



Giles Chemical, a division of Premier Magnesia, LLC.

102 Commerce Street Waynesville, NC 28786

USP Certificate of Analysis

11/30/2011

CUSTOMER: _____

CUST. REF: _____ SHIP DATE: _____

PRODUCT: **Magnesium Sulfate - USP** TRAILER NUMBER: _____

SHELF LIFE: **3 Years** BILL OF LADING #: _____

LOT NUMBER: **1111** PO NUMBER #: _____

SHIPPER: _____ MANUFACTURED: _____

CUST. SERV.: _____

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, USP

METHOD	TEST	LOWER	UPPER	Test Results
VISUAL	Appearance	~~	~~	Clear
USP34	Arsenic (PPM)	~~	3.00	< 3 ppm
USP34	Chloride as Cl (%)	~~	0.014	.0008%
USP34	Heavy Metals As Pb (%)	~~	0.001	< .001%
USP34	Ignition Loss (%)	40.00	52.00	50.70%
USP34	Iron	~~	20.00	<.05 ppm
USP34	MgSO ₄ (Anhydrous wt. %)	99.00	100.50	99.21%
USP34	MgSO ₄ (As is basis, %)	48.30	52.00	48.41%
USP34	pH 5% Solution	5.00	9.20	6.52
USP34	Selenium (%)	~~	0.003	< 0.003%
USP34	Nickel (%)	~~	~~	< 0.005%
USP34	Mg ²⁺ ID			Present
USP34	SO ₄ ²⁻ ID			Present

ATTN:

ANALYST:

SIGNATURE ON FILE