Silica Dust and Health

People living near mines may be concerned about dust emissions containing silica. This factsheet has been prepared to explain the potential risks from silica on health.

- **Silica is a natural substance found in stone, rocks, sand and clay. Mining and quarrying activities have the potential to generate dust with silica.**
- **Occupational exposures to silica for prolonged periods of time, particularly in silica dust-generating industries have been associated with adverse health outcomes. The main health effects include silicosis, chronic obstructive pulmonary disease, lung cancer and kidney disease.**
- **No adverse health effects have been reported in the general population from environmental (non-occupational) exposure to silica.**

What is silica?

Silica is a natural substance found in certain types of stone, rocks, sand and clay. Silica is released into the environment through the weathering of rocks, volcanic activity and biogenic sources (emissions from natural resources such as plants and trees). Mining and quarrying activities have a potential to generate dust with silica.

The general population is exposed to silica through air, indoor dust, food, water, soil and various consumer products (i.e. bricks, mortar, plaster, caulk, granite and engineered stone kitchen counter tops, roofing granules, wallboard, concrete cleansers, skin care products and soaps, art clays and glazes, and talcum powder).

What are the health impacts from silica?

As silica is commonly found in the environment, incidental exposure to silica occurs often in the general population. Health effects from silica are associated with occupational exposures for prolonged periods of time in silica dust-generating industries such as mining and quarrying activities. Health effects have not been associated with occasional exposures to low levels of silica dust, including general environmental exposures by people living near mines and quarries.

Health effects from occupational exposure to silica dust include:

- Silicosis (a progressive, fibrotic lung disease)
- Chronic obstructive pulmonary disease (COPD)
- Lung cancer
- Renal (kidney) disease
- Autoimmune disease

The main route of exposure to silica in the general population is through inhalation (breathing in). Exposure is also expected to occur orally (through drinking and eating), but few studies have examined oral exposure to silica, and no adverse health effects from oral exposure to silica have been identified.

If you are concerned about dust which may contain silica washing from your roof into your rainwater tank, please refer to NSW Health's Rainwater Tank fact sheet for information about maintaining rainwater tanks for safe drinking.

How to avoid dust that may contain silica?

Although dust containing silica is not known to cause disease in people living near mines and quarries, the dust can irritate eyes, nose and throat, and could have health effects for people with existing lung disease.

If the dust levels are high:

- Keep your doors and windows closed.
- Avoid outdoor physical activities, particularly if you suffer from asthma or other lung conditions. (Use an air-conditioner to reduce dust levels inside your home and regularly clean the intake filter.

Residents experiencing any adverse health impacts should see their doctor.

For further information about silica and potential health risks see related links, including information from SafeWork NSW about occupational exposures (i.e. working in mines or quarries).

Related Links

Mine Dust and you

SafeWork NSW - Crystalline Silica - Technical Fact Sheet

Safe Work Australia – Crystalline Silica and Silicosis

Additional Information

For further information, please contact your local Public Health Unit on 1300 066 055.