

Performance Based Measurements; A Comparison of a PCB Analysis Using EPA 8082 and a Modified Homologue Method

Current regulations are prescriptive and do not allow for a rapid transition into new technologies or more efficient and better analytical methodologies. Adopting a performance based measurement approach has the advantage of being able to adapt more quickly to the new technologies, using more efficient analytical techniques to determine site specific data requirements. This approach is expected to improve data quality, reduce the analytical expenses while maintaining comparability of data. Samples were collected in at a contaminated site, homogenized, split and sent to two different laboratories for total PCB analysis. One laboratory analyzed the sample using method 8082 while the other used a modified method 680. The results were comparable with a correlation coefficient of 0.98 (0.95 to the 99% confidence level) although the laboratory performing the Aroclor analysis used hydromatrix drying material and a 1:1 acetone:hexane mix where the homologue laboratory dried their samples at 30 Å°C and extracted in hexane. Sample clean-up procedures were also different. The results were comparable suggesting that a properly planned analysis with well defined data quality objectives and a strict quality control procedure to document the laboratory's capability is the way to ensure the success of the performance based measurement approach.

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