



STANDARD OPERATING PROCEDURE

Department: Engineering

Title: Cleaning of Mixed Bed Unit Resins

SOP No.		Revision No.	
Effective Date		Supersedes No.	
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1.0 Objective

The purpose of this SOP is:

1.1 To describe the procedure for cleaning of Mixed Bed Unit Resins.

2.0 Scope

2.1 This SOP is applicable for the procedure for cleaning of Mixed Bed Unit Resins at
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3.0 RESPONSIBILITY:

3.1 The Maintenance Operator shall be responsible:

3.1.1 Responsible for cleaning of Mixed Bed Unit Resins.

3.1.2 Responsible for maintaining the Mixed Bed Resins cleaning record.

4.2 The Maintenance Engineer shall be responsible:

4.2.1 Responsible to ensure proper cleaning of Mixed Bed Resins.

4.2.2 Responsible to take corrective action if any deviation observed.

4.0 ACCOUNTABILITY:

Head –Engineering Services

5.0 PROCEDURE:

5.1 SAFETY MEASURES:

5.1.1 A person carrying out the cleaning activities must be worn protective clothing, safety shoes and gloves.

5.1.2 A plenty of soft water must be available.



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5.2 PRIMARY CHECKS:

- 5.2.1 Before starting the Resin replacement, ensure that the availability of Hydrochloric acid (commercial grade), filtered water, cleaned plastic drums.
- 5.2.2 Ensure that the availability of new Resins -Cation –MONO+S100: 142 Ltrs, Anion – MONO+600:142 Ltrs.
- 5.2.3 Ensure that the feed pump, conductivity meter and U.V purifier are switched 'Off'.
- 5.2.4 Display the ' Under Maintenance Board'.

5.3 RESIN CLEANING PROCEDURE:

- 5.3.1 Open the top cover of Mixed Bed Unit.
- 5.3.2 Remove the strainer plates.
- 5.3.3 Take out the Resin from the vessels into different plastic drums.
- 5.3.4 Identify the drums with respect to the resin is inside for ensuring that there is no chance to cross mix the resins.
- 5.3.5 Pour 10% w/v Hydrochloric Acid into Resins.
- 5.3.6 Soak the Resin for about 6 hrs.
- 5.3.7 After the specified period of soaking, clean the resins with filtered water.
- 5.3.8 During cleaning, stir the Resin with a cleaned Stainless Steel (SS) stirrer.
- 5.3.9 Continue the process, till the Resin become clean.
- 5.3.10 After cleaning, load the Resin into the vessels.
- 5.3.11 Give an open back wash for remove the resin fines.
- 5.3.12 Top up the Resin bed with new Resin to maintain the bed level.
- 5.3.13 Refit strainer plate. And box up the vessels with top cover.
- 5.3.14 After closing the vessels, switch 'On' the switch of the feed pump and rinse the plant for about 30 minutes.
- 5.3.15 After rinsing, regenerate the plant with double quantity of chemicals (Regenerates) Ref. SOP.
- 5.3.16 After the regeneration, take the plant in operation.

5.4 FREQUENCY OF CLEANING:

- 5.4.1 Cleaning of Resins to be carried out once a year.



PHARMA DEVILS

ENGINEERING DEPARTMENT

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6.0 ANNEXURES:

Annexure –1: Record for cleaning of Mixed Bed Resins.

7.0 References (S)

Nil

8.0 Glossary

SOP : Standard Operating procedure

No : Number

