



## USP - CERTIFICATE OF ANALYSIS

9/5/2008

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

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

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

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

LOT NUMBER: 0908 PO NUMBER #: \_\_\_\_\_

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

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

I, certify that this material meets all the requirements of the PQ Corporation sales specification 600546 and the United States Pharmacopeia 30. 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        |
| USP30  | Arsenic ( PPM )                       | ~~    | 3.00   | < 3 ppm      |
| USP30  | Chloride as Cl (%)                    | ~~    | 0.014  | <.001%       |
| USP30  | Heavy Metals As Pb (%)                | ~~    | 0.001  | <.001%       |
| USP30  | ignition Loss (%)                     | 40.00 | 52.00  | 49.08%       |
| USP30  | Iron                                  | ~~    | 20.00  | .20 ppm      |
| USP30  | MgSO <sub>4</sub> ( Anhydrous wt. % ) | 99.00 | 100.50 | 99.63%       |
| USP30  | MgSO <sub>4</sub> ( As is basis, % )  | 48.30 | 52.00  | 48.62%       |
| USP30  | pH 5% Solution                        | 5.00  | 9.20   | 6.80         |
| USP30  | Selenium ( % )                        | ~~    | 0.003  | < .003%      |
| USP30  | Mg <sup>2+</sup> ID                   |       |        | Present      |
| USP30  | SO <sub>4</sub> <sup>2-</sup> ID      |       |        | Present      |

ATTN:

ANALYST:

SIGNATURE ON FILE

PQ - CORPORATION - UTICA, IL

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