



SILICA

GETEX is an Occupational Health and Safety (OH&S) and Environmental services company which provides an integrated range of consulting, monitoring and testing services covering silica and other hazardous materials.

The strategy for controlling the risk associated with silica and other hazardous materials in a particular workplace will vary depending on client needs, site specific issues, the extent, condition and the nature of the hazardous materials and legislative requirements.

What is Silica?

Silica (silicon dioxide) is a naturally occurring mineral with crystalline or free silica being the form most likely to produce harmful effects. Quartz, tridymite and cristobalite are the three most common types of crystalline silica. Fortunately, crystalline silica makes up only a small percentage of total silica materials. Other forms of silica include fibrous silicates such as asbestos.

In 1996 the International Agency for Research (IARC) on Cancer classified crystalline silica dust as a human carcinogen (Group 1).

In 2005 the National Occupational Health & Safety Commission [NOHSC] set guidelines for crystalline silica dust as cristobalite, quartz and tridymite as $0.1\text{mg}/\text{m}^3$ respectively. This is likely to be lowered as a review of standards occurring across the world leads to a lower Australian Standard (ACGIH-USA has a standard of $0.05\text{mg}/\text{m}^3$)

What health effects are there?

A lung disease known as Silicosis is caused by repeated or prolonged exposure over many years to crystalline silica as quartz or cristobalite. Silicosis may also result from short-term exposure to very high concentrations. The disease is difficult to detect in its early stages because typically symptoms do not develop until after twenty or more years of constant exposure. The three main methods of diagnosis are: Chest X-rays, work history and lung function tests.



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I'm working on a building site, will I be exposed?

If your occupation is associated with or involves mining, sandblasting, road or tunnel construction, demolition, quarrying or manufacturing of clay, stone or glass products then exposure to silica will typically be a hazard.

Silica is found in common building products such as clay bricks, tiles, fibro cement and concrete in addition to rocks and sandstone. If these products are cut in such a way as to create fine particles of silica in the air then a potential hazard will exist.

How can I or my employer control potential exposure to Silica Dust at Work?

If you're an employer (of even a small business), you are obligated by the NSW Occupational Health and Safety Act 2000 to ensure that employees are not exposed to silica dust. If you're an employee discuss your concerns with an appropriate member of management, a member of an OH&S Committee, OH&S officer or site union representative. In all cases, it is recommended that you consider the following control measures in combination with each other.

- Substitution- Substitute silica sand for less toxic substances
- Engineering Controls- Dust extraction devices, local ventilation systems, tools with water attachments and water dispersal systems
- House Keeping- regular wet wiping of surfaces, specialist vacuuming programs, wet sweeping and vacuuming of clothes prior to removal
- Respiratory Equipment- to be relied upon only after all other preventative solutions have been considered and implemented.

What can Getex do to help?

Silicosis is caused by exposure to respirable sized particles of crystalline silica, i.e. particles less than approximately 7 micrometers. Particle size, shape and concentration together with the length of time a person is exposed directly relate to the risk and severity of the damage an individual can experience. Only a competent person should undertake the monitoring of dust levels. When monitoring is undertaken it should be taken into consideration that exposure levels can be extremely variable (especially construction sites and factories) and air sampling by itself is not enough to indicate health risks.

The staff at GETEX has many years of experience in airborne hazardous material risk assessments including many projects involving the monitoring and management of respirable silica levels. GETEX are ready to recommend & implement cost-effective monitoring programs in any part of Australia and overseas. Together with the administrative assistance and monitoring GETEX can recommend appropriate engineering controls and Personal Respirable Protective Equipment.

***GETEX operates 24 hours/day, 7 days per week
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GETEX also provide a range of consulting, management, monitoring and inspection services including:

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Note:

The information in this document is provided for general information purposes only and must not be relied upon for application in practical situations. Specific and detailed advice must be obtained from GETEX before any information in this document is applied in a real life situation.