TOOLBOX TALK #8
Critical Risks – Construction dust including silica

Updated October 2017

I AM safe around construction dust including silica

Identifying, Assessing, Managing and reviewing critical risks is a Canterbury Safety Charter commitment. Remember I AM safe on site where it's up to everyone on site to understand and manage the critical risks you'll come across.

<table>
<thead>
<tr>
<th>Project site:</th>
<th>Employer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreman/Supervisor:</td>
<td>Date:</td>
</tr>
<tr>
<td>Attendees:</td>
<td></td>
</tr>
</tbody>
</table>

This toolbox talk is intended to help start a health and safety conversation and raise awareness about construction dust including silica. It is not designed as a complete risk management tool for the activity.

Construction dust
Dust is defined as fine, dry powder consisting of tiny particles of earth or waste matter, either on the ground or carried in the air. When breathed deep into the lungs it can cause damage.

Silica dust is particularly dangerous – silica is found in materials like concrete, bricks, rocks, stones, sand and clay. When silica is disturbed and dust created it can cause serious health effects such as lung disease and silicosis.

People on a construction site are at a higher risk of breathing in dust as they are disturbing these materials regularly as part of their work.

Did you know?
A 2014 WorkSafe study into silica dust exposure during the post-earthquake rebuild in Christchurch found workers performing selected 'at risk' tasks in the construction industry were being exposed to levels of silica dust which exceed national and international standards and can make them very ill. Talk to your teams about what's happening on site to protect them from this critical risk.

1. IDENTIFY where and when dust is an issue
The main sources of excessive exposure to dust, including silica dust include:

- Demolition
- Cutting and grinding concrete
- Brick and masonry crushing
- Drilling
- Crushing
- Cutting Linea board
- Abrasive blasting of concrete
- Sanding

Dust that can’t be seen is often what causes the most harm to your health, so don’t always expect to see it with the naked eye.

Ask the team to identify if and when they’ve carried out these activities on the site you're currently working on.
2. **ASSESS the health risks**

Working around dust, including silica, without appropriate controls can lead to serious illnesses. Even if you’re not exposed for long you can become sick. You should consider the following health risks:

- Breathing dust including silica into your lungs. This can cause respiratory disease and in serious cases where a worker has a lengthy exposure to high levels of silica dust, silicosis (scarring on the lung tissue), lung cancer, and renal disease
- Swallowing dust can affect your internal organs including your intestines
- Getting dust in your eye can cause eye damage and irritation
- Skin contact with dust can cause skin irritation and in some cases dermatitis.

It’s important your organisation, supervisor and you are implementing proper controls and protections to manage these health risks.

---

3. **MANAGE dust**

Its crucial dust including silica is managed on site. In fact employers have a legal duty to do so. Once the work tasks involved in creating dust have been identified, a plan needs to be put in place to protect everyone on site. There are a range of controls that can be used, but should be considered in the following order:

1. Dust control methods – using water suppression methods such as water hoses to wet any dust before it becomes airborne, using local exhaust ventilation, for example on tool extraction where practicable; vacuuming up dust instead of dry sweeping; looking for dust control features when purchasing your equipment and avoiding using sand for abrasive blasting.
2. Respiratory protection – this should be used with the dust control methods listed above. Making sure the correct respirator is used for the job. Perhaps show the team what an appropriate P2 mask looks like. Remind them that facial hair will affect the tight seal around the face and to be safe workers need to be clean-shaven. The mesh needs to be fit tested to work effectively.
3. Protective clothing – after working around dust it’s really important to remove dusty clothes before leaving work where possible, as it may contaminate vehicles, homes and other areas.
4. Warning signs – where dust including silica is a risk on site, post signs to warn anyone coming into the area.
5. Training - those working with dust should have some training about the health effects of exposure, practices to follow to protect themselves and how to care for their respiratory gear.

Worker exposure monitoring and health monitoring is also important. Health monitoring should include a baseline and then annual lung function test and a respiratory questionnaire. It is also important to carry out worker exposure and health monitoring to assess health risks and determine if the controls are working properly.

---

**Where do we get more information?**

The Safety Charter’s Critical Risk Construction Dust including Silica webpage has more information and is regularly updated. You can view it here or by clicking on Improve Health and Safety – Critical Risks – Construction Dust from the homepage.

You may also want to look at Safety Charter toolbox talk #7 Critical Risks - Asbestos.

If you want toolbox talks on the other 12 critical risks you can check them out online.

---

**Employee issues raised:**

---

**Date to be resolved by:**

---

This toolbox talk was written with information from WorkSafe New Zealand and The Canterbury Rebuild Safety Forum. Thank you.