How can silica exposure be prevented?

✔ Never dry cut or grind concrete, granite or other silica-containing materials. Use all available work practices to control dust exposures and routinely maintain dust control systems to keep them in good working order.

✔ Provide engineering or administrative controls, such as local exhaust ventilation (with dust collectors), blasting cabinets or wet methods to prevent the release of dust into the air.

✔ Be aware of the operations and job tasks creating respirable dust particles in your workplace and know how to protect yourself.

✔ Wear disposable or washable protective clothes at the worksite.

✔ Do not cause dust to become airborne during clean-up. Remove dust from equipment with a water hose or wet-wiping rather than with compressed air. Use vacuums with high-efficiency particulate air (HEPA) filters, or use wet sweeping instead of dry sweeping.

✔ Participate in training, exposure monitoring, and health screening and surveillance programs to monitor any adverse health effects caused by crystalline silica exposures.

✔ Use proper respiratory protection when engineering controls cannot keep silica exposures below the National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit.
How to choose the right respirator to prevent silica exposure?

Developing and maintaining a comprehensive respiratory protection program is a critical component in controlling silica hazards in the workplace and required prior to the use of respirators in the workplace. Components of a comprehensive respiratory protection program include:

- Selection of appropriate NIOSH-approved respirators (N95 or greater)
- Regular training of personnel regarding silica exposures and appropriate use of respirators
- Medical evaluation of workers’ ability to safely use respiratory protection
- Annual respirator fit testing
- Appropriate inspection, cleaning, storage, and maintenance of respirators
- Environmental monitoring procedures
- Evaluation of the program’s effectiveness on a regular basis

NIOSH recommends the use of half-facepiece particulate respirators with N95 or better filters for airborne exposures to crystalline silica at concentrations less than or equal to 0.5 mg/m³. NIOSH recommends higher levels of respiratory protection at silica concentrations greater than 0.5 mg/m³.

Additional Resources:

U.S. Department of Labor Occupational Safety & Health Administration (OSHA)
http://www.osha.gov

National Institute for Occupational Safety and Health (NIOSH)
http://www.cdc.gov/niosh/topics/silica/ & http://www.cdc.gov/eid/content/16/2/pdfs/09-0824.pdf

Health and Safety Executive (HSE)
http://www.hse.gov.uk/pubns/

Office of Health, Safety and Security (HSS)
http://hss.energy.gov/index.html

New Jersey Department of Health and Senior Services
http://www.state.nj.us/health/

References:


Information contained within this fact sheet was extracted in part from the U.S. Department of Labor Occupational Safety & Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), and the New Jersey Department of Health and Senior Services.