



January 2012

What's New



NOHSC Exposure Guidelines for Hexavalent Chromium

The National Occupational Health and Safety Commission of Australia (NOHSC) has set the exposure limits for workers exposure to Hexavalent Chromium the permissible exposure limit (PEL). The PEL for Hexavalent Chromium is set at 0.5 milligrams per cubic meter of air (0.5 mg/cm³), calculated as an 8-hour time-weighted average (TWA).

Hand Protection For Hexavalent Chromium

The National Pollutant Inventory reporting list in Australia lists Hexavalent Chromium. Inhalation of Cr (VI) may cause damage and irritation to nose, throat, lungs and stomach and intestine or lead to asthma and other allergic reactions. Some of the water soluble Chromium (VI) compounds are listed by NOHSC as Category I carcinogens (substances known to be carcinogenic to humans).

This permissible exposure level in Australia is 10 times higher than the level that was previously allowed in the United States.

Occupational exposures to Hexavalent chromium can occur among workers worldwide handling pigments, spray paints and coatings containing chromates, operating chrome plating baths, and welding or cutting metals containing chromium such as stainless steel. Workers breathing Hexavalent chromium compounds in high concentrations over extended periods of time may risk developing lung cancer, irritation or damage to the eyes and skin.

Hexavalent chromium is also a potent skin sensitizer and is found in trace quantities in Portland cement. CEMENT Australia lists Mortar Mix as containing <14 ppm Hexavalent Chromium and <1 ppm of Hexavalent Chromium in the sand used in the mix.

The Australian Government Department of Sustainability, Environment, Water, Population and Communities lists the following sources of exposure to Hexavalent Chromium or Cr (VI): bricks and linings for furnaces, chrome plating, manufacture of dyes, wood and water treatment, galvanizing, printing, paints, degreasers, and rust converters in Australia.



BEST® Chem Master™ CHM features a Neoprene-over-Natural Rubber construction that also provides excellent abrasion, tear and puncture resistance.

The most common exposure is from breathing welding fumes, fumes from chromate plating and handling chromate chemicals.

Portland cement is an ingredient in the following materials:

- Concrete
- Mortar
- Plaster
- Grout
- Stucco
- Terrazzo

Occupations that are exposed to dangers of wet Portland cement include bricklayers, carpenters, cement masons, concrete finishers, laborers, plasterers, tile setters, terrazzo workers, ready-mixed concrete truck drivers, bucket and buggy operators and those involved in pouring and finishing work.

Wet Portland cement can cause caustic burns or cement burns manifested in blisters, dead or hardened skin, or black or green skin. In severe cases, these burns may extend to the bone and cause disfiguring scars or disability.

Hexavalent Chromium can cause an allergic sensitization which may cause a sensitized individual to overreact to small amounts of Hexavalent Chromium and experience allergic contact dermatitis. Sensitized persons must avoid contact with Hexavalent Chromium and may remain sensitized for years after exposure to Hexavalent Chromium has ended.

It is essential for employers to provide the proper gloves for employees working with wet Portland cement. The gloves must be well-fitting so that the wet cement does not get inside.

The following recommendations for safely removing gloves without contaminating your skin will help eliminate skin exposure to Hexavalent Chromium in Wet Cement:

1. Wash off the outside of your gloves while you are still wearing them.
2. Loosen gloves on both hands, holding your arms down to prevent water from dripping onto the skin.
3. Holding your arms downward, pull the first glove down to remove only the glove fingers. The cuff should still be covering the palm of your hand.
4. Remove the second glove by grabbing it with the first glove.
5. Slip off the first glove.
6. Handle used gloves by the inside only.

Cotton and Leather gloves should NOT be used for handling wet Portland cement.

Gloves that are not fully coated should NOT be used for handling wet Portland cement.

None of these types of gloves provide adequate protection.

Fully coated Chemical Resistant gloves should be the only gloves used when handling wet Portland cement and Showa/Best Glove has the right solution readily available in a variety of sizes that assure a good fit and offer an excellent barrier from exposure to wet Portland cement and Hexavalent Chromium.



BEST® Chlorofex™ 723 Neoprene gloves are NFPA 1992 Compliant for Splash Protection in a Hazmat situation.



BEST® Chlorofex™ 723, flock-lined Neoprene, 24 mil (0.61mm), 12" (30cm) long; suitable for manufacturing, petrochemicals, laboratories, refining, degreasing, electronic manufacturing.



BEST® Nitrile 7500PF disposable glove is specially suited to customers looking for a low cost, high quality disposable nitrile glove historically have had few options.

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Source:

1. NOHSC exposure guidelines for Hexavalent Chromium. *Australian Construction Safety Journal*, 1 #2, 46-47.



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