Injurynet

Fact Sheet: **Crystalline Silica**

What is Respirable Crystalline Silica?

Crystalline silica is a form of silicon dioxide and the most common type of quartz. It is found in many types of rocks and soils. It can easily become airborne in environments where materials or products containing crystalline silica are extracted, cut, sanded or drilled, or in any other operations where fine dust is created or dispersed.

What materials is Crystalline Silica found in?

Crystalline silica is found in manufactured solid stone products such as composite (engineered) stone benchtops, concrete, cement, manufactured timber, asphalt, mortar, grout, brick, drywall, some plasterboards, pavers, tiles including roof tiles and some plastic materials.

Why is Respirable Crystalline Silica considered a health risk?

Crystalline silica is considered a health risk as it is a dangerous substance. The particles are so small, they are respirable and can cause illness and even death.

When inhaled into the lungs silica dust can be harmful. Exposure to silica dust can cause scarring of the lungs or silicosis. This incurable disease can cause symptoms which include coughing, shortness of breath, fatigue and weight loss. Silica dust can also cause lung cancer, autoimmune disorders and kidney disease.

How much Respirable Crystalline Silica dust is too much?

It only takes a small amount of very fine respirable crystalline silica dust to create a health hazard. The allowable level in workplaces is currently under review.

What key industries does Respirable Crystalline Silica affect?

The key industries that Crystalline Silica effects are:

- Construction – Road and rail constructions; tunnelling; labouring and demolition activities; paving and surfacing; excavation, earthmoving and drilling plant operations; fabrication, installation, maintenance and removal of composite stone countertops; angle grinding, jackhammering and chiselling of concrete or masonry.
- Manufacturing - Benchtop industries (brick, concrete or stone cutting, especially using dry methods), asphalt roofing materials, concrete products, clay and stone processing machine operations, foundry casting, pottery.
- Mining & Quarrying

What does Crystalline Silica Health Monitoring involve?

Health monitoring of respirable crystalline silica includes:

- Completion of a questionnaire outlining exposure in current and previous roles, use of personal protective equipment (PPE) and other workplace controls
- Completion of a standardised respiratory questionnaire
- Medical examination of the lungs and any other relevant areas
- Lung function testing – usually high-quality spirometry or complex lung function testing
- X-ray of the lungs reviewed by a qualified B reader according to the International Labour Organisation (ILO) guidelines
- Review of each case by an Occupational Doctor with experience in managing silica screening programs who will provide counselling where needed.

When should Respirable Crystalline Silica Health Monitoring occur?

Health monitoring of respirable crystalline silica should occur at:

- Pre-employment (baseline medical assessment undertaken before the commencement of employment)
- Periodically (a periodic medical assessment conducted regularly during exposure, exact frequency to be determined by risk and jurisdiction requirements)
- Post-employment (a final medical assessment undertaken when exiting employment).

How does Injurynet's tailored Health Monitoring Service work?

In Australia, there are multiple jurisdictions with different legislation, guidelines, requirements and reporting to be considered in managing health monitoring for respirable crystalline silica. No matter where you are in Australia, Injurynet offers an end to end health monitoring medical service to assist your organisation to manage both the potential health effects for your workers and compliance requirements for every jurisdiction.

We are available to assist in all or any of the following:

1. Design of the program using a risk-based approach with your occupational health and safety representatives
2. Education of all stakeholders. This may include providing information or giving toolbox talks to workers to explain the process and allay any concerns
3. Coordination of testing at either clinics convenient to the workplace or at the workplace itself (not available for radiology)
4. Review of all information by an experienced occupational doctor
5. Following up of any abnormal results, arranging additional tests and providing advice and counselling to each worker about their results
6. Provision of a summary report on each worker to the employer and employee
7. Reporting about the program and its outcomes.

References:

1. SafeWork Australia Health Monitoring Guide
2. SafeWork Australia About Crystalline Silica
3. WorkSafe Crystalline Silica: Safety basics
4. Lung Foundation Fact sheet
5. Cancer Council Silica Dust

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