



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

Release Date: 5/25/2012

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

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

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

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

LOT NUMBER: **0712** 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 34. 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, USP**

| METHOD | TEST                                  | LOWER | UPPER  | Test Results |
|--------|---------------------------------------|-------|--------|--------------|
| VISUAL | Appearance                            | ~~    | ~~     | Clear        |
| USP34  | Chloride as Cl (%)                    | ~~    | 0.014  | < 0.014%     |
| USP34  | Heavy Metals As Pb (%)                | ~~    | 0.001  | < 0.001%     |
| USP34  | Ignition Loss (%)                     | 40.00 | 52.00  | 50.36%       |
| USP34  | Iron (ppm)                            | ~~    | 20.00  | < 20.00 ppm  |
| USP34  | MgSO <sub>4</sub> ( Anhydrous wt. % ) | 99.00 | 100.50 | 99.87%       |
| USP34  | MgSO <sub>4</sub> ( As is basis, % )  | 48.30 | 52.00  | 48.74%       |
| USP34  | pH 5% Solution                        | 5.00  | 9.20   | 6.37         |
| USP34  | Selenium (%)                          | ~~    | 0.003  | < 0.003%     |
| USP34  | Mg <sup>2+</sup> ID                   |       |        | Present      |
| USP34  | SO <sub>4</sub> <sup>2-</sup> ID      |       |        | Present      |

ATTN:

ANALYST: STEPHEN BALLEW

*Stephen Ballew*