



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

Release Date: 11/5/2016

CUSTOMER : _____

CUST. REF: _____ SHIP DATE: _____

PRODUCT: Magnesium Sulfate - Tech TRAILER NUMBER: _____

SHELF LIFE: 3 Years BILL OF LADING #: _____

LOT NUMBER: 4416 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 | 6.64 |
| L12-PR-100-003 | Loss on Ignition | 40.0 | 52.0 | 51.09% |
| L12-PR-100-008 | Assay, % MgSO ₄ (Dry Basis) | 99.0 | 100.5 | 99.25% |
| Calculated from Assay & LOI | % MgSO ₄ (As is Basis) | 47.52 | 60.3 | 48.54% |
| 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