2-Propanol
VLSI

(iso-propyl alcohol)

Material No.: 5373-05
Batch No.: 0000242025
Manufactured Date: 2019/09/16
Retest Date: 2024/09/14
Revision No: 1

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($CH_3CHOHCH_3$) | >= 99.5 % | 100.0 |
| Color (APHA) | <= 10 | < 5 |
| Residue after Evaporation | <= 4 ppm | < 1 |
| Solubility in $H_2O$ | Passes Test | PT |
| Water ($H_2O$)(by Karl Fischer titrn) | <= 0.05 % | 0.02 |
| Acidity (µeq/g) | <= 0.2 | < 0.1 |
| Alkalinity (µeq/g) | <= 0.1 | < 0.1 |
| Chloride (Cl) | <= 0.1 ppm | < 0.1 |
| Phosphate ($PO_4$) | <= 0.3 ppm | < 0.3 |
| Trace Impurities - Aluminum (Al) | <= 50.0 ppb | < 5.0 |
| Arsenic and Antimony (as As) | <= 10 ppb | < 10 |
| Trace Impurities - Barium (Ba) | <= 20.0 ppb | < 1.0 |
| Trace Impurities - Boron (B) | <= 10.0 ppb | < 5.0 |
| Trace Impurities - Cadmium (Cd) | <= 20.0 ppb | < 1.0 |
| Trace Impurities - Calcium (Ca) | <= 50.0 ppb | 3.0 |
| Trace Impurities - Chromium (Cr) | <= 20.0 ppb | < 1.0 |
| Trace Impurities - Cobalt (Co) | <= 20.0 ppb | < 1.0 |
| Trace Impurities - Copper (Cu) | <= 10.0 ppb | < 1.0 |
| Trace Impurities - Gallium (Ga) | <= 50.0 ppb | < 1.0 |
| Trace Impurities - Germanium (Ge) | <= 50.0 ppb | < 10.0 |
| Trace Impurities - Gold (Au) | <= 20.0 ppb | < 5.0 |
| Heavy Metals (as Pb) | <= 200 ppb | < 100 |
| Trace Impurities - Iron (Fe) | <= 50.0 ppb | < 1.0 |
| Trace Impurities - Lead (Pb) | <= 20.0 ppb | < 10.0 |

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 5373-05
Batch No.: 0000242025

| Test | Specification | Result |
|---|---|---|
| Trace Impurities - Lithium (Li) | <= 50.0 ppb | < 1.0 |
| Trace Impurities - Magnesium (Mg) | <= 20.0 ppb | < 1.0 |
| Trace Impurities - Manganese (Mn) | <= 20.0 ppb | < 1.0 |
| Trace Impurities - Nickel (Ni) | <= 10.0 ppb | < 5.0 |
| Trace Impurities - Potassium (K) | <= 100.0 ppb | < 10.0 |
| Trace Impurities - Silicon (Si) | <= 50.0 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 - Tin (Sn) | <= 100.0 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 | <= 100 par/ml | 3 |
| 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

Jamie Ethier
Vice President Global Quality

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