

PARTICULATE RESPIRATORY HAZARDS IN MINERAL EXPLORATION

COMMON RESPIRATORY HAZARDS

- **Nuisance dusts:** Non-toxic, insoluble dusts can accumulate in the lungs.
- **Respirable crystalline silica:** Found in many types of rock and ore. When respirable-sized particles are created and inhaled, they can reach into the deepest area of the lungs.
- **Asbestos:** Minerals with a fibrous habit that may be found naturally. If fibres are released and inhaled, they may enter the lower regions of the lung.

KNOW WHAT IS IN YOUR DUST

Industrial hygiene sampling must be conducted to understand the true concentration of contaminants, such as asbestos and silica, in the air. Sampling should be conducted at the start and mid-point of each working season at the very minimum.

NOT Hazardous



Hazardous



● Dust ○ Silica ↗ Asbestos

COMMON EXPOSURE HAZARDS

Common activities in mineral exploration that may result in exposure to respiratory hazards include: core-cutting, drilling and driving (road dust).



OCCUPATIONAL EXPOSURE LIMITS

Silica and asbestos are highly toxic substances that may be within the dust. Even though silica and asbestos are present in lower amounts, they still may be dangerous.



HAZARD CONTROLS

ADVANCED	<h3>ENGINEERING</h3> <ul style="list-style-type: none"> • Ventilation for indoor cutting • Using water while cutting core and drilling
	<h3>ADMINISTRATIVE</h3> <ul style="list-style-type: none"> • Educate workers on hazards present and the controls available • Rotate workers between high and low dust environments
BEGINNER	<h3>PPE</h3> <p>Utilize the appropriate respiratory protective devices and associated filter/cartridges</p>

POSSIBLE ILLNESSES

- Irritation of the eyes, skin, throat, and upper respiratory tract.
- **Silicosis & Asbestosis:** incurable diseases that occur when the lungs become damaged and scarred, making it difficult to breathe.
- **Chronic obstructive pulmonary disease (COPD):** when the movement of air in and out of the lungs is blocked.
- **Cancer: Mesothelioma** is almost exclusively caused by exposure to Amphibole asbestos. Lung Cancer has also been attributed to particulates.

