



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

Release Date: 5/30/2013

CUSTOMER: \_\_\_\_\_

CUST. REF: \_\_\_\_\_ SHIP DATE: \_\_\_\_\_

PRODUCT: **Magnesium Sulfate - USP** TRAILER NUMBER: \_\_\_\_\_

SHELF LIFE: 3 Years BILL OF LADING # : \_\_\_\_\_

LOT NUMBER: **1113** 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  | 50.85%       |
| USP35  | Iron (ppm)                            | ~~    | 20.00  | < 20.00 ppm  |
| USP35  | MgSO <sub>4</sub> ( Anhydrous wt. % ) | 99.00 | 100.50 | 99.08%       |
| USP35  | MgSO <sub>4</sub> ( As is basis, % )  | 48.30 | 52.00  | 48.35%       |
| USP35  | pH 5% Solution                        | 5.00  | 9.20   | 6.61         |
| USP35  | Selenium (%)                          | ~~    | 0.003  | < 0.003%     |
| USP35  | Mg <sup>2+</sup> ID                   |       |        | Present      |
| USP35  | SO <sub>4</sub> <sup>2-</sup> ID      |       |        | Present      |

ATTN:

ANALYST: STEPHEN BALLEW

*Stephen Ballew*