



# Health Hazards of Dry & Wet Concrete

## Toolbox Talk Lesson Plan

Concrete is a common material that is used in many ways. Using concrete unsafely resulted in 28,000 job-related injuries or illnesses, and 42 deaths in one year. Concrete is generally made by combining cement, sand, aggregate (small stones) and water. It can be further strengthened by adding re-bar, fiberglass strands, or plastic rods.

Adverse health effects from cement generally result from exposure to skin or eye, or inhalation or ingestion of cement dust.

Skin Contact – getting cement dust or wet concrete on your skin can cause burns, rashes, and skin irritations, (dermatitis). Workers may become allergic to the chromate in cement if they've had skin contact with cement over a long period of time.

Eye Contact – getting concrete or dust in your eyes may cause immediate or delayed irritation of the eyes. Depending upon how much and for how long, effects 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 has the same hazards as dry cement mix. Exposure to cement or concrete dust can cause nose and throat irritation. Cement dust has been shown to contribute to lung function impairment, chronic obstructive lung diseases, pneumoconiosis and cancer of the lungs, stomach and colon. Long term exposure to concrete dust containing crystalline silica can lead to a disabling lung disease called silicosis.

- **Follow these work practices**

- Work in ways to minimize the release of cement dust.
- Stay out of dust that is created, Work in well-ventilated areas & upwind whenever possible
- Wet the work to keep dust down. New Jersey has a Dry Cutting Law when cutting, grinding, chipping, etc. masonry products.
- Practice good hygiene; wash your hands and face often, especially before eating, etc.
- Ensure provisions for eye washing is immediately available

- **Consider the following personal protective equipment guidelines**

- Wear long sleeves and long pants to reduce bare skin that can be exposed
- Wear work boots or water-proof boots if working in wet concrete.
- Gloves should be worn. Heavy leather gloves are appropriate for most jobs. If repeated direct contact with wet concrete is expected, wear water impervious gloves
- Wear safety glasses with side shields. If it's very dusty use goggles. Avoid contact lenses.
- When dust can't be avoided, wear employer-approved respiratory protection. An N95 should be appropriate for most exposures.
- If it's necessary to kneel on fresh concrete, use a dry board or waterproof kneepads.

Closing thought: Do not forget the sprain / strain hazards of lifting, carrying, and mixing concrete.

**Show the Safety Data Sheet for the cement products you use**

**Pass around pairs of approved gloves**

*This lesson plan is intended for general information purposes only. It should not be construed as legal advice or legal opinion regarding any specific or factual situation. Always follow your organization's policies and procedures as presented by your manager or supervisor. For further information regarding this bulletin, please contact your Safety Director at 877.398.3046.*