

Skin health gets new attention Research suggests that a safety program for preventing irritant dermatitis should consist of more than just gloves

No man is born into the world, whose work
Is not born with him; there is always work,
And tools to work withal, for those who will;
And blessed are the horny hands of toil!

A Glance Behind the Curtain (1844)

These words of James Russell Lowell, an American poet who lived from 1819-1891, outline the traditional belief that associates a worker's potential success with the willingness to dirty one's hands. While most of us aren't old enough to remember the task of hand-breaking paper cement sacks in order to batch each load, today's concrete production employees still have to place their hands in the thick of their work.

In concrete production, tough work conditions expose workers to a higher than average amount of dangerous activity. Thus it's only natural for most owners and safety managers to focus on developing traditional safety practices such as lockout/tagout programs and improved driver training programs.

But according to many people who monitor safety, it's only a matter of time before OSHA turns its attention to other health issues in the concrete production industry. For example, the National Institute for Occupational Safety and Health (NIOSH) has been studying the relationship between allergic reactions and various chemicals found in fresh concrete. The American Portland Cement Alliance, a Washington D.C.-based lobbying group, has correspondingly formed a committee of cement industry experts to also study the potential connection.

Such "minor" health issues as skin

irritations are rarely documented or lead to lost-time accidents. They fall below most managers' radar screens of important topics, but potential federal policy makers aren't discounting them. According to one expert, skin diseases account for 20% of all work-related diseases, with a yearly cost of \$222 million to \$1 billion. These same experts estimate that portland cement causes 25% of all work-related skin diseases.

Does this driver have a skin problem? According to industry research, many concrete production employees suffer from mild cases of irritant dermatitis, even though they wear rubber gloves while performing their normal duties.



Skin protection plans loom

Researchers Rob Wolford and Marilyn Larson, FOF Communications, Washington, D.C., aren't surprised by the industry's apparent indifference towards employee skin and hand care. From October 1998 through September 1999, OSHA's last full reporting year, inspectors issued concrete producers only two citations for failure to follow the current hand protection standard (No. 1910.138). Wolford and Larson caution producers that OSHA's inattention to this standard may be about to change.

"Acceptable skin protection programs normally have been along the lines of providing proper gloves along with adequate hand-wash stations," says Wolford. But as OSHA policymakers refocus the agency's efforts toward health issues and incorporate some of the results now coming forth from NIOSH-funded research, concrete producers are advised to be ahead of the eventual enforcement activity by developing and implementing their own skin protection programs to meet the current standard.

The reason for developing a proactive skin-care procedure shouldn't be that OSHA may start levying fines. Producers should do it because their employees are having preventable problems. "Whether they recognize it or not, employees are suffering from skin

irritation problems that can be prevented,” says Wolford.

Wolford and Larson are developing data to support their claims of just how widespread the problem of damaged skin is in the concrete production industry. They have been studying cement-related skin problems for several years.

With funding from NIOSH, they began by completing research for the Center to Protect Workers’ Rights (CPWR), Washington, D.C. Their initial research on the effect of cement on the hands of masons and concrete finishers indicated that, while isolated exposures to the subliminal irritants may not lead to skin disease, repeated exposures without a chance for skin to heal can lead to irritant dermatitis (THE CONCRETE PRODUCER, May 1999).

NIOSH researchers remain interested in this topic. Earlier this year, NIOSH awarded CPWR a new grant to study the effectiveness of various techniques in eliminating irritant dermatitis related to working with fresh concrete. The empirical research will study how the skin of several human subjects, working in a number of work environments, responds to different protection techniques.

This past March, Wolford and Larson presented research findings to the American Contact Dermatitis Society. The research showed how chemical buffers—more than the traditional work practices such as wearing gloves, washing with plain water, or applying moisturizing or barrier creams—benefit the skin condition of employees who work around concrete.

Softening the hands of toil

A recent FOF-managed study shows concrete plant managers how common sore hands are among workers. The study found that more than half of 49 drivers who worked for a Midwestern ready-mix producer reported one or more skin-related symptoms in the previous 30 days.

Fortunately, most respondents classified their problems as either mild or moderate. The self-reported skin problems ranged from minor irritations

OSHA Regulation Standard 29 CFR Hand Protection—1910.138

General requirements.

“Employers shall select and require employees to use appropriate hand protection when employees’ hands are exposed to hazards such as those from skin absorption of harmful substances ... ”

Selection.

“Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.”

such as redness and itching to more severe problems such as blisters, bleeding, or scaling.

The survey was conducted before a field test in which the ready-mix truck drivers who complained of hand problems were allowed to test the effectiveness of a new buffering agent after 30 days. In addition, the company has a policy of proper washing and the use of gloves. The study group consisted of employees who had elected to try to use a buffering solution for the first time. One group received a bottle containing buffering solution, and one group received a bottle of solution without the buffering agent.

Drivers who used a buffering solution were nearly eight times more likely to report improvements than were

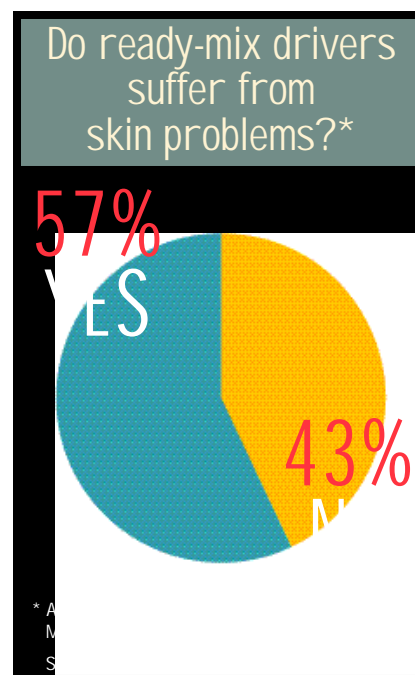
drivers who did not use it. Just as important, drivers who used the solution without a buffer reported no change in their hands, even though they had been following company procedures.

Other drivers using other skin protection methods reported improvements only if they used the buffer solution in addition to other controls such as gloves, moisturizing creams, and frequent hand washing.

These results, that normal safety procedures were ineffective in reducing the occurrence of skin problems, were consistent with other research performed by FOF. One surprising result of earlier research among masons was that unless workers frequently and carefully washed out their rubber gloves, the residue from cement actually increased the likelihood of skin irritation.

FOF research strongly indicates that concrete production employees are suffering skin problems that can be effectively improved with the use of a buffering agent. “It’s just a management decision to increase their safety and health activities for their employees,” says Wolford.

—Rick Yelton



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