

< UJ` Cement 7 ca dUbm Cement Safety Information

Introduction

Cement is widely used in construction. Anyone who uses cement (or anything containing cement, such as mortar, plaster and concrete) or is responsible for managing its use should be aware that it presents a hazard to health.

Health effects

Cement can cause ill health mainly by:

- skin contact;
- inhalation of dust; and
- manual handling.

Skin contact

Contact with wet cement can cause both dermatitis and burns.

Dermatitis

Skin affected by dermatitis feels itchy and sore, and looks red, scaly and cracked. Cement is capable of causing dermatitis by two mechanisms - irritancy and allergy.

Irritant dermatitis is caused by the physical properties of cement that irritate the skin mechanically. The fine particles of cement, often mixed with sand or other aggregates to make mortar or concrete, can abrade the skin and cause irritation resulting in dermatitis. With treatment, irritant dermatitis will usually clear up. But if exposure continues over a longer period the condition will get worse and the individual is then more susceptible to allergic dermatitis.

Allergic dermatitis is caused by sensitisation to the hexavalent chromium (chromate) present in cement. The way this works is quite distinct from that of irritancy. Sensitisers penetrate the barrier layer of the skin and cause an allergic reaction. Hexavalent chromium is known to be the most common cause of allergic dermatitis in men. Once someone has become sensitised to hexavalent chromium, any future exposure may trigger dermatitis.

The longer the duration of skin contact with a sensitiser, the more it will penetrate the skin, and the greater the risk of sensitisation will become.

Therefore, if cement is left on the skin throughout the working day, rather than being washed off at intervals, the risk of contact sensitisation to hexavalent chromium will be increased. Both irritant and allergic dermatitis can affect a person at the same time.

Cement burns

Wet cement can cause burns. The principal cause is thought to be the alkalinity of the wet cement. If wet cement becomes trapped against the skin, for example by kneeling in it or if cement falls into a boot or glove, a serious burn or ulcer can rapidly develop. These often take months to heal, and in extreme cases will need skin grafts or can even lead to amputation. Serious chemical burns to the eyes can also be caused following a splash of cement.

Inhalation of dust

High levels of dust can be produced when cement is handled, for example when emptying or disposing of bags. In the short term, exposure to high levels of cement dust irritates the nose and throat. Scabbling or concrete cutting can also produce high levels of dust which may contain silica.

Manual handling

Working with cement also poses risks such as sprains and strains, particularly to the back, arms and shoulders from lifting and carrying cement bags, mixing mortar etc. More serious damage to the back can be caused in the long term if workers are continually lifting heavy weights.

III health prevention and health surveillance

Skin contact

HCC applies control measures which minimise contact with the skin either directly or indirectly from contaminated surfaces in the working environment. An important way of controlling cement dermatitis is by washing the skin with warm water and soap, or other skin cleanser, and drying the skin afterwards. Sinks should be large enough to wash the forearms and have both hot and cold (or warm) running water. Soap and towels should be provided. Facilities for drying clothes and changing clothes should also be available.

Gloves may help to protect skin from cement, but they may not be suitable for all aspects of construction site work. Caution is advised when using gloves as cement trapped against the skin inside the glove can cause a cement burn. You should provide protective clothing, including overalls with long sleeves and long trousers.

HCC ensures that its employees receive suitable health surveillance where there is exposure to a substance known to be associated with skin disease and where there is a reasonable likelihood that the disease may occur.

HCC's Health surveillance:

- protect employees;
- identifies as early as possible any indicators of skin changes related to exposure, so that steps can be taken to treat their condition; and

Health surveillance must never be regarded as reducing the need to control exposure or to wash cement off the skin.

Simple health surveillance will usually be sufficient. Skin inspections should be done at regular intervals by a competent person, and the results recorded. HCC has devised a suitable health surveillance program.

Employees should be encouraged to examine their own skin for any such signs and report them. Reports should be made to the 'responsible person' or to the occupational health nurse.

Inhalation of dust

Exposure to dust should be eliminated where possible. Where this is not possible, the risk should be assessed and appropriate control measures implemented.

Manual handling

Manual handling of heavy loads should be avoided. Where manual handling does take place, you should assess the risks and adopt appropriate risk control measures.