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A rapid and accurate procedure for the determination of refractive indices of regulated asbestos minerals

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ABSTRACT

By using dispersion staining methods and pre-constructed conversion tables, it is possible to quickly and accurately determine two principal refractive indices (RI) of the six regulated asbestos minerals, chrysotile, grunerite (amosite), riebeckite (crocidolite), tremolite, actinolite, and anthophyllite, in a single immersion oil mount. This procedure is especially suitable for commercial environmental laboratories specializing in the analysis of asbestos components in bulk building materials. The effectiveness of this practical procedure has been proven through rigorous testing and extensive usage over the last decade by the majority of environmental laboratories in the U.S. The principle of this procedure is also readily applicable to RI determination in other applications: mineralogy, forensics, pharmaceutical research, particle identification, etc.