

Respirable Crystalline Silica Analysis

NIOSH 7500 Method Lab Analysis

Although respirable silica has been regulated for decades, the Occupational Health and Safety Administration (OSHA) put new guidelines into place in 2016, updating the existing 1971 rules.

Across most industries, the new PEL level is $50 \mu\text{g}/\text{m}^3$ over an eight-hour shift, with an action level of $25 \mu\text{g}/\text{m}^3$.

Our AIHA accredited laboratory provides sampling media (including pre-weighed filters) for respirable crystalline silica, then utilizes NIOSH 7500 with X-ray Diffraction (XRD) to provide accurate, definitive measurements. XRD provides insight into other materials in the sample that may prevent accurate analysis, known as interference. This includes identification of mica, feldspar, graphite, and more. Our experts also use the ICDD database to provide information on the thousands of known diffraction patterns that identify the interfering materials.

RJ Lee Group's laboratory uses the clean plasma ashing method, eliminating the filter without leaving ash or other residues in the sample for testing. Plasma ashing has been verified to provide superior overall silica recovery when compared to the muffle furnace ashing method.

We offer two types of Respirable Crystalline Silica analysis:

Standard Analysis: Analysis down to 5 micrograms per filter

NEW Enhanced Analysis: Analysis down to 2.5 micrograms per filter, the lowest available reporting limit

Our scientific experts can also help your organization interpret the analytical results. In addition, we offer determination of crystalline silica for bulk samples, along with full profile identification and quantitation using Rietveld XRD analysis for bulk samples. RJ Lee Group is offering Respirable Silica

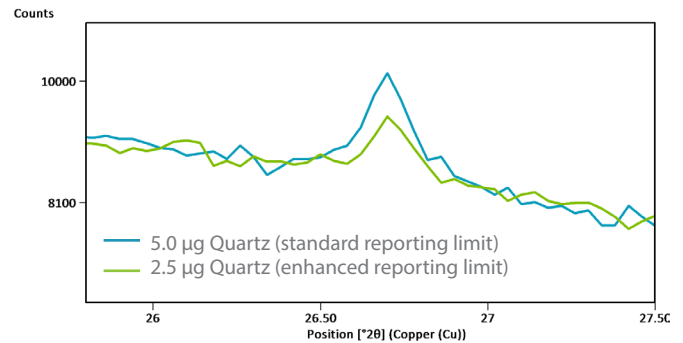


Chart 1. Zoomed-in region of X-ray Diffraction Pattern of Prepared Standards

Disposable Air Samplers

RJ Lee Group is now offering disposable, pre-loaded Parallel Particle Impactor (PPI) Samplers for personal environmental monitoring. This easy-to-use, cost-effective sampler matches the collection efficiency curves for respirable dust as specified by ISO 7708/CEN, and has been adopted by the ACGIH, CEN, and other occupational hygiene organizations. The data from the PPI was made part of the OSHA Docket for the new final silica rule (final rule page 16439).

Benefits of the PPI:

- » Lightweight for worker comfort
- » Less training required
- » No inversion issues
- » No cleaning or assembly needed
- » Various PPIs available for different low rates to provide flexibility in pump options, sample duration, & contaminant concentration
- » Tagged to ensure sample is immediately identifiable



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