

Solids, volatile-on-ignition, suspended, gravimetric

Parameter and Code:

Solids, volatile-on-ignition, suspended, I-3767-85 (mg/L): 00535

1. Application

This method may be used to analyze any natural or treated water or industrial waste.

2. Summary of method

The dry residue obtained for the determination of suspended solids (method I-3765) is ignited at 550°C for 1 h. The loss on ignition corresponds to the amount of volatile suspended solids.

3. Interferences

3.1 None of the substances commonly occurring in natural waters interfere with this method.

3.2 Because of the great variability in the nature of the compounds that can be present in the sample, particularly in samples of industrial waste, the determination can be considered only an approximation of the amount of volatile material present. Some of the volatile material may have been released during the determination of suspended solids. Moreover, ignition at 550°C certainly volatilizes water of hydration from the hydrated salts present.

4. Apparatus

4.1 *Muffle furnace*, 550°C.

4.2 For additional items of required apparatus, see solids, suspended (method I-3765).

5. Reagents

None required.

6. Procedure

6.1 Determine suspended solids as directed in method I-3765.

6.2 Place the weighed gooch crucible containing the dry suspended solids in a muffle furnace at 550°C; heat for 1 h. A blank should be determined with each set of samples.

6.3 Remove and cool in a desiccator. Weigh and record the weight to the nearest 0.1 mg.

7. Calculations

Solids, volatile-on-ignition, suspended, mg/L =

$$\frac{1000}{\text{mL sample}} \times (ER - IR)$$

where

ER = weight of dry suspended solids, milligrams,

IR = weight of ignited suspended solids, milligrams.

8. Report

Report solids, volatile-on-ignition, suspended (00535), concentrations as follows: less than 1,000 mg/L, whole numbers; 1,000 mg/L and above, three significant figures.

9. Precision

Precision data are not available for this method.