When water is added to the dry materials of Portland cement calcium hydroxide is formed; the wet cement is caustic (with a pH as high as 12.9) and can produce third-degree alkali burns after 2 hours of contact. Unlike professional cement workers, amateurs are usually not aware of any danger and may stand or kneel in the cement for long periods. As illustrated in a case report, general physicians may recognize neither the seriousness of the injury in its early stages nor the significance of a history of prolonged contact with wet cement. All people working with cement should be warned about its dangers and advised to immediately wash and dry the skin if contact does occur.

### ALKALI BURNS FROM WET CEMENT

When water is added to the dry materials of Portland cement calcium hydroxide is formed; the wet cement is caustic (with a pH as high as 12.9) and can produce third-degree alkali burns after 2 hours of contact. Unlike professional cement workers, amateurs are usually not aware of any danger and may stand or kneel in the cement for long periods. As illustrated in a case report, general physicians may recognize neither the seriousness of the injury in its early stages nor the significance of a history of prolonged contact with wet cement. All people working with cement should be warned about its dangers and advised to immediately wash and dry the skin if contact does occur.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

The best way to prevent cement-related skin problems is to minimize skin contact with wet portland cement. Compliance with OSHA’s requirements for provision of PPE, washing facilities, hazard communication and safety training, along with the good skin hygiene and work practices listed below, will protect against hazardous contact with wet cement.

- Anyone who may come into contact with wet portland cement should wear proper gloves. In question, consult the glove supplier or the cement manufacturer’s MSDS for help in choosing the proper gloves. Butyl or nitrile gloves (rather than cotton or leather gloves) are frequently recommended for caustic materials such as portland cement.
- Use only well-fitting gloves. Loose-fitting gloves let cement in. Often the use of gloves and clothing makes exposure worse when cement gets inside or soaks through the garment. Use glove liners for added comfort.
- Wash your and dry hands before putting on gloves. Wash your hands every time that you remove your gloves.
- Follow proper procedures for removing gloves, whether reusing or disposing them.
- Protect your arms, hands and legs by wearing a long sleeve shirt pants, duct-taped to your gloves and boots to prevent wet cement from getting inside.
- Wear protective goggles or face shield, hardhat, and protective over-boots.

### SKIN CARE

- Wash areas of the skin that come into contact with wet cement in clean, cool water. Use a pH-neutral or slightly acidic soap. Check with the soap supplier or manufacturer for information on the acidity and alkalinity of the soap.
- Consider using a mildly acidic solution such as diluted vinegar or a buffering solution to neutralize caustic residues of cement on the skin.
- Do not wash with abrasives or waterless hand cleaners, such as alcohol-based gels or citrus cleaners.
- Avoid wearing watches and rings at work since wet cement can collect under such items.
- Do not use lanolin, petroleum jelly, or other skin softening products. These substances can seal cement residue to the skin, increase the skin’s ability to absorb contaminants, and irritate the skin. Skin softening products also should not be used to treat cement burns.
**DANGER - CONCRETE MAY CAUSE BURNS TO EYES AND SKIN!**

**ROUTES OF ENTRY AND HEALTH EFFECTS:** WARNING: INJURIOUS TO EYE, CAUSES SKIN IRRITATION. READ THIS WARNING BEFORE USING.

**SKIN/EYE CONTACT:** Fresh ready-mixed concrete has an alkalinity level of pH12 to pH13, and therefore may cause irritation and alkali burns, particularly when exposure is an area of skin previously subjected to abrasive or IRRITATION. Prolonged or repeated contact may cause allergic dermatitis in sensitive individuals. Skin contact may cause local irritation of the affected areas. Preexisting skin conditions may be aggravated by exposure.

**INGESTION:** Unlikely, may cause irritation.

**INHALATION:** Fresh ready-mixed concrete does not pose an inhalation hazard. However, sawing, grinding, cutting, drilling, or otherwise disturbing hardened concrete may contribute to elevated of airborne repairable silica dust, which may cause silicosis. Always use appropriate respiratory protection in dusty environments.

**EMERGENCY AND FIRST AID PROCEDURES:** DANGER: MAY CAUSE BURNS TO EYES AND SKIN, READ BEFORE USING.

**SKIN CONTACT:** Wash skin with large amounts of soap and water. For minor irritation, apply a lanolin-containing cream to skin after washing. Contact a physician if persistent or severe irritation or discomfort occurs.

**EYE CONTACT:** Contact a physician immediately. Flush eyes with large amounts of water for at least 15 minutes.

**INGESTION:** Due to the nature of this material, it is unlikely that it will be ingested. If this does occur, remove individual from the area. If the individual is conscious, two or three glasses of milk or water should be provided to dilute stomach contents. Do not induce vomiting. Contact a physician or poison control center.

**AVISO: CONCRETO MEZCLADO FRESCO PUEDE CAUSAR IRRITACIÓN DE LA PIEL, GRAVES QUEMADAS QUÍMICAS O DAÑO PERJUDICIAL A LOS OJOS!!!**

(vea el lado contrario para precauciones)

- Evite contacto con la piel y lárese pronto las partes expuestas con agua.
- Si él polvo del cemento o la mezcla fresca de concreto le cae eu los ojos, enjuáguese los ojos inmediatamente y repetidamente con agua y obtenga pronto atencion medica.
- Evite contracto indirecto a través de la ropa. Enjuangue la ropa que h estado en contacto, cemento con el controlo, cemento o monter no mojado.
- Las siguientes clases de ropa debieran ser usados para obtuer contacto minimo cou la piel cuando sé usau estos productos:
  - botas de caucho altas y ajustadas suficiente para impedir e/ contacto
  - guantes de caucho
  - pantalones largos metidos dentro de las botas
  - cojincillo impermeables para los rodillas
  - gafas ahumadas que la queden bien pegadas a los oj

No Corra et Riesgo!

**CEEB TOOM: COV XIS MAS UAS NYUAM QHUAV TOV TAU MUAJI PEEV XWM UA KOM YUS TEJ TAWV NQAIJ MOB KHAUS, MUJA TSHUAJ KUB, LOSSIS UA KOM QHOV MUAG PÚAS.**

(xyuas sap nrauv kom paub bxhuag)

- Ua knm cov tawv nqaij bxhob muja Mob, muab dej ntxuav kom huv si.
- Yog cov hmoox lossis cov xis mas uas nyuam qhuav tov tau nkag rau hauv qhov muag yuav tsum tau maub ntxuav tamxh thiai ntxuav cvk huv siab ntxuav ib lwm thiai yuav tau maub tshuaj rau.
- Tsix bxhob pub kom cov hmoox xis mas paug rau cov khaub ncaws. Maub cov khaub nc0aws uas paug lossis lo xis ntxhua.
- Yog yuav tov lossis pua xis mas yuav tsum hnav cov khaub ncaws raws li nqaij nhauv cvk huv siab:
  - rau cov khaub roj hmb siab, rau cov khaub kom mws siab es cov xis mas thiaj li nkag tsis tau
  - rau hnav looj tes roj hmb
  - hnav ris ntov, nuab mtsaw rau hauv nkawm khau
  - rau cov looj hauv coaug thaiw dej
  - rau cov iav taiv qhov muag

Tsis Txhob Kav Liam!