Approval of Samplers and Sampling Methods by OSHA and NIOSH

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Occupational hygiene practitioners are aware that NIOSH certifies respirators for use in the USA, and that OSHA and NIOSH each publish a list of air sampling methods on their web-sites.

This has led some to assume that either OSHA or NIOSH evaluates, approves, or certifies air samplers or air sampling methods. **This is not true, nor has it ever been true.**

OSHA and NIOSH do not evaluate or approve any samplers or analytical methods, except for their own internal use. The NIOSH Manual of Analytical Methods has been developed solely for the use of NIOSH field investigators in their safety and health studies. The OSHA Sampling and Analytical Methods have been developed by OSHA solely for the use of their field operatives in sampling to determine if employers are in compliance with the OSH Act of 1970.

Over the years, many air sampler manufacturers requested that OSHA or NIOSH evaluate their samplers. Occasionally, OSHA has evaluated commercial personal monitoring badges, but only to provide for their internal methods programs. Both agencies have consistently and explicitly refused to evaluate commercial air samplers on the following basis (paraphrased).

OSHA and NIOSH do not have (nor have ever had) manpower or budgets allocated for evaluation of samplers or sampling methods for employers or for the general public. Under 29CFR1910 employers are free to use any sampling method provided it is functional in complying with OSHA accuracy requirements. OSHA issued accuracy requirements for sampling certain air contaminants (mostly carcinogens, e.g., vinyl chloride, benzene, ethylene oxide, formaldehyde, etc.) in its so-called “specific-substance regulations”. Otherwise, a thumb rule ($\pm$ 25% at a 95% confidence) is usually followed where a specific accuracy requirement has not been stated (e.g., the PELs and STELs listed for air contaminants in 29CFR1910.1000).

At the time many OSHA regulations were issued (1980s), OSHA responded to claims that employers would be unable to sample accurately at new, lower PELs, by including examples of then-current sampling methods. In 2013, modern lab practitioners (including those at OSHA’s SLTC), recognize these “state-of-the-art” 1985 methods as often failing to meet current standards. For example, the 1985 regulation 29CFR1910.1047 for ethylene oxide included (in its “non-mandatory” section) reference to Tedlar® Bag Samplers and the DuPont C-70 Personal Sampler that were proposed for a 10 ppm limit, but were never validated for the final rule 1 ppm limit, and, consequently, have been out of use for the past 20 years.

We believe OSHA expects employers (and their consultants and advisors) to use professional judgment in selecting samplers provided and supported by reputable manufacturers and labs that are able to comply with current OSHA accuracy requirements. While OSHA field inspectors may sometimes give the impression that employers should use only OSHA-published methods, OSHA policy makers at SLTC recognize that OSHA methods are not designed for the convenient use of employers, and that employers may choose, (and have the right to use), the most convenient method that complies with accuracy requirements.