

Silica (SiO₂)

Definition

Silica is one of the most abundant compounds in the Earth's crust, commonly found in rocks, sand, clay, soil, air, water and in some living organisms. The most important types are crystalline silica (quartz) and amorphous silica. Crystalline silica is commonly found in construction materials.

Where Does Silica Come From?

Apart from the environmental sources, it could be present in many common construction materials including sand, stone, asphalt, brick, cement, concrete, ceramics, brick, drywall, grout, granite, mortar, stone, sand, tile, glass and ceramics.

How Might I Be Exposed To Silica?

The general population is exposed through air, certain types of indoor dust (such as from concrete), food, water, soil, and some consumer products. However, most silica particles encountered by the general population in air, are too big (non-respirable) to breathe into the lungs and cause problems.

Potential Health Effects

Symptoms of the exposure to dust are respiratory, and can include irritated nose, throat and lungs. It can cause chronic obstructive pulmonary disease (COPD), lung cancer, kidney failure, autoimmune diseases, and increased susceptibility to tuberculosis. Breathing small crystalline silica particles for a long time (typically years), or following short-term exposure to extremely high concentrations, can end in silicosis which is a serious lung disease.

How Can I Reduce The Risk of Exposure To Silica?

Exposure to harmful levels of crystalline silica dust is most commonly found around Concrete Batch Plants and other related industries. Within the workplace, exposure can be reduced by changes in work practices, engineering controls to achieve dust containment and suppression, and the use of suitable personal protection equipment.



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Image Source: www.marinechemist.com/training/online/introduction-to-crystalline-silica/