B 8 20 Ca 21 Sc 22 Ti 23 V 25 Mn 26 Fe 27 Co 28 Ni < 100 < 20 < 20 < 20 < 5 < 50 < 5 < 30 < 30 < 30 < 30 < 30	Most elements are determined by magnetic sector ICP-MS using sample preconcentration. The resultance average of three aliquots subsampled from three samples representative of the lot. The samples average of three aliquots subsampled from three samples representative of the lot. The samples average of three aliquots subsampled from three samples representative of the lot. The samples average of three aliquots subsampled from three samples representative of the lot. The samples average of three aliquots subsamples are conducted in a small volume of 2% SEASTAR™ BANITY BAN	Most elements are determined by magnetic sector ICP-MS using sample preconcentration. The results are an average of three aliquots subsampled from three samples representative of the lot. The samples are slow by evaporated to dryness, the resulting residue is reconstituted in a small volume of 2% SEASTAR™ BASELINE® Nitric Acid. Operations are conducted under Class 100 or better clean-room conditions. For volatile elements (indicated by *), the acid samples are diluted then directly injected into the ICP-MS. Values below 3 times the standard deviation of the blank are show n with "<", no blank value is subtracted. 3B 4B 5B 6B 7B 8 1B 2B 20 Ca 21 Sc 22 Ti 23 V 25 Mn 26 Fe 27 Co 28 Ni 29 Cu 30 Zn <100 <20 <20 <20 <20 <20 <20 <20 <20 <20 <	Most elements are determined by magnetic sector ICP-MS using sample preconcentration. The results are an average of three aliquots subsampled from three samples representative of the lot. The samples are slow ly evaporated to dryness, the resulting residue is reconstituted in a small volume of 2% SEASTAR™ BASELINE® Nitric Acid. Operations are conducted under Class 100 or better clean-room conditions. 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ALL VALUES ARE REPORTED IN PARTS PER TRILLION (PPT)

KEY

(1) (2) (3) (1) Atomic Number

(2) Elemental Symbol

(3) Concentration (mean in ppt)

(4) 1 Standard
Deviation n=3)

58 Ce <1	59 Pr <1	60 Nd <1	H	62 Sm <1	63 Eu <1	64 Gd <1	65 Tb <1	66 Dy <1	67 Ho <1	68 Er <1	69 Tm <1	70 Yb <1	71 Lu <1
90 Th <0.1	1	92 U <0.1											

BASELINE

B Mc Kelvey Dr. B. McKelvey QA/QC Manager Release Date: November 15, 2001 Expiry Date: November 15, 2004

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.

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.

A further note 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.

Appropriate safety precautions must be taken as well as wearing the required safety apparel. A properly functioning fumehood, protection for eyes, hands, feet and exposed skin must also be worn. All of these items must conform to local/regional/national regulatory requirements.

Dr. B. McKelvey QA/QC Manager

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