
	<b>GILES CHEMICAL ~ PREMIER MAGNESIA</b>		
	<b>Company Procedure</b>		
	Title: <b>Determination of %MgSO<sub>4</sub> by Specific Gravity</b>	Number: <b>L12-PR-100-033</b>	
	Owner: <b>Ashley Williams</b>	Revision: <b>02</b>	
	Effective Date: <b>05/06/2013</b>	Page: <b>1 of 2</b>	

## 1.0 Purpose

The purpose of this procedure is to describe how to determine the %MgSO<sub>4</sub> by Specific Gravity.

## 2.0 Scope

This procedure applies to all daily Manufacturing liquid salt samples.

## 3.0 Responsibility

Lab Associate is responsible for performing this procedure.

## 4.0 Safety Considerations

Appropriate PPE is to be worn in the laboratory.

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

- Liquid salt sample
- 500 ml beaker
- 25 ml volumetric flask
- Weighing Balance – B440 Sartorius
- Calibrated pH Meter – VWR-SB20
- Set of standard charts for conversion of Specific Gravity and Temperature to %MgSO<sub>4</sub>
- Microwave



## 6.0 Procedure

1. Pour liquid salt sample into a 500 ml beaker.
2. Bring sample to the temperature that is recorded on the sample bottle by using the microwave.
3. Place heated sample on stir plate and record temperature using calibrated pH meter.
4. Place volumetric flask on weighing balance and tare to zero.
5. Fill 25 ml volumetric flask to line with sample and record weight.
6. Determine the Specific Gravity by using the following formula:

$$\frac{\text{Weight of sample (g)}}{\text{Volume of sample (ml)}} = \text{Specific Gravity (g / ml)}$$

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7. Use the above mentioned conversion charts to determine the %MgSO<sub>4</sub> based on the specific gravity reading and the temperature of the solution.

## 7.0 Reference Documents

*Final Product Liquid – Daily Quality Control Report (L12-FM-100-006)*

## 8.0 Change Information

Updated procedure following *SOP Template Instructions (Q12-PR-100-004)* and *Document Numbering (Q12-PR-100-003)*

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