



**WORKING SAFELY WITH
CONCRETE AND CEMENT**

Concrete is a common building material that can be used in a variety of ways. It's generally made by combining cement, sand, aggregate (small stones) and water. When these materials are mixed in the correct amounts and if they're further strengthened by adding rebar, fiberglass strands or plastic rods, the concrete can be used to build roads, bridges, buildings, septic tanks, floors, concrete blocks, and even countertops for homes. However, anyone who uses or works around concrete and cement should understand the potential health hazards and follow safe handling procedures to prevent harmful exposures.

There are some applications of concrete that necessitate the addition of other materials that could adversely affect health if improperly handled. Additions may include alkaline compounds (such as lime) that are corrosive to human tissue, small amounts of crystalline silica that are abrasive to skin and causes damage to lungs or small amounts of chromium that can cause allergic reactions. The risk of illness or injury from these additions in the concrete depends on the level and length of exposure and the sensitivity of the individual.

Adverse health effects from concrete or cement are generally the result of exposure through skin contact, eye contact or inhalation.

- Skin Contact – getting cement dust or wet concrete on your skin can cause burns, rashes, and skin irritations. Sometimes workers become allergic if they've had skin contact with cement over a long period of time.
- Eye Contact – getting concrete or cement dust in your eyes may cause immediate or delayed irritation of the eyes. Depending upon how much and for how long you get the dust in your eyes, effects to your eyes can range from redness to painful chemical burns.
- Inhalation – inhaling cement dust may occur when workers empty bags of cement to make concrete. When sanding, grinding, cutting, drilling or breaking up concrete, the dust generated has the same hazards as the dust from cement. Exposure to cement or concrete dust can cause nose and throat irritation. Long term exposure to concrete dust containing crystalline silica can lead to a disabling lung disease called silicosis.

There are ways to prevent or control negative health effects when working with concrete and cement. First of all, dress for protection. Wear alkali resistant gloves, long sleeves and pants to reduce skin exposure to

concrete or cement dust, and waterproof boots that are taller than the concrete is deep. Wear safety glasses with side shields to protect the eyes or if it's very dusty, goggles. Don't wear contact lenses. When dust can't be avoided, wear employer-approved respiratory protection. And remember to wash your hands and face before eating, drinking, smoking or using the toilet at the end of the day.

Secondly, follow all safe work practices and procedures. Work in ways that minimize the release of cement dust. Stay out of dusty areas, when possible. Mix dry cement in well-ventilated areas. Wet down the work to keep dust out of the air and use wet cut rather than dry cut masonry products. If it's necessary to kneel on fresh concrete, use a dry board or waterproof kneepads. Finally, if wet or dry concrete gets on your skin, wash it off as soon as possible.