



## USP - CERTIFICATE OF ANALYSIS

9/26/2011

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

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

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

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

LOT NUMBER: 0911 PO NUMBER #: \_\_\_\_\_

SHIPPER: \_\_\_\_\_ MANUFACTURED: \_\_\_\_\_

CUST. SERV.: \_\_\_\_\_

I, certify that this material meets all the requirements of the PQ Corporation sales specification 600546 and the United States Pharmacopeia 34. All organic volatile impurities listed in General Chapter 467, USP 29 NF 20 are below the USP limits.

EPSOM SALT, Magnesium Sulfate - Heptahydrate, USP; CAS Registry #: 10034-99-8

METHOD	TEST	LOWER	UPPER	Test Results
VISUAL	Appearance	~~	~~	Clear
USP34	Arsenic ( PPM )	~~	3.00	< 3 ppm
USP34	Chloride as Cl (%)	~~	0.014	.0014%
USP34	Heavy Metals As Pb (%)	~~	0.001	< .001%
USP34	Ignition Loss (%)	40.00	52.00	50.95%
USP34	Iron	~~	20.00	.17 ppm
USP34	MgSO <sub>4</sub> ( Anhydrous wt. % )	99.00	100.50	99.34%
USP34	MgSO <sub>4</sub> ( As is basis, % )	48.30	52.00	48.48%
USP34	pH 5% Solution	5.00	9.20	7.82
USP34	Selenium ( % )	~~	0.003	< 0.003%
USP34	Nickel ( % )	~~	~~	< 0.005%
USP34	Mg <sup>2+</sup> ID			Present
USP34	SO <sub>4</sub> <sup>2-</sup> ID			Present

ATTN:

ANALYST:

SIGNATURE ON FILE

PQ - CORPORATION - UTICA, IL

(815) 667-4241