



**Giles Chemical, a division of Premier Magnesia, LLC. Repackaging Facility**  
**102 Commerce Street Waynesville, NC 28786**  
**Phone: 828-452-4784 Fax: 828-452-4786**  
**USP Certificate of Analysis**

Release Date: 11/9/2017

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

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

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

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

LOT NUMBER: 17312 PO NUMBER #: \_\_\_\_\_

CARRIER: \_\_\_\_\_ MANUFACTURED: \_\_\_\_\_

CUST. CONTACT: \_\_\_\_\_ EXPIRATION: \_\_\_\_\_

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).

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	6.24
USP 40	Loss on Ignition <733>	40.0	52.0	50.84%
USP 40	Assay, % MgSO <sub>4</sub> (Dry Basis)	99.0	100.5	99.66%
Calculated from Assay & LOI	% MgSO <sub>4</sub> (As is Basis)	47.52	60.3	49.00%
USP 40	ID, Magnesium <191>	~~	~~	Present
USP 40	ID, Sulfate <191>	~~	~~	Present

CONTACT:

Quality Assurance Laboratory

Paul Rice - Chemist

ANALYST:

SIGNATURE ON FILE