
	<b>GILES CHEMICAL ~ PREMIER MAGNESIA</b>		
	<b>Company Procedure</b>		
	Title: <b>pH Determination</b>	Number: <b>L12-PR-100-030</b>	
	Owner: <b>Ashley Williams</b>	Revision: <b>02</b>	
	Effective Date: <b>05/06/2013</b>	Page: <b>1 of 3</b>	

## 1.0 Purpose

The purpose of this procedure is to describe how to determine the pH of salt and liquid salt samples.

## 2.0 Scope

This procedure applies to all daily Manufacturing salt and liquid salt samples.

## 3.0 Responsibility

Lab Associate is responsible for performing this procedure.

## 4.0 Safety Considerations

Appropriate PPE should 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

- pH Test Papers – Hydrion Range 1-11
- Calibrated pH Meter – VWR SB-20
- Weighing Balance – B440 Sartorius
- Weigh Boat
- Supply of De-Ionized Water
- 150 ml Beaker
- Magnetic Stirring Plate – Torrey Pines Scientific HS10
- Magnetic Stir Bars – 1” length

## 6.0 Procedure

All data is to be recorded on *Final Product Crystal – Daily Quality Control Report (L12-FM-100-002)* form or *Final Product Liquid – Daily Quality Control Report (L12-FM-100-006)* form.



Two methods are employed for determining pH in the laboratory:

### Colorimetric:

pH is determined by using paper which has been impregnated with a pH sensitive dye.

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### Electronic:

For Final Product Determination:

A diluted solution of either crystal or liquid product is prepared and the pH determined using a laboratory instrument according to the method described below.

### Colorimetric Procedure:

1. Tear a two inch section of paper from the Hydrion pH Test Papers.
2. The torn section is then dipped into the solution to be checked.
3. The section is then compared to the color on the chart provided on the outside of the dispenser.
4. The color will correspond to the typical color of pH sensitive dye at levels from 1 to 11.
5. Record pH on either the *Final Product Crystal – Daily Quality Control Report* form or the *Final Product Liquid – Daily Quality Control Report* form.



### Electronic Procedure:

To determine the pH of a salt sample:

1. Weigh 5.00 grams of the salt sample on a weigh boat.
2. Add 100 ml of de-ionized water and a magnetic stir bar to a 150 ml beaker.
3. Place the beaker on the magnetic stirring plate and add the salt sample.
4. Turn stirring plate on (  $\frac{1}{2}$  to  $\frac{3}{4}$  max. setting)
5. Wait for the sample to completely dissolve.
6. Remove the storage solution bottle from the probe tip and rinse the tip with de-ionized water and gently pat dry with a Kim wipe.
7. Place the probe in the solution and turn the previously calibrated pH meter on.
6. When the meter reads that it is ready, record the reading on the *Final Product Crystal – Daily Quality Control Report* form.

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8. Remove the probe from the solution and rinse with de-ionized water.
9. Place storage solution bottle back over the probe tip.

To determine the pH of a liquid sample:

1. Remove the storage solution bottle from the probe tip and rinse the tip with de-ionized water and gently pat dry with a Kim wipe.
2. Place the probe in the solution and turn the previously calibrated pH meter on.
3. When the meter reads that it is ready, record the reading on the *Final Product Liquid – Daily Quality Control Report* form.
4. Remove the probe from the solution and rinse with de-ionized water.
5. Place storage solution bottle back over the probe tip.

## 7.0 Reference Documents

*Final Product Crystal – Daily Quality Control Report (L12-FM-100-002)*

*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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