



Standard Methods of Test for PARTICULATE AND DISSOLVED MATTER IN INDUSTRIAL WASTE WATER¹

This Standard is issued under the fixed designation D 1069; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

1. Scope

1.1 These methods cover the determination of particulate and dissolved matter, free of extractable material removed with solvent, in industrial waste water. The methods are applicable to the determination and differentiation of particulate, dissolved, and volatile matter. The methods are not intended for the determination of materials normally classified as "oily matter," such as vegetable oils, animal oils, and petroleum oils that are volatile at the drying temperature of the method or extractable with organic solvents. For the determination of oily matter in industrial waste water refer to ASTM Method D 1340, Oily Matter in Industrial Waste Water.²

2. Summary of Method

2.1 Particulate and dissolved matter are separated by filtration. Extractable material is removed from the particulate matter by solvent extraction. Particulate matter is determined by weighing the residue obtained on the filter after drying at 180 C. Dissolved matter is determined in the filtrate which is washed with solvent to remove the solvent-extractable materials, and is obtained by weighing the residue after evaporation and drying at 180 C. Volatile matter under each of the above classifications is determined by loss on heating the residues at 600 ± 25 C.

3. Definitions

3.1 The terms *particulate matter*, *dissolved matter*, and *volatile matter*, in these methods are defined in accordance with ASTM Definitions D 1129, Terms Relating to Water,³ as follows:

3.1.1 *particulate matter*—that matter, exclusive of gases, existing in the non-liquid state which is dispersed in water to give a heterogeneous mixture.

3.1.2 *dissolved matter*—that matter, exclusive of gases, which is dispersed in water to give a single phase of homogeneous liquid.

3.1.3 *volatile matter*—that matter that is changed under conditions of the test from a solid or a liquid state to the gaseous state.

3.2 For definitions of other terms used in these methods refer to Definitions D 1129.

4. Interferences

4.1 Some dried residues readily absorb moisture. Rapid weighing is essential to this method. Some residues contain materials such as ammonium carbonate that decompose below 180 C; others contain liquids, such as glycerol and sulfuric acid, that will remain as a liquid residue at 180 C with or without solution of salts that might also be present.

4.2 Rapid weighing of ignited residues also is important for the reason indicated in 4.1. There is more likelihood of interferences since carbonates, organic matter, nitrite and nitrate nitrogen, water of hydration, chlorides, and sulfates may not be removed completely but only in part at 600 C. No single temperature is known that will eliminate all these interferences. However, at any temperature reproducible results should be obtained and, therefore, generally serve the intended purpose.

¹ These methods are under the jurisdiction of ASTM Committee D-19 on Water.

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² Annual Book of ASTM Standards, Part 23.