SAMPLING SOLUTIONS

For Mining

Recognition

Miners can be exposed to a number of chemical hazards in their jobs depending on the type of mine and the equipment/operations in place. Common airborne contaminants include respirable dust and respirable crystalline silica found naturally in many rocks along with diesel particulate matter (DPM) and nitrogen dioxide from diesel engine exhaust.

SKC offers active and passive sampling solutions for mining. SKC active samplers require an air sample pump to collect hazardous gases, vapors, and particulates in air; passive samplers collect hazardous vapors by diffusion without the use of an air sample pump. SKC respirable dust samplers meet the performance criteria of the ISO/CEN convention and are listed in the new U.S. OSHA Final Rule on Respirable Crystalline Silica.

See the SKC equipment recommended for sampling:

- Respirable crystalline silica and other respirable dust
- Diesel particulate matter (DPM)
- Nitrogen dioxide

Evaluation with SKC Sampling Solutions

For over 50 years, SKC has led the research, design, and manufacture of quality sampling equipment and media to aid health and safety professionals in the evaluation of occupational and environmental hazards.

Choose from the SKC method-based sampling solutions for mining environments including air sample pumps, active and passive samplers, sorbent tubes, and filter cassettes following agency methods and established protocols.

See reverse side for specific method and sampling equipment/media information.

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Sample Collection

Active Air Sampling Solutions

Target Compound	Select Methods*	SKC Sample Collection Media and Cat. No.	SKC Sample Pump and Cat. No.	Notes
Crystalline silica (quartz and cristobalite)	OSHA ID 142	Preloaded PVC filter cassette 225-803 and cyclone 225-01-02 or 225-100 OR Parallel Particle Impactor 225-385 with PVC filter 225-5-37 and support pad 225-27	AirChek® TOUCH 220-5000TC	Flow rates to meet ISO/CEN/OSHA criteria: 225-01-02, 2.5 L/min 225-100, 2.75 L/min
DPM	NIOSH 5040	DPM cassette with impactor and two heat-treated quartz filters 225-317; and GS-1 Respirable Cyclone 225-105 or other cyclone	AirChek TOUCH 220-5000TC	For sampling in atmospheres where it is necessary to separate DPM from coal dust
		Preloaded quartz filter cassette without impactor and with heat-treated quartz filter 225-401		
Nitrogen dioxide	NIOSH 6014	Sorbent tube 226-40-02	Pocket Pump TOUCH 220-1000TC	
	OSHA ID 182	Sorbent tube 226-40-02	Pocket Pump TOUCH 220-1000TC	
Quartz in coal mine dust	NIOSH 7603	Preloaded PVC filter cassette 225-803 and cyclone 225-01-02 or 225-100	AirChek TOUCH 220-5000TC	*See flow rates above.*
Respirable crystalline silica	NIOSH 7500 NIOSH 7602 OSHA ID 142	Preloaded PVC filter cassette 225-803 and cyclone 225-01-02 or 225-100 OR Parallel Particle Impactor 225-385 with PVC filter 225-5-37 and support pad 225-27	AirChek TOUCH 220-5000TC	These cyclones have flow rates of 2.5 L/min and 2.75 L/min, respectively.

Passive Air Sampling Solutions

Target Compound	Select Methods*/ SKC Validation	SKC Sample Collection Media and Cat. No.	Notes
Nitrogen dioxide	Research Report 1789	UME^X 200 Passive Sampler for NO_2, 500-200	

* Other methods may apply. SKC recommends those listed.

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