



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

Release Date: 10/3/2012

CUSTOMER: _____

CUST. REF: _____ SHIP DATE: _____

PRODUCT: Magnesium Sulfate - Tech TRAILER NUMBER: _____

SHELF LIFE: 3 Years BILL OF LADING # : _____

LOT NUMBER: 1612 PO NUMBER # : _____

SHIPPER : _____ MANUFACTURED : _____

CUST. SERV. : _____ EXPIRATION: _____

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

EPSOM SALT, Magnesium Sulfate - Heptahydrate, Tech Grade

| METHOD | TEST | LOWER | UPPER | Test Results |
|--------|---------------------------------------|-------|--------|--------------|
| VISUAL | Appearance | ~~ | ~~ | Clear |
| USP35 | Chloride as Cl (%) | ~~ | 0.014 | < 0.014% |
| USP35 | Iron (ppm) | ~~ | 20.00 | < 20.00 ppm |
| USP35 | Ignition Loss (%) | 40.00 | 52.00 | 49.14% |
| USP35 | Heavy Metals As Pb (%) | ~~ | 0.001 | < 0.001% |
| USP35 | MgSO ₄ (Anhydrous wt. %) | 99.00 | 100.50 | 99.18% |
| USP35 | MgSO ₄ (As is basis, %) | 48.30 | 52.00 | 48.40% |
| USP35 | pH 5% Solution | 5.00 | 9.20 | 7.09 |
| USP35 | Selenium (%) | ~~ | 0.003 | < 0.003% |
| USP35 | Mg ²⁺ ID | | | Present |
| USP35 | SO ₄ ²⁻ ID | | | Present |

ATTN:

ANALYST: STEPHEN BALLEW

Stephen Ballew