



Department of Labour

# What you should know about Silicosis?



## How much do you know about Silicosis?

Silicosis is a dangerous, disabling, non-reversible and sometimes fatal lung disease. It is caused by the inhalation of dust containing respirable crystalline silica. Silica is a major component of sand, rock and mineral ores.

## Why is the inhalation of silica dust so dangerous?

Exposure to dust that contains microscopic particles of crystalline silica can cause scar tissue to form in the lungs, which reduces the lungs' ability to extract oxygen from the air we breathe. Severe fibrosis can lead to death from respiratory insufficiency and heart failure in people with advanced or complicated silicosis. People exposed to silica at work, or those who have silicosis, have a much greater risk of pulmonary tuberculosis. Silicosis with tuberculosis or silico-tuberculosis is an important cause of death in people exposed to silica for long periods.

## Where does exposure to silica dust happen?

Silica dust is released during work processes in which rocks, sand or concrete are broken into very small particles. Sand blasting is one of the high-risk activities where silica dust becomes airborne. Dry sweeping or clearing of sand



*Silica is transported in holders to be deposited into tanks for the production process.*

or concrete, or grinding or the cleaning of masonry with pressurised air can generate large dust clouds.

### **How would a worker know if he/she is at risk of contracting silicosis?**

All workers who work in a dusty environment where silica dust is present can potentially get silicosis. Silicosis can develop very fast with silica exposure (Acute Silicosis) or fast (Accelerated Silicosis) or slowly (Chronic Silicosis). It can also be complicated by massive fibrosis or tuberculosis.

### **In which workplaces is it most likely to be exposed to silica dust?**

The following are not the only workplaces but they are the most likely ones with the greatest risk:

- Any industry where sandblasting is done, or where shotblasting of objects with silica content takes place to remove paint and rust from buildings or metal tanks, or frost glass
- In mines or quarries where drilling through granite or sandstone occurs
- In the Construction Industry where activities such as sandblasting, tunneling, rockdrilling, jack-hammering and powertool grinding of surfaces containing silica take place
- Foundries and molding, shake-out, sand or shot blasting, fettling and grinding
- Industries making ceramics, bricks, clay and pottery
- Stone or granite cutting, sawing, chipping, grinding and polishing



*The dust at this plant can be clearly seen affecting the sharpness of the photo.*

- Jewellery manufacturing
- Glass manufacturing
- In the Agricultural Sector where fields and crop waste are burned
- Shipbuilding
- Railways
- Manufacturing of soaps and detergents.

### **What are the symptoms pointing to the possibility of silicosis?**

Silicosis may go undetected for years, even 15 or more years if it is chronic and not complicated. A silica exposed worker with tuberculosis might also have silicosis. As silicosis progresses or becomes complicated (e.g. with tuberculosis) the following symptoms may occur:

- Severe cough
- Shortness of breath
- Fatigue
- Loss of appetite
- Fever
- Chest pains.



*One of the areas of potential risk to silica dust is in the Construction Industry where activities such as sandblasting, tunneling, rockdrilling, jack-hammering and powertool grinding of surfaces containing silica take place.*



*To prevent silicosis measures should be applied to reduce silica dust levels.*

### **How would you know if you have silicosis?**

If you know that you are exposed to silica dust, you should visit a clinic, hospital or doctor with experience in occupational diseases. The medical examination should include a good occupational history, chest X-rays and a lung function test to determine whether you have silicosis.

### **What can you do to prevent silicosis?**

The following interventions should be considered to prevent silicosis in the workplace:

#### Primary prevention

The following interventions may prevent silicosis in the workplace:

- Ensure that engineering methods and ventilation for removing dust at work is in a good working order
- Apply measures to reduce silica dust levels
- Minimise dust exposure by using water sprays to wet surfaces wherever possible and keep surfaces including floors as clean of dust as possible
- Appropriate respirators should be worn at all times in dusty areas

- Participate in training programmes on the prevention of silicosis.



*Wear respirators all the time in the workplace.*

Secondary prevention

- Get your employer to arrange a medical examination.

**Where to go if you have silicosis, silica related tuberculosis or silica related lung cancer attracted in the workplace?**

Contact the nearest Provincial Office of the Department of Labour for advice on how to apply for compensation from the Compensation Fund.

**What should you do if you need more information on Silicosis?**

Contact your nearest Provincial Office of the Department of Labour or visit the

Department's website at [www.labour.gov.za](http://www.labour.gov.za)

<b>Office</b>		<b>Tel. No</b>	<b>Fax. No</b>
<b>Head Office</b>	Pretoria	(012) 309 4000	(012) 309 4709
<b>Provincial Offices</b>			
<b>Eastern Cape</b>	East London	(043) 701 3000	(043) 743 9719
<b>Free State</b>	Bloemfontein	(051) 505 6200	(051) 447 9353
<b>Gauteng North</b>	Pretoria	(012) 309 5000	(012) 323 5449
<b>Gauteng South</b>	Johannesburg	(011) 497 3000	(011) 834 1081
<b>KwaZulu-Natal</b>	Durban	(031) 366 1500	(031) 307 6882
<b>Limpopo</b>	Polokwane	(015) 290 1744	(015) 290 1670
<b>Mpumalanga</b>	Witbank	(013) 655 8700	(013) 690 2622
<b>Northern Cape</b>	Kimberley	(053) 838 1500	(053) 832 4798
<b>North West</b>	Mmabatho	(018) 384 2033	(018) 384 2745
<b>Western Cape</b>	Cape Town	(021) 460 5911	(021) 465 7318



*A heap of the silica dust in the background.*



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