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CERTIFICATE OF ANALYSIS METHANOL Meets GENERAL USE HPLC-UV Grade Monographs

Lot # C17H02006 QC # Pending

Date of Manufacture: 08/02/17

Recommended Retest Date: Five Years from Date of Manufacture

Main Catalog #: 33900HPLC

| PRODUCT SPECIFICATIONS | MONO GRAPH | LIMITS | Results |
|---|---------------|---|--------------------------------|
| TRODUCT STEETHCATIONS | ACS, | 99.8% | Results |
| Assay (GC), min, corrected for water | NF | 99.9% | 99.99% |
| Identification A (Infrared Absorption) | NF | To Pass | Pass |
| Identification B (GC Analysis) | NF | To Pass | Pass |
| Acidity | NF | NMT 0.45mL 0.02N NaOH required | 0.20 mL |
| Titrable Acid, max | ACS | 0.0003 meq/g | 0.0002 meq/g |
| Alkalinity (as ammonia) | NF | NMT 0.20mL 0.02N H2SO4 required (3 ppm max) | 0.10 mL |
| Titrable Base, max | ACS | 0.0002 meq/g | < 0.0001 meq/g |
| Readily Carbonizable Substances | NF | To Pass | Pass |
| Carbonyl Compounds, max | ACS | Acetone 0.001% Formaldehyde 0.001% Acetaldehyde 0.001% | 0.000% < 0.001% < 0.001% |
| Acetone & Aldehydes (as Acetone) | NF | NMT 0.003% | < 0.003% |
| Readily Oxidizable Substances | NF | To Pass | Pass |
| Non-Volatile Residue | NF | NMT 2mg (0.001% w/w) | 0 mg |
| Residue After Evaporation, max | ACS | 0.001% | 0.000% |
| Color (APHA), max | ACS | 10 | 1 |
| Substances Darkened by H ₂ SO ₄ | ACS | To Pass | Pass |
| Substances Reducing KMnO ₄ | ACS | To Pass | Pass |
| Ultraviolet absorption | ACS | 205nm 1.00 max. 210nm 0.80 max. 220nm 0.40 max. 230nm 0.20 max. 240nm 0.10 max. 260nm 0.04 max. 280nm - 400nm 0.01 max. | |
| Water, max | ACS, NF | 0.10% | 0.01% |
| Solubility in Water | ACS | To Pass | Pass |

This product is manufactured for Routine HPLC Analysis and meets the requirements for General Use HPLC Grade, ACS Monographs. This product is not intended for GC or critical HPLC analysis. See Glass Purified, Glass Distilled Grade for those applications.

Form Methanol-HPLC, # 401, Rev. 2.8, 06/16, KAD

Approved by:

<u>Disclaimer</u>: For Industrial/Lab use only. Not intended as a Drug Substance, Medical Device or Disinfectant. Appropriate/legal use of this product is the responsibility of the user. (Rev. # disclaimer only, rev 3.6, 07/15, PD)