



Protecting Miners from Silica Dust:

Monitoring Your Exposure

Breathing silica dust can harm your health and increase risks of serious illnesses and even death.

Your mine operator is required to monitor your silica dust exposure by sampling the air you breathe while you are working and by evaluating the mining environment. The sampling and evaluation results determine the next steps your mine operator must take to ensure that your silica dust exposures remain below the permissible exposure limit (PEL) set by the Mine Safety and Health Administration (MSHA).



1. Sampling

How is silica dust sampling performed?

- Mine operators must conduct dust sampling to determine the concentration of silica dust in the air that miners breathe while working.
- Silica dust sampling must be conducted for the miner's full shift.
- Silica dust sampling must occur during typical mining activities, including shaft and slope sinking, construction, and removal of overburden.
- Where several miners perform the same task on the same shift and in the same work area, the mine operator may sample all of the miners in the group or a representative fraction (at least two) of the miners.
 - The sampled miners are expected to have the highest exposure to silica dust within the group.

What happens after your mine operator performs silica dust sampling?

- If the sampling result is **above the PEL of 50 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$)**, your mine operator must:
 - Immediately report overexposures to the MSHA District Manager or MSHA office designated by the District Manager.
 - Give affected miners approved respirators before the start of the next work shift.
 - Before wearing an approved respirator, miners must be trained about wearing respirators and be medically evaluated and fit tested, among other requirements.

- Make sure that affected miners wear their respirators properly.
- Immediately take corrective actions to lower the concentration of silica dust to at or below the PEL.
- Take additional or new corrective actions and continue sampling until silica dust is at or below the PEL.
- Record the corrective actions and the dates they were taken.
- If the sampling result is **at or above 25 µg/m³ (Action Level)**, but **at or below the PEL**, your mine operator must continue sampling every 3 months until the results of two consecutive samplings are below the Action Level.
- If the sampling result is **below the Action Level**, your mine operator must take at least one additional sample within 3 months. If the results of two consecutive samplings are below the Action Level, then your mine operator may stop sampling.

How do I know what the silica dust sampling results are?

- Your mine operator must post the silica dust sampling results on the mine bulletin board and share them with you electronically, if applicable, for 31 days after receiving a report from the laboratory that analyzed the dust samples from your mine.
- You should review the silica dust sampling results, so that you can be aware of the actions your mine operator takes to protect your health.

2. Evaluations

How often are periodic evaluations done?

Your mine operator must conduct periodic evaluations:

- When there is a change in: production; processes; installation or maintenance of engineering controls; installation or maintenance of equipment; administrative controls; or geological conditions; or
- At least every 6 months.

When is post-evaluation silica dust sampling done?

- Silica dust sampling must be conducted when the mine operator determines, after the evaluation, that miners may be exposed to silica dust at or above the Action Level.

How do I know what the periodic evaluation results are?

- Your mine operator must post the evaluation records on the mine bulletin board and share them with you electronically, if applicable, for 31 days following the completion of periodic evaluations.
- You should review the evaluation records so that you can be aware of the actions your mine operator takes to protect your health.

Contact

To learn more, visit MSHA's website at www.MSHA.gov.

If you have questions, email ASKMSHA@dol.gov.

To report a concern, contact your MSHA District Office.

