



Applications Tip of the Week

Reagent Blank / Method Blank

What is a reagent blank?

SM 1020 B. Quality Control (21st Edition of Standard Methods for the Examination of Water and Wastewater) defines a reagent blank: "A reagent blank consists of reagent water and all reagents that normally are in contact with a sample during the entire analytical procedure. The reagent blank is used to determine the contribution of the reagents and the preparative analytical steps to error in the measurement."

Another synonym for Reagent Blank is Method Blank

How to prepare and test the reagent blank:

Substitute reagent water* (typically, deionized water) in place of the sample. Add all the reagents and analyze using the same steps as for the sample.

How often the reagent blank should be prepared and tested:

- Prepare and analyze reagent blank each time when using a new lot of reagents.
- As a minimum, include at least one reagent blank with each sample set (batch) or on a 5% basis, whichever is more frequent.

Acceptance criteria for reagent blank

- Evaluate reagent blank for the presence of contamination.
- Typically, for a reagent blank to be acceptable, the concentration of analyte should be less 0.5 times the method detection limit (MDL) or the lowest calibration standard (unless the method specified otherwise).

Corrective Actions:

- If unacceptable contamination is present in the reagent blank, identify and eliminate source of contamination.
- Analysis of samples is halted until the contamination is eliminated, and a reagent blank shows no contamination at or above this level. Otherwise, the results must be qualified with an indication that they do not fall within the performance criteria of the test method.
- Samples analyzed with an associated contaminated blank must be re-prepared and re-analyzed.

* Requirements for the reagent water may differ for organic and biological samples.

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