



EPA Method 25D

Determination of the Volatile Organic Concentration of Waste Samples

The EPA has the responsibility to promulgate regulations for the monitoring and control of air emissions to protect human health and the environment. In response to this and under the authority of the Resource Conservation and Recovery Act (RCRA), the EPA announced air standards for tanks, surface impoundments, containers and miscellaneous units operated at hazardous waste treatment, storage and disposal facilities (TSDF). The final rule was enacted on December 6, 1994, (59 FR 62896).

Consequently, all hazardous waste placed in affected tanks, surface impoundments and containers on or after the effective date of June 5, 1995, must be handled following the requirements set forth in the final rules. This requires that owners or operators of TSDFs must implement air emission controls or perform the required waste determinations and record-keeping to prove that the affected unit is in compliance. The applicable test method is described in the following paragraphs.

A 10-g sample of the waste, which has had minimum chance to volatilize, is added to a sample vial containing 30 mL of clean polyethylene glycol (PEG) such that headspace is minimized.



The sample is chilled immediately until analysis, when it is suspended in a 50/50 solution of PEG and water, heated to 75°C and purged with nitrogen for 30 minutes. Carbon concentration, as methane, is determined with a flame ionization detector (FID) and chlorine concentration, as chloride, with an electrolytic conductivity detector (ELCD). The volatile organic concentration is the sum of the carbon and chlorine content of the sample and is reported in mg/kg (ppmw) based on the weight of the waste sample.

Under some regulations replicate samples must be collected from a single source. The number of replicate samples can vary according to the specific regulation that is calling for the analysis. For example, RCRA Subtitle CC regulations require a set of four replicate analyses to characterize a waste stream. Please check that and let the lab know when you call to request bottles.

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Method 25D

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