



## STANDARD OPERATING PROCEDURE

<b>Department:</b> Microbiology	<b>SOP No.:</b>
<b>Title:</b> Monitoring of Drain Points	<b>Effective Date:</b>
<b>Supersedes:</b> Nil	<b>Review Date:</b>
<b>Issue Date:</b>	<b>Page No.:</b>

### 1.0 OBJECTIVE:

To lay down the procedure for Sampling and Testing of Drain point.

### 2.0 SCOPE:

This SOP is applicable for Sampling and Testing of Drain point.

### 3.0 RESPONSIBILITY:

Microbiologist-Quality Control

Head-Quality Control

### 4.0 PROCEDURE:

#### 4.1 Drain monitoring by swab analysis:

4.1.1 Take required number of Sterile Swab for Sampling of drain points and test tube containing 10 ml Soyabean Casein Digest Medium.

4.1.2 Screw cap those swabs and transfer them in to the respective area for Sampling.

4.1.3 Follow the entry/exit procedure of respective area for enter/exit in to the area.

4.1.4 Sample about 25-30 cm<sup>2</sup> of area using Sterile Swab of Drain Sample from Drainage as per location given in point No.4.7

4.1.5 Slowly rub the swab on the inner surface to be sample in zigzag motion from Horizontal to vertical direction.

4.1.6 After taking sample, place the swab in the respective tube and mark it properly with Date of Sampling, Sampled by and Drain Point ID. No.

4.1.7 Bring the Swab to Microbiology Laboratory and incubate at 30°C to 35°C for 24-48 hours (Enriched sample).

4.1.8 Analyse the above incubate sample for pathogens test

#### 4.2 Testing procedure for Pathogens test

##### 4.2.1 Test for Escherichia coli (E. coli)

4.2.2 Streak a portion from enriched sample on the surface of MacConkey agar plate and incubate at 30°C to 35°C for 18-72 hours. If there is presence of brick-red colonies, having a surrounding zone of precipitated bile, transfer the suspected colony on Levin Eosin-Methylene Blue agar



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and incubate. The presence of characteristic metallic sheen on the colonies under reflected light and a blue-black appearance under transmitted light indicates the presence of *E. coli*.

### 4.3 **Test for Salmonella sp.**

4.3.1 Take a loopful from enrichment sample and streak on the surface of any one of following media and incubate at 30°C to 35°C for 24 to 48 hours. Observe for characteristic growth on each medium.

Xylose-lysine-deoxycholate agar

Brilliant green agar

Deoxycholate citrate agar

Bismuth Sulphite Agar.

#### **Medium : Description of Colony**

Xylose-lysine-deoxycholate agar : Red with/without black center

Brilliant green agar : Small transparent colorless pink/white (frequently surrounded by a pink or red zone)

Deoxycholate citrate agar : Colorless and opaque with/without black center

Bismuth sulphite agar : Black or green

4.3.2 If any colonies conforming to the above description are observed, proceed for confirmative test as per respective SOP.

### 4.4 **Test for Pseudomonas aeruginosa:**

4.4.1 Take a loopful from enrichment sample and streak on the surface of Cetrimide agar medium and incubate at 30°C-35°C for 48 to 72 hours. If upon examination, no growth is observed having the characteristics listed in Table given below, *Pseudomonas aeruginosa* is absent.

Medium	Characteristic Colonial Morphology	Fluorescence in UV light	Oxidase Test	Gram Stain
Cetrimide agar	Generally greenish	Greenish	Positive	Negative rods

4.4.2 If any colonies conforming to the above description are observed, proceed for confirmative test as per respective SOP.

### 4.5 **Test for Staphylococcus aureus:**

4.5.1 Take a loopful from an Enrichment sample and steak on the surface of Mannitol-salt agar



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medium or Vogel- Johnson agar and incubate at 30°C-35°C for 48 to 72 hours. If, upon examination, no growth is observed having the characteristics listed in Table given below, Staphylococcus aureus is absent.

Selective medium	Characteristic colonial morphology	Gram stain
Mannitol-salt agar	Yellow colonies with yellow zones	Positive cocci (in clusters)
Vogel-Johnson agar	Black surrounded by yellow zones	Positive cocci (in clusters)

**4.6 Frequency:** Once in Month  $\pm$  03 working days

**4.7 Drain point sampling location and testing frequency**

S.No.	Drain ID.	Drain point location	Frequency

**4.8** Record the results of drain monitoring as per annexure-I.

**4.9 Acceptance criteria:**

4.9.1 Pathogen should be absent /swab

**4.10** In case the result exceeds the limit initiate investigation as per reference SOP.

**5.0 ANNEXURE (S):**

Annexure-I: Drains Monitoring Test Report

**6.0 REFERENCE (S):**

SOP: Investigation of out of specification of test results in microbiology

SOP: Sampling, Testing, Release & Rejection of Water

SOP: Preparation, Approval, Distribution control, revision and Destruction of Standard operating Procedure (SOP).



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**7.0 ABBREVIATION (S) / DEFINITION (S):**

Nil

**REVISION CARD**

<b>S. No.</b>	<b>REVISION NO.</b>	<b>REVISION DATE</b>	<b>DETAILS OF REVISION</b>	<b>REASON (S) FOR REVISION</b>	<b>REFERENCE CHANGE CONTROL No.</b>
01	00	---	---	New SOP	---



**PHARMA DEVILS**  
MICROBIOLOGY DEPARTMENT

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**Annexure 1**

**DRAINS MONITORING TEST REPORT**

<b>Date of Sampling</b>		<b>Date of Report</b>	
<b>Date of Testing</b>		<b>Sampled By</b>	
<b>Used Media</b>		<b>Sterilization Load No.</b>	
<b>Media Lot No.</b>		<b>Analysed By</b>	

S.No.	Location ID. No.	Location	Pathogens			
			<i>E.coli</i>	<i>Salmonella</i>	<i>P. aeruginosa</i>	<i>S. aureus</i>

Frequency: Once in a Month  $\pm$  3 working days

<b>Limit:</b>	
Pathogens	Should be absent/swab

Remark: Complies / Does not Comply with specified limit.

Observed By (Sign. & Date)	Date of Report	Checked By (Sign. & Date)