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STOCK STANDARD SOLUTION IV-DI-BLANK

Deionized Water

TRACEABILITY DOCUMENTATION FOR STANDARD SOLUTION - Lot No: X2-MEB764420

We use 18.3 megohm-deionized water & deionized water rinsed LDPE bottles, with a less than 0.5 ppb total impurities in the manufacturing of this ICP standard. We always use "in-house calibration checked" Class A Glassware. All balances are checked daily using in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).

ANALYZED DENSITY OF SOLUTION (measured at $20 \pm 5^\circ \text{C}$): 0.998 g/mL

TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP/MS AND ICP-OES IN $\mu\text{g/mL}$

CRM's solutions are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm . The following data is representative of an analysis for a typical blank solution.

<u>M</u> Al	<	0.00010	<u>M</u> Sb	<	0.00001	<u>M</u> As	<	0.00010	<u>M</u> Ba	<	0.00010	<u>M</u> Be	<	0.00001
<u>M</u> Bi	<	0.00001	<u>M</u> B	<	0.00070	<u>M</u> Cd	<	0.00003	<u>M</u> Ca	<	0.00005	<u>M</u> Ce	<	0.00005
<u>M</u> Cs	<	0.00001	<u>M</u> Cr	<	0.00005	<u>M</u> Co	<	0.00003	<u>M</u> Cu	<	0.00006	<u>M</u> Dy	<	0.00006
<u>M</u> Er	<	0.00005	<u>M</u> Eu	<	0.00003	<u>M</u> Gd	<	0.00001	<u>M</u> Ga	<	0.00001	<u>M</u> Ge	<	0.00006
<u>M</u> Au	<	0.00003	<u>M</u> Hf	<	0.00002	<u>M</u> Ho	<	0.00001	<u>M</u> In	<	0.00010	<u>M</u> Ir	<	0.00005
<u>M</u> Fe	<	0.00200	<u>M</u> La	<	0.00001	<u>M</u> Pb	<	0.00003	<u>M</u> Li	<	0.00010	<u>M</u> Lu	<	0.00001
<u>M</u> Mg	<	0.00030	<u>M</u> Mn	<	0.00004	<u>M</u> Hg	<	0.00001	<u>M</u> Mo	<	0.00002	<u>M</u> Nd	<	0.00002
<u>M</u> Ni	<	0.00008	<u>M</u> Nb	<	0.00001	<u>n</u> Os	<	0.00001	<u>M</u> Pd	<	0.00005	<u>M</u> P	<	0.00001
<u>M</u> Pt	<	0.00002	<u>M</u> K	<	0.00005	<u>M</u> Pr	<	0.00001	<u>M</u> Re	<	0.00001	<u>M</u> Rh	<	0.00001
<u>M</u> Rb	<	0.00001	<u>M</u> Ru	<	0.00002	<u>M</u> Sm	<	0.00001	<u>M</u> Sc	<	0.00010	<u>M</u> Se	<	0.00008
<u>M</u> Si	<	0.00001	<u>M</u> Ag	<	0.00002	<u>M</u> Na	<	0.00005	<u>M</u> Sr	<	0.00001	<u>M</u> S	<	0.00001
<u>M</u> Ta	<	0.00007	<u>M</u> Te	<	0.00030	<u>M</u> Tb	<	0.00001	<u>M</u> Tl	<	0.00001	<u>M</u> Th	<	0.00001
<u>M</u> Tm	<	0.00001	<u>M</u> Sn	<	0.00005	<u>M</u> Ti	<	0.00050	<u>M</u> W	<	0.00010	<u>M</u> U	<	0.00002
<u>M</u> V	<	0.00002	<u>M</u> Yb	<	0.00001	<u>M</u> Y	<	0.00040	<u>M</u> Zn	<	0.00020	<u>M</u> Zr	<	0.00005

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference n - Not Checked For s - Solution Standard Element

THERMOMETER CALIBRATION

All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

Certification Date: July 28, 2026

Expiration Date: July 28, 2031

NAMES AND SIGNATURES OF CERTIFYING OFFICERS

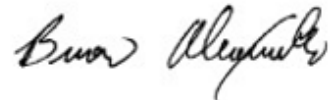
Certificate Prepared By: Justin DiRico, Stock Processing Supervisor

A handwritten signature in black ink, appearing to read "Justin DiRico".

Certificate Approved By: Shalin Presgraves, SVS Coordinator

A handwritten signature in black ink, appearing to read "Shalin Presgraves".

Certifying Officer: Brian Alexander, President

A handwritten signature in black ink, appearing to read "Brian Alexander".