



Giles Chemical, a division of Premier Magnesia, LLC.

102 Commerce Street Waynesville, NC 28786

Phone: 828-452-4784 Fax: 828-452-4786

USP Certificate of Analysis

Release Date: 3/30/2018

CUSTOMER: Brentag

CUST. REF: \_\_\_\_\_ SHIP DATE: 4/4/18

PRODUCT: Magnesium Sulfate - USP TRAILER NUMBER: 1948

SHELF LIFE: 3 Years BILL OF LADING #: 21751

LOT NUMBER: 1418 PO NUMBER #: 779849

CARRIER: ALL Freight MANUFACTURED: 4/3/18

CUST. CONTACT: \_\_\_\_\_ EXPIRATION: 4/3/21

I certify that this material meets all the requirements of the Giles Chemical sales specifications and the United States Pharmacopeia. 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
USP 40	Limit of Chloride <221>	~	140 ppm	< 140 ppm
USP 40	Limit of Iron <241>	~	20 ppm	< 20 ppm
USP 40	Selenium <291>	~	30 ppm	< 30 ppm
USP 40	Heavy Metals (as Pb) <231>	~	10 ppm	< 10 ppm
USP 40	pH (5% Solution) <791>	5.0	9.2	6.53
USP 40	Loss on Ignition <733>	40.0	52.0	50.93%
USP 40	Assay, % MgSO <sub>4</sub> (Dry Basis)	99.0	100.5	99.61%
Calculated from Assay & LOI	% MgSO <sub>4</sub> (As is Basis)	47.52	60.3	48.88%
USP 40	ID, Magnesium <191>	~	~	Present
USP 40	ID, Sulfate <191>	~	~	Present

CONTACT:

Quality Assurance Laboratory

Brent Lance - Chemist

ANALYST:

SIGNATURE ON FILE

IMPORTANT: All information provided is believed to be accurate and complete. The data provided is representative of the product quality on the date of analysis for the lot number indicated. This certificate of analysis may not include all of the constituents of the product. Persons using this information should make their own determination regarding its suitability for their particular application. This certificate of analysis shall not in any way limit or preclude the operation and effect of the applicable terms and conditions of sale.