

Health and Safety

When to Take Care

Cement and concrete are two of the most widely used construction materials. Anyone who uses cement or concrete, or is responsible for managing or supervising their use should be aware that they may be a hazard. Professional advice should be obtained for appropriate risk management strategies.

Some Examples of Exposure:

1. Skin and Eye Conditions

Contact with cement or concrete can cause irritation to the skin and eyes resulting in skin conditions such as cement burns, cement dermatitis and dry skin or irritation to the eyes.

Cement Burns

If freshly mixed cement grout or concrete comes into contact with your skin or eyes e.g. by falling into your boots or gloves, or by splashing into your eyes, serious skin or eye burns can occur.

Dermatitis

Irritant or contact dermatitis can result from the combination of wetness, chemical corrosiveness and abrasiveness of cement grout or concrete. Allergic dermatitis can result when operators become sensitised to the chromium salts in cement or to some other additives.

How to Take Care

Safe work practices must always be employed to protect you and others from any hazards caused by working with wet concrete or grout.

Skin and Eye Protection

Personal Protective Equipment (PPE) must be provided to protect skin and eyes. The end user needs to determine that the PPE used on the job is appropriate for the end use it is being put to.

As a guide, equipment should and have been tested and shown to comply with either a NZS/AS Joint Standard, or an EN or ASI Standard. Equipment that should be shown to conform to one of these Standards are:

- Goggles.
- Long sleeves.
- Gloves.
- Safety rubber boots.
- Long pants.
- Barrier creams.

Clothes should be worn to avoid traps for fresh concrete to fall into i.e. sleeves over gloves, trouser legs over boots.

The alkalis in cement and concrete cause damage to unprotected skin, by dissolving out the natural oils and fats.

To minimize skin damage, use a high quality barrier cream applied prior to coming into contact with the cement or concrete (with repeated applications as it wears off) then at the end of the job, apply a lanoline based hand cream to replace any natural oils or fats removed from the skin during the day.

First Aid

- If concrete gets onto your skin, immediately flush skin with cool, clean water.
- Eye contamination should be flushed with cool, clean water for at least 15 minutes. Seek medical advice if irritation persists.

2. Dust

Concrete contains crystalline silica which is the most commonly found mineral on earth. Concrete dust contains particles of crystalline silica which if small enough can be breathed into the lungs. Exposure to this dust over a long period of time could result in your lungs being affected by damage and scarring resulting in shortness of breath and silicosis.

There is also some evidence that breathing silica dust may increase your chances of getting lung cancer. Smoking may also increase your chances of getting silica related lung disease.

You can be exposed to concrete dust in the following situations:

- Drilling.
- Opening premixed concrete bags.

How to Take Care

Safe work practices should always be employed to protect yourself and others from any hazards caused by working with dry concrete materials.

Preventing Exposure to Dust

Dust must be prevented from entering the lungs to protect against long term health effects. The methods for addressing this will depend on the results of a risk assessment and, where necessary, the advice of experts.

Extraction Systems, Good Ventilation and Safe Work Practices

These are the preferred methods for reducing the amount of dust in the air when required by risk assessments:

- Use power tools with dust extraction devices.

- Provide sealed control cabins.
- Wet down dusty work areas and processes.
- Clean up every day by wet sweeping or vacuuming.

When wetting down dusty areas, care needs to be exercised to ensure that the wash-down water does not drain into any stormwater system where it could harm aquatic life.

Personal Protective Equipment (PPE)

PPE may be required in addition to extraction systems, good ventilation and safe work practices.

- Use disposable masks for low levels of dust.
- Use half-face respirators with filters for medium dust levels.
- Use battery-powered respirators that filter air supplied to a full-face mask for high dust levels or where people have facial hair.

Professional advice should be sought in order to decide the choice of respirator for the application.

Preventing Harm From Other Hazards

Manual Handling

Assess the task, obtain correct equipment or seek help.

Noise, Falling Objects, Eye Particles, Skin Irritation

Wear other protective equipment as required:

- Hard hat.
- Long sleeves.
- Ear protection.
- Gloves.
- Eye protection.
- Long pants.
- Safety boots.

PPE must comply with New Zealand Standards.