



Title: Cleaning & Sanitization of Overhead & Ground Floor Water Storage Tank (HDPE)

SOP No.:		Revision No.:	00
Effective Date:		Supersedes No.	Nil
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1.0 OBJECTIVE:

To lay down a procedure for cleaning & sanitization of overhead & ground floor water storage tank (HDPE).

2.0 SCOPE:

This SOP is applicable for cleaning & sanitization of overhead & ground floor water storage tank.

3.0 RESPONSIBILITY:

Operator/ Officer / Executive/ Manager– Engineering
Officer / Executive – EHS Department

4.0 ACCOUNTABILITY:

Head – Engineering

5.0 ABBREVIATIONS:

SOP	Standard Operating Procedure
ER	Engineering
HDPE	High Density Poly Ethylene
KL	Kilo-liter
RW	Raw Water
RO	Reverse Osmosis
SW	Soft Water
CRW	Chlorinated Raw Water

6.0 PROCEDURE:

- 6.1** Cleaning & sanitization of overhead & ground floor water storage tank (HDPE) is scheduled on every Six month±15 days except Soft water tank. Soft water tank shall be cleaned with a frequency of Yearly ± 30 days.
- 6.2** Every water tank have ID no as, where PD stand for Pharma Devils, BN stand for block name, WN stand for water name i.e. raw water, soft water, RO water etc. & NNN stand for tank no starting from 001. List of all water tank with ID & location shall be prepared/ updated as per **Annexure II** “Water Tank ID & Location”
- 6.3** Drain the water from the tank, check and ensure that it is completely drained.
- 6.4** Open the manhole of the tank for venting purpose.
- 6.5** Check and ensure correct tools & tackles & safety equipment are employed in this activity.



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- 6.6 Skilled operator will enter into the tank with all safety measure such as gum boot, nose mask, goggles, hand gloves & cotton waste etc.
- 6.7 Engineering operator/officer/Executive/Manager will obtain appropriate safety permit as per SOP as and when required.
- 6.8 Clean the tank mechanically first by use of cotton waste, this is to remove sludge/silt accumulated at the bottom of the tank.
- 6.9 Collect the sludge/slit suitability & dispose it to ETP.
- 6.10 Operator will come out from tank after cleaning and collecting sludge/silt from tank.
- 6.11 Flush the tank with raw water after mechanically cleaning.
- 6.12 Fill full volume of tank by raw water for chemical cleaning and sanitization.
- 6.13 Chemical cleaning of tank (HDPE) will be carried out by using suitable chemical like detergent, citric acid & sodium hypochlorite etc. as per requirement.
- 6.14 Prepare the Solution by using the below formula:

$$\frac{\text{Water Quantity X Concentration of the Solution used}}{\% \text{ assay of the solution}} = \text{--- Kg or Ltr.}$$

- 6.15 Prepare 0.01% w/v citric acid solution shall be prepared for cleaning of tank (HDPE). Solution of citric acid shall remove bio-film from internal surface of HDPE tank.
- 6.16 After addition of adequate quantity of citric acid solution in tank and keep the solution at least half hours. After half hour of holding drain the water from tank
- 6.17 Then prepare 0.01% v/v sodium hypochlorite solution will be used for biocidal effect. This is to eliminate colony forming bacterial microbes from the internal surface of HDPE tank.
- 6.18 Fill full volume of tank by raw water for chemical cleaning & sanitization by sodium hypochlorite.
- 6.19 Take sodium hypochlorite solution for cleaning and keep the solution in tank at least half hour.
- 6.20 Flush the tank after chemical cleaning, check and ensure tank is cleaned completely to serve the intended purpose. If any residue found after cleaning on visual inspection then rinse the tank till residue sediments disappear.
- 6.21 Record the activity of tank cleaning in **Annexure – I** “Water Tank Cleaning Record” and affix the “TAG” on water tank as per Annexure III “Status Label”.



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- 6.22** After chemical cleaning, tight shut off the tank manhole cover.
- 6.23** After completing cleaning activity, check the condition of tank for cleanness& if required, consult superior for further action.
- 6.24** After ensuring cleanness of tank, fill the tank with raw water for use of it and check the working of level sensor controlling for satisfactory working and record the same in Annexure –I.

7.0 ANNEXURES:

ANNEXURES No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	Water Tank Cleaning Record	
Annexure – II	Water Tank ID & Location	
Annexure – III	Status Label	
Annexure – IV	Yearly Schedule For Water Tank Cleaning	

ENCLOSURES: SOP Training Record

8.0 DISTRIBUTION:

- Controlled Copy No. 1 Quality Assurance
- Controlled Copy No. 2 Engineering
- Master Copy Quality Assurance

9.0 REFERENCES:

Not applicable.

10.0 REVISION HISTORY:

CHANGE HISTORY LOG

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



PHARMA DEVILS

ENGINEERING DEPARTMENT

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ANNEXURE II WATER TANK ID & LOCATION

S. No.	Tank ID	Location	Capacity
1.			
2.			
3.			
4.			
5.			

ANNEXURE – III STATUS LABEL

STATUS LABEL	
TANK ID & CAPACITY:	
CLEANING DONE ON:	
FREQUENCY:	
CLEANING NEXT DUE ON:	
REMARKS:	
CLEANED BY : (SIGN & DATE)	CHECKED BY : (SIGN & DATE)



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ANNEXURE – IV YEARLY SCHEDULE FOR WATER TANK CLEANING

Year:

S.No.	Equipment Name	Equipment ID	Equipment Location	Action Taken	January	February	March	April	May	June	July	August	September	October	November	December
				P												
				A												
				P												
				A												

Prepared By
Sign & Date:

Checked By
Sign & Date:

Approved By
Sign & Date: