



Giles Chemical, a division of Premier Magnesia , LLC.
102 Commerce Street Waynesville, NC 28786
Tech Certificate of Analysis

Release Date: 3/16/2012

CUSTOMER: _____

CUST. REF: _____ SHIP DATE: _____

PRODUCT: Magnesium Sulfate - Tech TRAILER NUMBER: _____

SHELF LIFE: 3 Years BILL OF LADING #: _____

LOT NUMBER: 0212 PO NUMBER #: _____

SHIPPER: _____ MANUFACTURED: _____

CUST. SERV.: _____ EXPIRATION: _____

I, certify that this material meets all the requirements of the Giles Chemical sales specification and the United States Pharmacopeia 34. Periodic testing has shown the samples to be consistently free of volatile organic impurities. Giles Chemical manufactured under the guidelines of Good Manufacturing Practices (GMP)

EPSOM SALT, Magnesium Sulfate - Heptahydrate, Tech Grade

METHOD	TEST	LOWER	UPPER	Test Results
VISUAL	Appearance	~~	~~	Clear
USP34	Chloride as Cl (%)	~~	0.014	< 0.014%
USP34	Iron (ppm)	~~	20.00	< 20.00 ppm
USP34	Ignition Loss (%)	40.00	52.00	50.87%
USP34	Heavy Metals As Pb (%)	~~	0.001	< 0.001%
USP34	MgSO ₄ (Anhydrous wt. %)	99.00	100.50	99.90%
USP34	MgSO ₄ (As is basis, %)	48.30	52.00	48.75%
USP34	pH 5% Solution	5.00	9.20	6.08
*USP34	Selenium (%)	~~	0.003	< 0.003%
USP34	Mg ²⁺ ID			Present
USP34	SO ₄ ²⁻ ID			Present

ATTN:

ANALYST: STEPHEN BALLEW

Stephen Ballew

*Selenium concentration was determined by CHEM-BAC Laboratories, Inc., Work Order: 1371-12