



**Giles Chemical, a division of Premier Magnesia, LLC.**

**102 Commerce Street Waynesville, NC 28786**

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

**Certificate of Analysis**

Release Date: 12/22/2015

CUSTOMER :

CUST. REF: SHIP DATE:

PRODUCT: **Magnesium Sulfate - Tech** TRAILER NUMBER:

SHELF LIFE: 3 Years BILL OF LADING #:

LOT NUMBER: **5415** PO NUMBER #:

CARRIER: MANUFACTURED:

CUST. CONTACT: EXPIRATION:

I certify that this material meets all the requirements of the Giles Chemical sales specifications. 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, Tech Grade**

METHOD	TEST	LOWER	UPPER	Test Results
VISUAL	Appearance	~~	~~	Clear
L12-PR-100-004	Limit of Chloride	~~	140 ppm	< 140 ppm
L12-PR-100-005	Limit of Iron	~~	20 ppm	< 20 ppm
L12-PR-100-007	Selenium	~~	30 ppm	< 30 ppm
L12-PR-100-006	Heavy Metals (as Pb)	~~	10 ppm	< 10 ppm
L12-PR-100-002	pH (5% Solution)	5.0	9.2	7.66
L12-PR-100-003	Loss on Ignition	40.0	52.0	50.81%
L12-PR-100-008	Assay, % MgSO <sub>4</sub> (Dry Basis)	99.0	100.5	99.71%
Calculated from Assay & LOI	% MgSO <sub>4</sub> (As is Basis)	47.52	60.3	49.04%
L12-PR-100-001	ID, Magnesium	~~	~~	Present
L12-PR-100-001	ID, Sulfate	~~	~~	Present

CONTACT:

Quality Assurance Laboratory

John Safi - Chemist

828-452-4784 ext. 31

ANALYST:

SIGNATURE ON FILE