



Giles Chemical, a division of Premier Magnesia, LLC.

102 Commerce Street Waynesville, NC 28786

Phone: 828-452-4784 Fax: 828-452-2786

USP Certificate of Analysis

Release Date: 9/19/2014

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

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

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

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

LOT NUMBER: **5214** 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  | 50.77%       |
| USP35  | Iron (ppm)                            | ~~    | 20.00  | < 20.00 ppm  |
| USP35  | MgSO <sub>4</sub> ( Anhydrous wt. % ) | 99.00 | 100.50 | 99.66%       |
| USP35  | MgSO <sub>4</sub> ( As is basis, % )  | 48.30 | 52.00  | 48.63%       |
| USP35  | pH 5% Solution                        | 5.00  | 9.20   | 6.81         |
| USP35  | Selenium (%)                          | ~~    | 0.003  | < 0.003%     |
| USP35  | Mg <sup>2+</sup> ID                   |       |        | Present      |
| USP35  | SO <sub>4</sub> <sup>2-</sup> ID      |       |        | Present      |

CONTACT:

Quality Assurance Laboratory

John Safi - Chemist

828-452-4784 ext. 31

ANALYST:

SIGNATURE ON FILE