



Giles Chemical, a division of Premier Chemicals, LLC.

102 Commerce Street Waynesville, NC 28786

USP Certificate of Analysis

1/19/2011

CUSTOMER: _____

CUST. REF: _____ SHIP DATE: _____

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

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

LOT NUMBER: **0111** 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 33. 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
USP33	Arsenic (PPM)	~~	3.00	< 3 ppm
USP33	Chloride as Cl (%)	~~	0.014	.002%
USP33	Heavy Metals As Pb (%)	~~	0.001	<.001%
USP33	ignition Loss (%)	40.00	52.00	51.94%
USP33	Iron	~~	20.00	<.05ppm
USP33	MgSO ₄ (Anhydrous wt. %)	99.00	100.50	99.46%
USP33	MgSO ₄ (As is basis, %)	48.30	52.00	48.54%
USP33	pH 5% Solution	5.00	9.20	6.67
USP33	Selenium (%)	~~	0.003	<.003%
USP33	Nickel (%)	~~	~~	< .005%
USP33	Mg ²⁺ ID			Present
USP33	SO ₄ ²⁻ ID			Present

ATTN:

ANALYST:

SIGNATURE ON FILE