PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE	
Department: Microbiology	**SOP No.:**
Title: Sterility Failure Investigation	**Effective Date:**
Supersedes: Nil	**Review Date:**
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1.0 OBJECTIVE:

To lay down a procedure for Sterility Failure Investigation.

2.0 SCOPE:

This SOP is applicable for Sterility Failure Investigation in Microbiological Laboratory of Quality Control Area.

3.0 RESPONSIBILITY:

Officer / Executive - Microbiology

4.0 ACCOUNTABILITY:

Head – QC

5.0 ABBREVIATIONS:

FTM	Fluid Thioglycollate Medium
LAF	Laminar Air Flow
No.	Number
QC	Quality Control
QA	Quality Assurance
SOP	Standard Operating Procedure
SCA	Soyabean Casein Digest Agar
SCM	Soyabean Casein Digest Medium

6.0 PROCEDURE:

6.1 Microbiologist shall inform Head- Microbiology in case of any failure of sterility immediately.

6.2 Head- Microbiology shall intimate head QA.

6.3 Head Microbiology shall initiate the investigation and complete the investigation checklist and report as per annexure-1.

6.4 During Sterility Test of Product if the evidence of growth is found in the incubated SCM and FTM tubes then preserve the positive tube along with negative control till to complete investigation.

6.5 Immediately streak a loopful growth from test positive tube on the Preincubated SCA plate in Duplicate.

6.6 If growth is taken from FTM tubes incubates the plates at 30^0 to 35^0C for 48 hrs and if growth is taken from the SCM tubes then incubate the plates at 20 to 25^0C for 72 hrs.

6.7 After Incubation, observe the Colony and identify the microorganism by gram staining followed by BBL crystal ID system either from sister concern plant/outside laboratory.

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6.8 Check the Sterilization Cycle Details such as Temperature, Pressure, Holding Time and status of Indicator Strip during Sterilization of Media, Filtration Assembly and Other Materials used while performing the sterility test. Check the Cleaning Record of Sterility Room.

6.9 Check the results of Environmental Monitoring due while performing the Sterility Test.

6.10 Identify the Colony for Identification of Unknown Microorganisms in exposed plates. If the colony observed in LAF or sterility test room is same as found in positive tube, there are chances of contamination during testing. The test may be considered invalid.

6.11 If microbial growth is found in the negative control. The test may be considered invalid.

6.12 If any fault is not found in quality control then investigation involves the production.

6.13 After reviewing QC and Production Details, compile all the data and find the root cause.

6.14 Record the observations in **Annexure-1**, Titled **"Sterility Failure Investigation Report"**.

6.15 RESULTS/ACCEPTANCE CRITERIA:

6.15.1 If the investigation report shows fault in environmental or personnel cross contamination during the sterility test, repeat the test using the same number of containers which is used for first test.

6.15.2 If the investigation report shows fault during manufacturing or filling of suspected product do not repeat the test and reject the batch.

7.0 ANNEXURES:

ANNEXURE No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	Sterility Failure Investigation Report	

ENCLOSURES: SOP Training Record

8.0 DISTRIBUTION:

- Controlled Copy No. 01 — Quality Assurance
- Controlled Copy No. 02 — Microbiology Laboratory
- Master Copy — Quality Assurance

9.0 REFERENCES:

Not Applicable.

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10.0 REVISION HISTORY:

CHANGE HISTORY LOG

Revision No.	Change Control No.	Details of Changes	Reason for Change	Effective Date	Updated By

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ANNEXURE – I
STERILITY FAILURE INVESTIGATION REPORT

Product		**Date of Investigation started**		
Batch No.		**Initial test was done by**		
Date of Mfg.		**Sterility test observation taken by**		
Date of Exp.		**Sterility test tube checked by**		
Date of Initial sterility started		**Investigation done By**	**QA**	
Date of growth observed			**QC**	

PRODUCT OBSERVATION		
S.No.	**Check Points**	**Observation**
1.	Growth observed in Medium	
2.	Colony morphology	
3.	Grams Reaction	
4.	Identification of organism up to species level	
MICROBIOLOGY OBSERVATION		
5.	Date of media preparation	
6.	Sterilization Cycle No.	
7.	Growth Promotion Test Status of media lots	
8.	Positive control	
9.	Negative Control	
10.	Incubators cleaning status	
11.	Incubators Performance Qualification	
12.	Temperature Monitoring Record of incubator	
13.	Environment Monitoring Report of	

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	Sterility room	
14.	Colony morphology	
15.	Grams Reaction	
16.	Identification of organism up to species level	
17.	Area cleaning / Fumigation record	
18.	HVAC Qualification	
19.	LAF Qualification	
20.	Disinfectant Preparation Record	
21.	Disinfectant used	
PRODUCTION OBSERVATION		
22.	Status of area	
23.	Name of person involved in activity.	
24.	Date of Monitoring	
25.	Area location where count exceed	
26.	Colony morphology	
27.	Grams Reaction	
28.	Identification of organism up to species level	
29.	Temperature And RH Monitoring	
30.	Differential Pressure Monitoring	
31.	Cleaning status	
32.	Fogging status	
33.	Personnel Monitoring Record	
34.	Personnel qualification	

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35.	Personnel Hygienic Record		
36.	Entry Exit record		
37.	Garment condition and there sterilization Record		
38.	Break down if any / Yes, check the following points	Personnel Monitoring Record of the maintenance person	
39.		Personnel qualification	
40.		Throughout cleaning (wall, ceiling, floor, door and machine etc.).	
41.	Spillage		
42.	Number of Staff, Operator & Helper on the day.		
43.	Periodic Sanitization of Gloves & Garments		
44.	Staff, Operator & Helper data during media fill		
45.	Disinfectant Preparation Record		
46.	Disinfectant Used		
47.	Cleaning Record		
48.	Batch Filtration Record		
49.	Bubble Point test Record		
50.	Bung Processer Record/Autoclave		
51.	Bung Processer Cycle Print Out Regarding to product / Autoclave		
52.	Bung Processer Qualification /Autoclave		
53.	Tunnel record		
54.	Tunnel Print out Regarding to product		
55.	Tunnel Qualification		

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56.	HVAC Qualification	
57.	LAF Qualification	

Checked by
Sign & Date

Verified By
Sign &Date