



Giles Chemical, a division of Premier Magnesia, LLC. Repacking Facility
102 Commerce Street Waynesville, NC 28786
USP Certificate of Analysis

Release Date: 4/3/2013
CUSTOMER: _____
CUST. REF: _____ SHIP DATE: _____
PRODUCT: **Magnesium Sulfate - USP** TRAILER NUMBER: _____
SHELF LIFE: 3 Years BILL OF LADING # : _____
LOT NUMBER: **0713** PO NUMBER # : _____
SHIPPER : _____ MANUFACTURED : _____
CUST. SERV. : _____ EXPIRATION: _____

I certify that this material meets all the requirements of the Giles Chemical sales specifications and the United States Pharmacopeia 35. Periodic testing has shown the samples to be consistently free of volatile organic impurities. Giles Chemical magnesium sulfate is manufactured under the guidelines of Current Good Manufacturing Practices (cGMP).

EPSOM SALT, Magnesium Sulfate - Heptahydrate, USP

| METHOD | TEST | LOWER | UPPER | Test Results |
|--------|---------------------------------------|-------|--------|--------------|
| VISUAL | Appearance | ~~ | ~~ | Clear |
| USP35 | Chloride as Cl (%) | ~~ | 0.014 | < 0.014% |
| USP35 | Heavy Metals As Pb (%) | ~~ | 0.001 | < 0.001% |
| USP35 | Ignition Loss (%) | 40.00 | 52.00 | 50.75% |
| USP35 | Iron (ppm) | ~~ | 20.00 | < 20.00 ppm |
| USP35 | MgSO ₄ (Anhydrous wt. %) | 99.00 | 100.50 | 99.80% |
| USP35 | MgSO ₄ (As is basis, %) | 48.30 | 52.00 | 48.70% |
| USP35 | pH 5% Solution | 5.00 | 9.20 | 6.70 |
| USP35 | Selenium (%) | ~~ | 0.003 | < 0.003% |
| USP35 | Mg ²⁺ ID | | | Present |
| USP35 | SO ₄ ²⁻ ID | | | Present |

ATTN:

ANALYST: STEPHEN BALLEW

Stephen Ballew