

**SOP: Total Suspended Solids Dried at 103 - 105 °C (Standard Methods 22<sup>ND</sup> Ed. 2540 D.)**

**Scope:** A well-mixed sample of activated sludge (mixed liquor) is filtered through a weighed standard glass-fiber filter and the residue retained on the filter is dried to a constant weight at 103<sup>o</sup> to 105<sup>o</sup>C. The increase in weight of the filter represents the total suspended solids.

**Interferences:**

Exclude large floating particles or submerged gathered masses of nonhomogeneous materials from the sample if it is not representative of that sample.

**Sample Handling, Preservation and Preparation:**

Analysis is performed on grab samples from various basins in process. Samples are analyzed on same day of collection.

**Safety:** Gloves

**Reagents:** DI water

**Apparatus:**

Drying oven, for operation at 103 to 105<sup>o</sup>C.

Analytical balance, 10 to 200 g capacity, capable of weighing up to 0.0001 g (0.1 mg).

Filtration apparatus (vacuum pump with reservoir) or aspirator.

Desiccator provided with a desiccant containing a color indicator of moisture concentration.

Graduated cylinders; 25-ml, 50-ml, 100-ml, 250-ml, 500-ml.

Glass-fiber filter disks, 2.4 cm to 4.7 cm; Whatman grade 934AH, Gelman type A/E, Millipore type AP40, or equivalent.

Suction Flask, 250-ml.

Buchner funnel, 125 mm

Dish tongs

Forceps, smoothed tip

**Preparation of glass-fiber filter disk:**

Note: Do not handle the glass fiber filters.

Note: Discard any filters that are torn or contain holes.

- 1.) Place the glass-fiber filter disk in the Buchner funnel. Be careful not to tear.
- 2.) Connect to filtration apparatus and turn on vacuum.
- 3.) Wash disk with three successive 25-ml portions of reagent-grade water.
- 4.) Continue suction until all traces of water are removed.
- 5.) Discard rinse filtrate from filter flask.
- 6.) Remove filter from funnel and transfer to the drying oven for a period of 1 hour.
- 7.) Remove from drying oven and transfer to the desiccator.
- 8.) Let filter cool to room temperature in desiccator.