

Ashing of samples

The method requires ashing of samples before analysis. This process can result in substantial weight loss particularly in samples with high organic content such as carpet fiber, lint, and hair. To the best of my knowledge this was not factored into the results of the signature study. The USGS spiking material (nearly pure WTC dust) lost 11 % of its initial weight from ashing. The background material that was spiked, however, lost 44 % of its weight from ashing. In a series of ~25 “background” samples that were ashed for analysis but not all analyzed by USGS, the weight loss ranged from 22% to 97%. For this set of samples the average loss was $54 \pm 26\%$. The major consequence for the method, if this was not factored into the results, is that the cutoff in fibers per gram for average background should be lowered by some amount that will need to be determined by correcting for loss due to ashing. In other words, the method should be more sensitive for the detection of WTC dust contamination than the signature study suggests.