



**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: 12/9/2016  
CUSTOMER :  
CUST. REF: SHIP DATE:  
PRODUCT: **Magnesium Sulfate - USP** TRAILER NUMBER:  
SHELF LIFE: 3 Years BILL OF LADING #:  
LOT NUMBER: **16343** 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).

**EPSOM SALT, Magnesium Sulfate - Heptahydrate, USP**

METHOD	TEST	LOWER	UPPER	Test Results
VISUAL	Appearance	~~	~~	Clear
USP 39	Limit of Chloride <221>	~~	140 ppm	< 140 ppm
USP 39	Limit of Iron <241>	~~	20 ppm	< 20 ppm
USP 39	Selenium <291>	~~	30 ppm	< 30 ppm
USP 39	Heavy Metals (as Pb) <231>	~~	10 ppm	< 10 ppm
USP 39	pH (5% Solution) <791>	5.0	9.2	8.12
USP 39	Loss on Ignition <733>	40.0	52.0	50.81%
USP 39	Assay, % MgSO <sub>4</sub> (Dry Basis)	99.0	100.5	99.35%
Calculated from Assay & LOI	% MgSO <sub>4</sub> (As is Basis)	47.52	60.3	48.87%
USP 39	ID, Magnesium <191>	~~	~~	Present
USP 39	ID, Sulfate <191>	~~	~~	Present

CONTACT:

Quality Assurance Laboratory

John Safi - Chemist

828-452-4784 ext. 31

ANALYST:

SIGNATURE ON FILE