

Material No.: 5367-03
Batch No.: 0000234957
Manufactured Date: 2019/06/04
Retest Date: 2024/06/02
Revision No: 1

Certificate of Analysis

| Test | Specification | Result |
|-------------------------------------|---------------|---------|
| Assay (as HCl) (by acid-base titrn) | 37.0 – 38.0 % | 37.7 |
| Color (APHA) | <= 10 | 5 |
| Residue after Ignition | <= 3 ppm | < 1 |
| Extractable Organic Substances | <= 3 ppm | < 1 |
| Bromide (Br) | <= 0.005 % | < 0.005 |
| Free Halogen (as Cl ₂) | Passes Test | PT |
| Ammonium (NH ₄) | <= 1 ppm | < 1 |
| Phosphate (PO ₄) | <= 0.05 ppm | < 0.03 |
| Sulfate (SO ₄) | <= 0.3 ppm | < 0.3 |
| Sulfite (SO ₃) | <= 0.8 ppm | 0.3 |
| Trace Impurities – Aluminum (Al) | <= 100.0 ppb | < 5.0 |
| Arsenic and Antimony (as As) | <= 5 ppb | < 3 |
| Trace Impurities – Barium (Ba) | <= 20.0 ppb | < 1.0 |
| Trace Impurities – Beryllium (Be) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Bismuth (Bi) | <= 20.0 ppb | < 10.0 |
| Trace Impurities – Boron (B) | <= 20.0 ppb | < 5.0 |
| Trace Impurities – Cadmium (Cd) | <= 5.0 ppb | < 1.0 |
| Trace Impurities – Calcium (Ca) | <= 100.0 ppb | 16.9 |
| Trace Impurities – Chromium (Cr) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Cobalt (Co) | <= 5.0 ppb | < 1.0 |
| Trace Impurities – Copper (Cu) | <= 5.0 ppb | < 1.0 |
| Trace Impurities – Gallium (Ga) | <= 20.0 ppb | < 1.0 |
| Trace Impurities – Germanium (Ge) | <= 20.0 ppb | < 10.0 |
| Trace Impurities – Gold (Au) | <= 20.0 ppb | < 5.0 |

| Test | Specification | Result |
|-------------------------------------|---------------|--------|
| Heavy Metals (as Pb) | <= 100 ppb | < 50 |
| Trace Impurities – Iron (Fe) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Lead (Pb) | <= 25.0 ppb | < 10.0 |
| Trace Impurities – Lithium (Li) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Magnesium (Mg) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Manganese (Mn) | <= 5.0 ppb | < 1.0 |
| Trace Impurities – Molybdenum (Mo) | <= 10.0 ppb | < 5.0 |
| Trace Impurities – Nickel (Ni) | <= 10.0 ppb | < 5.0 |
| Trace Impurities – Niobium (Nb) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Potassium (K) | <= 100.0 ppb | < 10.0 |
| Trace Impurities – Silicon (Si) | <= 100.0 ppb | < 10.0 |
| Trace Impurities – Silver (Ag) | <= 20.0 ppb | < 1.0 |
| Trace Impurities – Sodium (Na) | <= 100.0 ppb | < 5.0 |
| Trace Impurities – Strontium (Sr) | <= 20.0 ppb | < 1.0 |
| Trace Impurities – Tantalum (Ta) | <= 10.0 ppb | < 5.0 |
| Trace Impurities – Thallium (Tl) | <= 20.0 ppb | < 5.0 |
| Trace Impurities – Tin (Sn) | <= 50.0 ppb | < 10.0 |
| Trace Impurities – Titanium (Ti) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Vanadium (V) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Zinc (Zn) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Zirconium (Zr) | <= 10.0 ppb | < 1.0 |
| Particle Count – 0.5 µm and greater | <= 50 par/ml | 35 |
| Particle Count – 1.0 µm and greater | <= 10 par/ml | 4 |

For Microelectronic Use

Reported value is the average of all samples counted for this lot number, with no individual sample value exceeding the specification.

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC


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Vice President Global Quality