



Giles Chemical, a division of Premier Chemicals, LLC.

102 Commerce Street Waynesville, NC 28786

USP Certificate of Analysis

11/19/2009

CUSTOMER: \_\_\_\_\_

CUST. REF: \_\_\_\_\_ SHIP DATE: \_\_\_\_\_

PRODUCT: **Magnesium Sulfate - USP** TRAILER NUMBER: \_\_\_\_\_

SHELF LIFE: **3 Years** BILL OF LADING #: \_\_\_\_\_

LOT NUMBER: **1409** 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 31. 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
USP31	Arsenic ( PPM )	~~	3.00	< 3 ppm
USP31	Chloride as Cl (%)	~~	0.014	0.001%
USP31	Heavy Metals As Pb (%)	~~	0.001	<.001%
USP31	ignition Loss (%)	40.00	52.00	51.13%
USP31	Iron	~~	20.00	< 0.05 ppm
USP31	MgSO <sub>4</sub> ( Anhydrous wt. % )	99.00	100.50	99.50%
USP31	MgSO <sub>4</sub> ( As is basis, % )	48.30	52.00	48.56%
USP31	pH 5% Solution	5.00	9.20	6.57
USP31	Selenium ( % )	~~	0.003	< .003%
USP31	Mg <sup>2+</sup> ID			Present
USP31	SO <sub>4</sub> <sup>2-</sup> ID			Present

ATTN:

ANALYST:

SIGNATURE ON FILE