



PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

Title: Evaluation of efficiency of UV light on microbial cultures

SOP No.:		Department:	Microbiology
		Effective Date:	
Revision No.:	00	Revision Date:	
Supersede Revision No.:	Nil	Page No.:	1 of 3

1. **Purpose:** The purpose of this SOP is to provide the procedure for evaluation of efficiency of UV light on microbial cultures.
2. **Scope:** This SOP is applicable for evaluation of efficiency of UV light on microbial cultures in the Microbiology Section.
3. **References, Attachments & Annexures:**
 - 3.1. **References:**
 - 3.1.1. In-house
 - 3.1.2. SOP Operation, Performance check, Sanitization and Qualification of Laminar Air Flow Unit
 - 3.2. **Attachments:**
 - 3.2.1. Attachment-1: Evaluation of efficiency of UV light on microbial cultures
 - 3.3. **Annexures:** None
4. **Responsibilities:**
 - 4.1. **Microbiologist:**
 - 4.1.1. To perform the activity as per SOP.
 - 4.1.2. To maintain all the records as per SOP.
 - 4.2. **QC Head or designee:**
 - 4.2.1. To check the SOP.
 - 4.2.2. To give training to all concerned persons before implementation of SOP.
 - 4.3. **Quality Assurance:**
 - 4.3.1. To check the SOP.
 - 4.3.2. To ensure the implementation of system as per SOP.
 - 4.4. **Regulatory Affairs, Quality Head , Plant Head:**
 - 4.4.1. To review and approve the SOP.
5. **Distributions:**
 - 5.1. Quality Control (Microbiology)
 - 5.2. Quality Assurance
6. **Definitions of terms & Abbreviations:**
 - 6.1. **Definitions of terms:** None



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6.2. Abbreviations:

- 6.2.1. **SOP** : Standard Operating Procedure
- 6.2.2. **No.** : Number
- 6.2.3. **QA** : Quality Assurance
- 6.2.4. **QC** : Quality Control
- 6.2.5. **NA** : Not Applicable
- 6.2.6. **UV** : Ultra violet
- 6.2.7. **°C** : Degree Celsius
- 6.2.8. **%** : Percent

7. Procedure:

7.1. General:

- 7.1.1. Streak standard cultures of *Bacillus subtilis* (spore formers), *Pseudomonas aeruginosa* (non-spore former) and *Aspergillus niger* (Fungi) on agar media (Soyabean Casein Digest Agar for bacteria and Sabouraud Dextrose agar for fungi).
- 7.1.2. Switch on the LAF as per SOP and expose the plates having inoculums under UV light to glow.
- 7.1.3. Let the plates to be exposed at 5,10,15 and 20 minutes.
- 7.1.4. After exposure incubate the plates for bacteria at 30-35°C (for 120 hours) and 20-25°C (for 120 hours) for fungi.
- 7.1.5. Keep one each streaked plate unexposed as positive control & one each unstreaked plate unexposed as negative control.
- 7.1.6. Note down the results of growth after incubation in attachment-1
- 7.1.7. The above study shall be carried out for 3 successive readings.

7.2. Acceptance criteria:

After incubation no growth should be observed on inoculated plates after 15 minutes .

7.3. Frequency:

- 7.3.1. When new installation of UV light takes place.



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Attachment-1

Evaluation of efficiency of UV light on microbial cultures

Name of instrument:		Date of analysis:		
Instrument ID No.:		Date of result:		
Soyabean Casein Digest Agar lot No.:				
Sabouraud Dextrose Agar lot No.:				
Reading I	Observation			
	Exposure time	<i>B. subtilis</i>	<i>P. aeruginosa</i>	<i>A. niger</i>
	5 minutes			
	10 minutes			
	15 minutes			
Reading II	20 minutes			
	5 minutes			
	10 minutes			
	15 minutes			
Reading III	20 minutes			
	5 minutes			
	10 minutes			
	15 minutes			
20 minutes				
Positive Control:		Negative Control:		
Conclusion:				
Done by:		Checked by:		
Date:		Date:		

8. History:

Version No.		Effective Date	