

Sulfuric Acid 96%
CMOS



Material No.: 9684-03
Batch No.: 0000161555
Manufactured Date: 2016/11/21
Retest Date: 2021/11/20


Certificate of Analysis

| Test | Specification | Result |
|---|---------------|--------|
| Assay (H ₂ SO ₄) | 95.0 – 97.0 % | 95.9 |
| Color (APHA) | <= 10 | 5 |
| Residue after Ignition | <= 2 ppm | < 1 |
| Chloride (Cl) | <= 0.1 ppm | < 0.1 |
| Nitrate (NO ₃) | <= 0.2 ppm | < 0.1 |
| Phosphate (PO ₄) | <= 0.3 ppm | < 0.1 |
| Trace Impurities – Aluminum (Al) | <= 50.0 ppb | < 5.0 |
| Arsenic and Antimony (as As) | <= 5 ppb | < 2 |
| Trace Impurities – Barium (Ba) | <= 10.0 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) | <= 10.0 ppb | < 5.0 |
| Trace Impurities – Cadmium (Cd) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Calcium (Ca) | <= 50.0 ppb | 1.3 |
| Trace Impurities – Chromium (Cr) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Cobalt (Co) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Copper (Cu) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Gallium (Ga) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Germanium (Ge) | <= 10.0 ppb | < 10.0 |
| Trace Impurities – Gold (Au) | <= 20.0 ppb | < 5.0 |
| Heavy Metals (as Pb) | <= 200 ppb | < 100 |
| Trace Impurities – Iron (Fe) | <= 100.0 ppb | 1.1 |
| Trace Impurities – Lead (Pb) | <= 20.0 ppb | < 1.0 |
| Trace Impurities – Lithium (Li) | <= 10.0 ppb | < 1.0 |


| Test | Specification | Result |
|-------------------------------------|---------------|--------|
| Trace Impurities – Magnesium (Mg) | <= 50.0 ppb | < 1.0 |
| Trace Impurities – Manganese (Mn) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Mercury (Hg) | <= 5.0 ppb | < 0.1 |
| 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) | <= 50.0 ppb | < 10.0 |
| Trace Impurities – Silicon (Si) | <= 50.0 ppb | < 10.0 |
| Trace Impurities – Silver (Ag) | <= 10.0 ppb | < 1.0 |
| Trace Impurities – Sodium (Na) | <= 100.0 ppb | < 5.0 |
| Trace Impurities – Strontium (Sr) | <= 10.0 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 | <= 60 par/ml | 8 |
| Particle Count – 1.0 µm and greater | <= 10 par/ml | 1 |

For Microelectronic Use

Storage Conditions: Recommended Storage Conditions: 15° – 100°F
Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC



Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
 Paris, KY 9001:2008
 Mexico City, Mexico 9001:2008
 Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
 Gliwice, Poland 9001:2008, 13485:2012
 Selangor, Malaysia 9001:2008
 Dehradun, India, 9001:2008, 14001:2004, 13485:2003
 Mumbai, India, 9001:2008
 Panoli, India 9001:2008



Jamie Ethier
 Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor Performance Materials, LLC.

3477 Corporate Parkway. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610