



PHARMA DEVILS

PRODUCTION DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Effluent Treatment Plant	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

Purpose: To lay down the operating procedure for Effluent Treatment Plant.

Scope: This procedure is applicable to

Responsibility: Production Chemist
To supervise the activity

Procedure:

1. The effluent generated from the process plant is initially entered through Oil & Grease traps.
2. Skim out the floating & oily materials manually.
3. Transfer the oil free effluent into the collection cum neutralization/Reaction Tank.
4. Start pump no. 1 for aerating the effluent for equalization & mixing purpose.
5. Prepare ferrous sulfate solution in water in a container & stir to dissolve it.
6. Add this solution into the Equalization cum Neutralization /Reaction Tank till pH reaches in between 3.5 to 4.
7. Start pump no.2 for circulation of ferrous sulphate solution in the tank.
8. Prepare slurry of hydrated lime in water & stir to dissolve it.
9. Add into the Neutralization cum Reaction tank till pH comes in between 7.0 to 7.5.
10. The effluent is pumped into the primary lamella tank for separation of reacted sludge.
11. Adjust bypass valve A of primary lamella tank to maintain the flow of effluent.
12. After the complete settling, the clear overflow is diverted into the Aeration tank for biological treatment.
13. The reacted sludge at the bottom of the primary lamella is diverted into the sludge drying beds for sludge dewatering.
14. The overflow of the aeration tank is diverted into the Secondary Settling tank for biomass sludge separation.
15. The settled biomass sludge from the bottom of the Secondary Settling Tank is recycled back to the Aeration Tank by means of pump no. 4 to maintain the desired concentration of mass.
16. The excess biomass is diverted into the sludge drying beds for sludge dewatering.
17. The leachate of the sludge drying beds is collected into the collection tank.
18. The wet cake from the top of the sludge drying beds is scraped out manually & stored into the storage tank.
19. The leachate of the solid waste storage tank is also collected into the collection tank.
20. The overflow of the secondary settling tank is passed through the mixed bed filter for removal of unwanted suspended solids, colour, COD/BOD value.
COD = Chemical Oxygen Demand
BOD = Biological Oxygen Demand



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21. The outlet of the mixed bed filter is collected into the Effluent Holding Tank
22. The treated effluent from the holding tank is pumped by pump no. 3 for gardening purposes.

Precautions:

1. The operator should be gowned properly while handling the system.
2. The aeration should be continuous.
3. Care should be taken for sludge from primary lamella not to enter into the aeration tank.
4. The storage tank should be protected by closing it properly.

EFFLUENT TREATMENT PLANT

Daily log book

Sr.no	Date	Shift	Charged Time	Completed Time	Done by	Remarks