



VICTORIAN TRADES HALL COUNCIL APPROVED SAFETY STANDARD

VTHC2018.01A

Silica

EXPOSURE STANDARD: 0.025mg/m³ as an 8hr TWA

Employers must not expose workers to respirable silica dust at or above 0.025mg/m³ as an 8 hour time weighted average (TWA).

Employers must take action to review control measures once respirable silica dust reaches 0.0125mg/m³ as an 8hr TWA.

PLEASE TURN OVER FOR FURTHER INFORMATION



RATIONALE

Silica dust is so fine it can enter the deepest parts of the lungs. Silica dust remains in the lungs and causes irreversible scarring. Exposure to silica dust can lead to fatal diseases including silicosis and lung cancer. There is no known cure for silicosis – it can be a death sentence.

Internationally, the European Scientific Committee on Occupational Exposure Limits (SCOEL) assessment of respirable silica dust concludes that there is sufficient evidence from epidemiological studies to indicate that silicosis, the main effect in humans after occupational inhalation of respirable silica dust, is associated with the development of lung cancer. Importantly, silica dust can cause lung cancer even where silicosis has not occurred.

According to the SCOEL assessment of crystalline silica, a dose-response curve for silicosis indicates that maintaining the respirable exposure below 0.05 mg/m^3 would reduce the prevalence of silicosis in exposed individuals. Therefore the SCOEL committee has recommended that the occupational exposure limit (OEL) is below 0.05 mg/m^3 TWA of respirable silica dust (SCOEL, 2003).

The United States have implemented a silica dust exposure standard of 0.025 mg/m^3 as an 8 hour TWA. If an employer exposes employees to silica dust at 0.025 mg/m^3 or more, then that employer must take steps to control the risk of exposure to silica dust.

Cancer Council Australia states that there is currently no conclusive evidence to support a safe level of exposure to silica dust. However, the Association Advancing Occupational and Environmental Health (ACGIH) has recommended that the silica dust exposure limit be 0.025 mg/m^3 as an 8 hour TWA.

Given:

- the high risk of contracting a fatal illness as the result of exposure to respirable silica dust,
- the scientific call for an exposure standard below 0.05 mg/m^3 as an 8 hour TWA,
- the implementation of the USA silica exposure standard at 0.025 mg/m^3 as an 8 hour TWA,
- the position of the Cancer Council of Australia,

VTHC is now of the opinion that the state of knowledge in Victoria is now such that employers must control the risk of exposure where employees are exposed to respirable silica dust at or above 0.025 mg/m^3 as an 8 hour TWA. On that basis, we have issued our *Trades Hall Safety Standard – Silica*.

For more information on how to control the risk of exposure to respirable silica, visit our website at ohsrep.org.au/hazards/chemicals/silica/