



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 PQ Corporation sales specification 600546 and the United States Pharmacopeia 31. 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
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 ₄ (Anhydrous wt. %)	99.00	100.50	99.50%
USP31	MgSO ₄ (As is basis, %)	48.30	52.00	48.56%
USP31	pH 5% Solution	5.00	9.20	6.57
USP31	Selenium (%)	~~	0.003	< 0.003%
USP31	Mg ²⁺ ID			Present
USP31	SO ₄ ²⁻ ID			Present

ATTN:

ANALYST:

SIGNATURE ON FILE

PQ - CORPORATION - UTICA, IL

(815) 667-4241