



## USP - CERTIFICATE OF ANALYSIS

9/8/2010

CUSTOMER: \_\_\_\_\_  
CUST. REF: \_\_\_\_\_ SHIP DATE: \_\_\_\_\_  
PRODUCT: Magnesium Sulfate - USP TRAILER NUMBER: \_\_\_\_\_  
SHELF LIFE: 3 Years BILL OF LADING #: \_\_\_\_\_  
LOT NUMBER: 0910 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 33. 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
USP33	Arsenic ( PPM )	~~	3.00	< 3 ppm
USP33	Chloride as Cl (%)	~~	0.014	<.001%
USP33	Heavy Metals As Pb (%)	~~	0.001	<.001%
USP33	Ignition Loss (%)	40.00	52.00	51.32%
USP33	Iron	~~	20.00	.10 ppm
USP33	MgSO <sub>4</sub> ( Anhydrous wt. % )	99.00	100.50	99.67%
USP33	MgSO <sub>4</sub> ( As is basis, % )	48.30	52.00	48.64%
USP33	pH 5% Solution	5.00	9.20	6.39
USP33	Selenium ( % )	~~	0.003	< .003%
USP33	Nickel ( % )	~~	~~	< .005%
USP33	Mg <sup>2+</sup> ID			Present
USP33	SO <sub>4</sub> <sup>2-</sup> ID			Present

ATTN:

ANALYST:

SIGNATURE ON FILE

PQ - CORPORATION - UTICA, IL

(815) 667-4241