



## STANDARD OPERATING PROCEDURE

**Department:** Engineering

**TITLE:** Calibration of pH Meter

<b>SOP No.</b>		<b>Revision No.</b>	
<b>Effective Date</b>		<b>Supersedes No.</b>	
<b>Review Date</b>		<b>Page No.</b>	1 of 3

### 1.0 OBJECTIVE:

The Objective of this SOP is:

- 1.1 To describe the procedure for Calibration of pH Meter.

### 2.0 SCOPE:

- 2.1 This SOP is applicable for the calibration of pH Meter installed in manufacturing & Other Facilities.

### 3.0 RESPONSIBILITY:

- 4.1 The Maintenance Engineer shall be:

- 4.1.1 Responsible for Calibration of pH Meter.

### 4.0 ACCOUNTABILITY:

Head –Engineering Services

### 5.0 PROCEDURE:

- 5.1 Calibration of pH meter should be carried out by an external party against the calibrated reference standards (simulator).
- 5.2 Institute should certify the calibrated reference standard for Design of Electrical. Measuring Instruments DEMI/Electronics Regional Test Laboratory (ERTL).
- 5.3 Switch 'Off' the pH meter, remove the sensor connector and connect the terminal across the simulator, which is a source of Mili Volt (MV). Apply voltage (MV) to the pH meter, using calibrated simulator.
- 5.4 Compare the actual value displayed with the standard value given in the following chart. This chart gives the correlation of pH value and MV.
- 5.5 If under test instrument is not showing proper reading then record the observation.
- 5.6 Deviation in the pH meter should be nil.
- 5.7 If deviation is observed, the external party should inform the status of pH meter to Engineering department.
- 5.8 The concerned engineer should replace the pH meter, which should be calibrated as per point 6.3 to 6.5.
- 5.9 As per Instrument Calibration plan, if the instrument is Critical/non Critical, engineering department should inform Quality Assurance and concerned department.
- 5.10 Label the pH meter with date and difference in reading, which are taken during calibration.
- 5.11 Certificate of calibration to be obtained from the outside party.
- 5.12 **FREQUENCY:**
  - 5.12.1 All conductivity meter being used in various departments are to be calibrated as per the Instrument Calibration Plan prepared as per SOP.



# PHARMA DEVILS

ENGINEERING DEPARTMENT

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<b>Review Date</b>		<b>Page No.</b>	2 of 3

### 6.0 ANNEXURES:

Annexure-1: Co-relation between Mill volts & pH Value.

### 7.0 References (S)

NIL

### 8.0 Glossary

SOP : Standard Operating procedure

No : Number

IDEMI : Institute for Design of Electrical Measuring Instruments.

ERTL : Electronics Regional Test Laboratory



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**Page No.**

3 of 3

**ANNEXURE-I**

**Co-relation between Mill volts & pH Value**

S.No.	Mill volts	pH Value
1	413	0
2	354	1
3	295	2
4	236	3
5	177	4
6	118	5
7	59	6
8	0	7
9	-59	8
10	-118	9
11	-177	10
12	-236	11
13	-295	12
14	-354	13
15	-413	14