

Introduction

The Asbestos Hazard Emergency Response Act (AHERA) was enacted in October 1986. AHERA requires laboratories that analyze asbestos bulk insulation samples taken from public, or private, elementary or secondary schools, to be accredited by the National Institute of Standards and Technology (formerly the National Bureau of Standards) National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP accredits laboratories for the 1982 procedure, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples*, found in 40 CFR Part 763, Appendix E to Subpart E (formerly Appendix A to Subpart F). AHERA requires that two types of asbestos analysis laboratories be accredited by NVLAP: those performing analysis using polarized light microscopy (PLM) and those performing analysis using transmission electron microscopy (TEM).

To meet the need for an accrediting mechanism in the period before the implementation of the NIST/NVLAP Program, the U. S. Environmental Protection Agency (EPA) Bulk Sample Analysis Quality Assurance Program was continued as the Interim Asbestos Bulk Sample Analysis Quality Assurance Program. This program provided a source of accredited laboratories until NVLAP-accredited laboratories were available. PLM laboratories accredited in the April 1988 round of testing received EPA interim accreditation until January 12, 1989. However, NVLAP did not begin to accredit laboratories until April 1989. To provide a source of accredited laboratories after January 12, 1989, EPA developed a process for extending interim accreditation. Under this process, a laboratory received an extension if it had fully applied to NVLAP by September 30, 1988, and NVLAP had not yet completed its evaluation. EPA interim accreditation was revoked, however, if the laboratory failed NVLAP proficiency testing and/or the on-site assessment.

All extensions granted by EPA expired on October 30, 1989. After this date, PLM laboratories analyzing bulk samples taken from public, or private, elementary or secondary schools, were required to be accredited by NVLAP.

In 1993, the EPA developed an improved method entitled *Method for the Determination of Asbestos in Bulk Building Materials*, EPA/600/R-93/116. The test method provides clarifications and improvements to the 1982 method and is recommended for use as the preferred substitute method. Use of the improved method can provide more precise analytical results at low asbestos concentrations, enhanced analysis of floor tiles that may contain thin asbestos fibers below the limits of resolution of the PLM, and clearer instruction on the analysis of bulk materials, particularly where multiple layers are present. While the improved method is recommended by the EPA to be used in place of the 1982 procedure, and serve as the preferred substitute method, it has not been designated as the new interim method. NVLAP laboratories that use the EPA/600/R-93/116 method must indicate it on their test reports.

The technical content of this handbook was originally developed by the Surface and Microanalysis Science Division of the National Institute of Standards and Technology and was updated in 1994 to reflect new requirements and information.

For this edition of the handbook, special thanks for their contributions go to NVLAP assessors Peter Cooke, Steve Lerman, Thomas Emma, Charles Knowles, Wade Mullin, Larry Pierce, Shu-Chun Su, and Gerald Wright.