NMP (1-Methyl-2-pyrrolidinone) ALE G $^{\otimes}$

Positive Photoresist Stripper





Material No.: 6397-05 Batch No.: 0000008774 Manufactured Date: 2012/06/25

Retest Date: 2017/06/24

Certificate of Analysis

| Test | S pecification | Result |
|-----------------------------------|----------------|--------|
| Assay (C₅H₀NO) | >= 99.5 % | 100.0 |
| Color (APHA) | <= 20 | 10 |
| Water (H2O)(by Karl Fischer titm) | <= 0.05 % | 0.03 |
| Free Amines (as CH3NH2) | <= 50 ppm | 20 |
| Chloride (Cl) | <= 0.5 ppm | < 0.5 |
| Phosphate (PO4) | <= 1 ppm | <1 |
| Trace Impurities –Aluminum (Al) | <= 100.0 ppb | < 0.5 |
| Arsenic and Antimony (as As) | <= 100 ppb | <10 |
| Trace Impurities –Barium (Ba) | <= 100.0 ppb | < 0.5 |
| Trace Impurities –Boron (B) | <= 100.0 ppb | < 2.0 |
| Trace Impurities -Calcium (Ca) | <= 300.0 ppb | 3.0 |
| Trace Impurities -Chromium (Cr) | <= 100.0 ppb | < 1.0 |
| Trace Impurities –Cobalt (Co) | <= 100.0 ppb | < 1.0 |
| Trace Impurities -Copper (Cu) | <= 100.0 ppb | < 0.5 |
| Trace Impurities -Gold (Au) | <= 100.0 ppb | 2.0 |
| Trace Impurities –Iron (Fe) | <= 100.0 ppb | < 1.0 |
| Trace Impurities -Lead (Pb) | <= 100.0 ppb | < 3.0 |
| Trace Impurities –Lithium (Li) | <= 100.0 ppb | < 0.5 |
| Trace Impurities -Magnesium (Mg) | <= 100.0 ppb | < 0.5 |
| Trace Impurities -Manganese (Mn) | <= 100.0 ppb | < 1.0 |
| Trace Impurities –Nickel (Ni) | <= 100.0 ppb | < 1.0 |
| Trace Impurities -Potassium (K) | <= 100.0 ppb | < 4.0 |
| Trace Impurities –S ilver (Ag) | <= 100.0 ppb | < 1.0 |
| Trace Impurities -S odium (Na) | <= 300.0 ppb | < 1.0 |

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| sult | Result | S pecification | Test | |
|------|--------|----------------|------------------------|------------------------------|
| 0.5 | < 0.5 | <= 100.0 ppb | (S r) | Trace Impurities -S trontium |
| 2.0 | < 2.0 | <= 100.0 ppb | | Trace Impurities -Tin (Sn) |
| 1.0 | <1.0 | <= 100.0 ppb | (Ti) | Trace Impurities -Titanium |
| 0.5 | < 0.5 | <= 100.0 ppb | ı (V) | Trace Impurities -Vanadium (|
| 1.0 | <1.0 | <= 100.0 ppb | | Trace Impurities –Zinc (Zn) |
| 1 | 1 | <= 10 par/ml | greater (Rion KS 42AF) | Particle Count - 1.0 µm and |
| _ | | | greater (Rion KS 42AF) | , , , |

For Microelectronic Use

Country of Origin: US

Packaging Site: Phillipsburg Mfg Ctr & DC



Phillipsburg, NJ 9001.2008, 14001.2004 Paris, KY 9001.2008 Mexico city, Mexico 9001.2008 Deventer, The Netherlands 9001.2008, 14001.2004 Selangor, Malaysia 9001.2008 Panoli, India 9001.2008 Gliwice, Poland 9001.2008,17025.2005

Richard M Siberski

Global Director of Quality Assurance