

# SAFETY, HEALTH, ENVIRONMENTAL, QUALITY ALERT

Instructions: This SHEQ Alert must be discussed and communicated at the next Toolbox Talk.

## CONSTRUCTION DUST

### Respirable Crystalline Silica (RCS)



*RCS produced while cutting cement fiber boards*



*Clouds of cement dust (RCS)*



*RCS being produced during cutting*



*Using a quickcut is a common way by which RCS is created*



*Healthy lungs (left) vs lungs with silicosis (right)*

**This alert is to highlight the significant health risks caused by exposure to respirable crystalline silica (RCS).**

#### What is RCS?

RCS is silica dust and is found in stone, rock, sand, gravel, and clay. RCS can be found in (but not limited to) the following products:

- bricks
- tiles
- concrete
- cement fiber board



When these materials are cut, drilled, ground, or sanded, or when dry materials, eg cement powder are shoveled or mixed, RCS is released as a fine dust. RCS is harmful when inhaled and because it is 100 times smaller than a grain of sand, you can breathe it in without knowing it or seeing it.

### What happens when you breathe in RCS?

Exposure to RCS can lead to the development of:

- lung cancer;
- fibrosis (scarring of the lung tissue);
- silicosis (an irreversible scarring and stiffening of the lungs);
- kidney disease; and
- chronic obstructive pulmonary disease.

It is estimated that 230 people develop lung cancer each year as a result of past exposure to RCS at work.

Exposure to RCS over a long period of time can cause fibrosis (hardening or scarring) of the lung tissue which results in a loss of lung function. Sufferers are likely to have severe shortness of breath and may find it difficult or impossible to walk even short distances. **The effect is irreversible and continues to develop after exposure has stopped.** Sufferers usually become house or bed-bound and often die prematurely due to heart failure.

### What should you do?

First, read the Safety Data Sheet (SDS) for the material that you are using. The SDS will tell you what the material contains and how to handle, use, and store it safely. The SDS will also tell you how to control any hazards and risks by using control measures such as PPE, an extraction vacuum, or water suppression.

### How do you control the risks of RCS?

The most important action is to prevent the dust from getting into the air. Always refer to the SDS for appropriate controls for the substance you are working with, as these may change with different products. There are several ways that you can control exposure to RCS that include:

1. Eliminate the need for cutting by using the correct size building materials;
2. Use shears or scoring to cut cement fiber board;
3. Use on-tool extraction, such as a M or H class HEPA vacuum, to remove the dust as it is produced;
4. Use water suppression (not when using electrical tools) to minimize dust;
5. Wear Respiratory Protective Equipment; for example, a half-face respirator. NOTE: Because every person's face is different, a fit test should be used to determine if there is an adequate seal between the edge of a respirator and the face of the wearer;
6. Train all workers with the knowledge to safely use, handle, store, and dispose of RCS-containing materials; and
7. Use exclusion zones and warning signs to keep other workers and interested parties away from where you are working.



On-tool extraction



Water suppression on a quickcut



**NOTE: you must make sure you have the correct cartridges for the material you are protecting against. Image for demonstration purposes only.**



Shears can be used instead of cutting (when practicable)

### What shouldn't you do?

When performing any type of work that produces RCS, or when cleaning up RCS, you should never:

1. Breathe in the dust yourself, or allow others to do so;
2. Cut, grind, drill or do other types of work that produces RCS without appropriate control measures in place to prevent you or others from breathing in RCS dust;
3. Sweep or broom up dust – this makes the dust airborne and much easier to inhale; or
4. Use compressed air to remove dust from clothing.