
	GILES CHEMICAL ~ PREMIER MAGNESIA		
	Company Procedure		
	Title: USP Chloride	Number: L12-PR-100-004	
	Owner: John Safi	Revision: 3	
	Effective Date: 05/01/17	Page: 1 of 2	

1.0 Purpose

To describe how to verify that magnesium sulfate heptahydrate samples are below the USP limit of 0.014% chloride following USP Monograph: Magnesium Sulfate, and General Chapter <221>

2.0 Scope

This procedure applies to USP lot change, stability testing, and any time USP quality needs to be verified. All USP testing is performed in the Quality Assurance laboratory.

3.0 Responsibility

QA Lab personnel are responsible for USP testing.

4.0 Safety Considerations

Safety Goggles, Chemical Resistant Gloves, and Lab Coat should be worn.

Safety is a condition of employment. Employees are not authorized to work in an unsafe manner and are prohibited from harming the environment of the facility or community.

5.0 Materials/Equipment

- Balance-Mettler Toledo X5105DU, B139292316
- Weigh Paper
- 2 - 50 ml Nessler Low Form Color Comparison Tubes (labeled 'test' and 'control' respectively)
- Stir Rod or Spatula (long enough for color comparison tubes)
- Eppendorf 1000 µL Adjustable Pipette
- Timer
- Black Sheet of Paper



Reagents:

- Silver Nitrate Test Solution (0.1N)
- 70% Nitric Acid
- DI H₂O
- 0.020N Hydrochloric Acid Volumetric Solution

6.0 Procedure

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1. Weigh out 1.0 g of the magnesium sulfate sample (for magnesium sulfate solution use 273 μ L or 1182 μ L for Greendale liquid) on a weigh paper and add it to the 'test' color comparison tube and dissolve with approximately 40 ml of DI H₂O.
2. In the 'control' color comparison tube add 200 μ L of 0.020N hydrochloric acid volumetric solution.
3. Add 1 ml of 70% nitric acid, 1 ml of silver nitrate TS and sufficient water to make 50 ml to each tube.
4. Mix and let stand for 5 minutes protected from direct sunlight.
5. Compare the turbidity of the 'test' sample to the 'control' sample. View the tubes horizontally across the diameter of the tubes, against the dark background of the black sheet of paper.

If the 'test' sample shows less or the same turbidity as the 'control' sample then the magnesium sulfate sample has a chloride concentration below the USP limit of 0.014% (520 ppm for magnesium sulfate solution or 120 ppm for Greendale liquid).

7.0 Reference Documents

N/A

8.0 Change Information

Updated SOP to current Doc System format
 Minor correction made to procedure.
 Changed Owners

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