

# GET THE WORD OUT

# CHECK THOSE GYM FLOORS FOR MERCURY

BY DOROTHY WIGMORE

"Local leaders should ask the administration about those rubberized floors," says Tracie Yostpille. "If you have them, they need to be tested."

As president of Freehold Township Education Association (FTEA), that's a lesson she learned quickly last fall. Despite years as a local leader, she'd never heard about the hazard with rubber-like polyurethane floors in gyms and other school spaces.

The district facilities use manager stumbled onto it at an August workshop. There, someone talked about what made the floors more pliable: a hazardous chemical called phenol mercuric acetate (PMA). Over time, and with use, it can break down, releasing toxic mercury vapor. (The hazards are listed on the side box.) The chemical is invisible, odorless, and comes off at room temperature; the warmer it is, the more off-gasses.

The district took action, arranging for the gym floor to be tested. It worked with FTEA, using NJEA's health and safety resources. They did air tests, closed the gym where test results were high, agreed to a presentation from a New Jersey Work Environment Council (WEC) hygiene consultant, and gave staff time off for health tests. The custodian, who also is chair of the union's health and safety committee "was vital in ensuring follow-up," Yostpille says.

The concrete floor also had high mercury levels, so the board will dig deeper. Next summer, the concrete will be removed down to where the mercury levels are really low, and a new floor will be installed.

"I think we're in a good place now," Yostpille says. "Because I have a strong union, I can make a phone call to get services for my members, to protect their health and safety. Working with the union and administration, we remediated something that could have been dreadful."

*Dorothy Wigmore is a long-time health and safety specialist, trained in occupational hygiene, ergonomics, work organization/stress and education. A former journalist, the Canadian has worked in the U.S. and Mozambique and been involved in efforts to prevent violence on the job since 1989.*

Other districts have not responded as Freehold did. In another district, parents and the local had to work together to get information and action.

## HOW MANY MORE ARE OUT THERE?

Although NJEA and WEC issued an alert in 2017, only 11 locals have asked for help with mercury in gym floors. The union suspects there are more mercury-laced floors out there, and some tests have had high results. You can read the alert at [njea.org/mercuryalert](http://njea.org/mercuryalert).

The problem goes beyond the floors. Once the PMA breaks down, the floors, and anything in contact with them, emit mercury indefinitely. It's worse if the floors are damaged or deteriorated, the room is hot, and/or ventilation is poor—especially if there's no outside air. Covering or sealing them is often ineffective. Mercury can penetrate and contaminate the materials placed on top, adding to costs of fixing the hazard.

## WHAT SHOULD BE DONE

### 1. Find and report suspect floors

- Use your health and safety committee or set one up.
- Ask the superintendent what kind of floors are in the school. Can they confirm or rule out the possibility that mercury is in the rubberized ones?
- At the same time, the committee can explore the school, looking for rubber-like floors that fit this description: Not wood or vinyl tile. Resilient, rubber-like, water-resistant. Can be any color. Usually poured into place.
- Use NJEA's brief form, found at [njea.org/find-report-floors](http://njea.org/find-report-floors), which helps report possible problems. Report suspect floors to your association representative.

### 2. If you find a suspect floor, demand tests

- The only way to know if a floor contains mercury is to test it. A competent person collects several small bulk samples that are the full floor thickness. They can do others for the concrete underneath. An accredited lab does the analysis.
- If results are above 1 part per million (ppm), the air needs to be checked. Proper tests are

done for a whole day in representative spots at the level of people's breathing zones (different for students and staff). For worst-case scenarios, doors and windows are closed, the ventilation system is turned off for 24 hours, and the room is as warm as on a hot day. Accredited labs analyze the samples.

- The sampling instrument must be able to measure extremely low concentrations. It needs to be able to pull in enough air to get to a low detection level (e.g., 0.1 µg/m<sup>3</sup>), because mercury has toxic effects at very low levels.
- Ask your UniServ representative for technical help, including how to interpret the results.

### 3. How do you know if the numbers are high?


The California Office of Environmental Health and Hazard Assessment (OEHHA) numbers are your best guide. You'll find them at [oehha.ca.gov/chemicals/mercury-inorganic](http://oehha.ca.gov/chemicals/mercury-inorganic). They are far more protective than others. Minnesota's—the one employers prefer to use—is more than 10 times higher than California's 60 ng/m<sup>3</sup> (also reported as 0.06 µg/m<sup>3</sup>).

### 4. What solutions are needed for unacceptable levels?

- The district should regularly provide clear information about what's happening—for staff, students, parents, contractors and visitors. It also should provide information about mercury's hazards and post warning signs.
- The local association should educate members about mercury's hazards and their health and safety rights.
- The best solution is to remove the floor and any contaminated concrete under it when there are few people in the building. Since the floors will release high amounts of mercury, trained contractors must do the work, protecting themselves, the school and people in it. As hazardous waste, the removed material must be disposed of properly.
- After removal, "clearance tests" should be done to ensure that mercury air levels are down. Results should not be more than 0.06 µg/m<sup>3</sup> or the "background" level (it

may be a bit higher).

· Until the floor is removed, the choices depend on the situation:

- Close the space off and increase the temperature and ventilation to release as much mercury vapour as possible, while paying attention to where it goes outside (avoid doing this if the exhaust is near air intakes, where children play, or people gather).
- If the gym must be used, or there are problems with where the exhaust goes, the ventilation or air conditioning needs to bring in lots of fresh air, the temperature should be low, and the room under negative pressure.
- Prevent installation of new mercury-containing floors. The district needs specs for new rubber-like floors and written statements from the manufacturer that they don't contain a mercury catalyst. The local union and health and safety committee should demand this. 

## FOR MORE INFORMATION

### Agency for Toxic Substances and Disease

**Registry (ATSDR):** "Mercury and Your Health," [bit.ly/atsdrmercury](http://bit.ly/atsdrmercury)

### National Institute for Occupational Safety and Health (NIOSH):

"Mercury," [bit.ly/cdcmercury](http://bit.ly/cdcmercury)

### NJEA, WEC and the Healthy Schools Now

**Coalition:** "Mercury hazard to staff and students from rubber-like floors in schools," [njea.org/download/14509](http://njea.org/download/14509)

### New Jersey School Board Association

(NJSBA) (with NJEA, WEC and the Healthy Schools Now Coalition)

**Health and Safety Guide:** "Mercury hazard in schools from rubber-like polyurethane floors," [njea.org/download/14515](http://njea.org/download/14515)

## MERCURY CAN AFFECT:

- The brain (starting with tremors, people appear drunk, leading to memory loss, and more; also affects behavior and personality)
- Kidneys
- Lungs
- Eyes
- Skin
- The fetus
- Heart rate and blood pressure
- Young children more than adults

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