Acetone VLSI





Material No.: 5356-05 Batch No.: 0000164371 Manufactured Date: 2017/01/24 Retest Date: 2022/01/23

## Certificate of Analysis

| Test  | Specification | Result |
|---|---------------|--------|
| Assay ((CH3)2CO) (by GC, corrected for water) | >= 99.5 %     | 99.8   |
| Color (APHA)                                  | <= 10         | 5      |
| Residue after Evaporation                     | <= 5 ppm      | < 1    |
| Acidity (µeq/g)                               | <= 0.3        | 0.2    |
| Alkalinity (µeq/g)                            | <= 0.5        | 0.1    |
| Nater (H2O)                                   | <= 0.5 %      | 0.1    |
| Solubility in H2O                             | Passes Test   | РТ     |
| Chloride (Cl)                                 | <= 0.2 ppm    | < 0.1  |
| Phosphate (PO4)                               | <= 0.05 ppm   | < 0.05 |
| Frace Impurities – Aluminum (Al)              | <= 50.0 ppb   | < 5.0  |
| Arsenic and Antimony (as As)                  | <= 5 ppb      | < 5    |
| Frace Impurities – Barium (Ba)                | <= 20.0 ppb   | < 1.0  |
| Frace Impurities – Boron (B)                  | <= 20.0 ppb   | < 5.0  |
| Frace Impurities – Calcium (Ca)               | <= 25.0 ppb   | 1.6    |
| Frace Impurities – Chromium (Cr)              | <= 20.0 ppb   | < 1.0  |
| Frace Impurities – Copper (Cu)                | <= 10.0 ppb   | < 1.0  |
| Frace Impurities – Gold (Au)                  | <= 20.0 ppb   | < 5.0  |
| Frace Impurities – Iron (Fe)                  | <= 20.0 ppb   | < 1.0  |
| Frace Impurities – Lead (Pb)                  | <= 20.0 ppb   | < 10.0 |
| Frace Impurities – Lithium (Li)               | <= 50.0 ppb   | < 1.0  |
| Frace Impurities – Magnesium (Mg)             | <= 20.0 ppb   | < 1.0  |
| Frace Impurities – Manganese (Mn)             | <= 10.0 ppb   | < 1.0  |
| Frace Impurities – Nickel (Ni)                | <= 10.0 ppb   | < 5.0  |
| Frace Impurities – Potassium (K)              | <= 50.0 ppb   | < 10.0 |

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

| Test                                | Specification | Result |
|-------------------------------------|---------------|--------|
| Trace Impurities – Sodium (Na)      | <= 50.0 ppb   | < 5.0  |
| Trace Impurities – Tin (Sn)         | <= 50.0 ppb   | < 10.0 |
| Trace Impurities – Titanium (Ti)    | <= 20.0 ppb   | < 1.0  |
| Trace Impurities – Zinc (Zn)        | <= 50.0 ppb   | < 1.0  |
| Particle Count - 0.5 µm and greater | <= 60 par/ml  | < 1    |
| Particle Count - 1.0 µm and greater | <= 8 par/ml   | < 1    |

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:    | Paris 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

James Techie

Jamie Ethier Vice President Global Quality

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