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Asbestos in Play Sand

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Asbestos in the Play Sand

BY RICK MCGUIRE

LAS VEGAS When Jerrold Abraham, M.D., dumped a new bag of sand into his children's sandbox, he was surprised by the "dense cloud of smoky fine dust" that

hung in the air. But he was "shocked" when he took a sample of the sand into his laboratory at the State University of New York (SUNY), Syracuse. Using scanning electron microscopy

and energy dispersive x-rays, Dr. Abraham found tremolite asbestos in the children's play sand.

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Are children imperilled? Experts say yes. CPSC says no.

Asbestos in Play Sand

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Since then, the pathologist at the SUNY Health Science Center has checked eight brands of sandbox. "All of these products have between 100,000 and 1 million asbestos fibers per gram of sand, which is sufficient to give rise to airborne concentrations way above occupational limits," he said.

Presenting his findings at a recent meeting here of the American Lung Association, Dr. Abraham asked, "How can companies market something like this for kids to play in?"

Noting that the health hazards of asbestos-fiber inhalation are well recognized, he added, "With regard to long-term effects, we're particularly concerned with exposures occurring at a very young age."

While admitting that many sandboxes

are outdoors, where wind might help disperse asbestos fibers, Dr. Abraham is concerned with a trend toward indoor sandboxes in schools and day centers that are located in climates where outdoor activities are often restricted.

Dr. Abraham's data suggest that the potential indoor fiber concentrations are ~~about 100~~ well above recommended occupational and schoolroom asbestos exposure limits. "Higher concentrations would no doubt be reached under actual play conditions in which children throw the sand up in the air and at one another," he said. He has proposed regulatory actions to block the sale of asbestos-laden play sand, but the Consumer Product Safety Commission (CPSC) has refused to take any action.

*2 fiber/cc

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"They've known about the asbestos problem with these products since last summer, but they have refused to take any action," he said. "The commission continues to consider tremolite fiber found in the sands to be a nonhazardous substance that is not officially classified as a carcinogen."

not known to be hazardous. However, she added, "Our scientists have been very careful not to say that [nonfibrous tremolite] is safe, because we don't know." Ms. Elberle acknowledged that this is "an area of some scientific controversy."

Mark Gernine, M.D., has a strong

CPSC regarding what they call nonfibrous tremolite.

According to Kaye H. Kilburn, M.D., professor of medicine at the University of Southern California and a specialist in asbestos-related lung disease, Drs. Gernine and Abraham are correct

Dr. Kilburn added, "We shouldn't have to wait 20 years for disease or death in our children exposed to [contaminated sand] to prescribe that this is not healthy for our kids to play in."

Said Dr. Abraham, "I propose that the CPSC be pushed to take some action on

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"They've known about the asbestos problem with these products since last summer, but they have refused to take any action," he said. "The commission continues to consider tremolite fiber found in the sands to be a nonharmful substance that is not officially classified as a true asbestos."

However, he noted that a number of studies on tremolite fiber "clearly show" that it is associated with mesothelioma, a form of cancer that is caused by asbestos inhalation.

(Tremolite fibers are a natural component of crushed limestone and one of the materials used to produce play sand and other consumer products for lawns and gardens.)

In a telephone interview, Sandra Eberle, the program manager for chemical hazards at the CPSC, said that Dr. Abraham fails to differentiate between two distinct forms of tremolite. The fibrous form is found in one type of asbestos and is considered carcinogenic. As she explained it, this form is dangerous because it breaks down into progressively "thinner needlelike particles or fibers." This mechanical breakdown is generally considered to be a key element to its ability to injure cells.

On the other hand, she said, the non-fibrous form of tremolite found in sand is

not known to be hazardous. However, she added, "Our scientists have been very careful not to say that [nonfibrous tremolite] is safe, because we don't know." Ms. Eberle acknowledged that this is "an area of some scientific controversy."

Mark Germine, M.D., has a unique background to qualify him as an asbestos authority. He spent six years as a geologist doing asbestos research and is still a research professor in the geology department at Rutgers University.

However, he recently added a different title to his CV: he received his medical degree and is now in residence at New Jersey Medical School. As a geologist and as a physician, Dr. Germine called the CPSC position "complete nonsense."

He charged that the "CPSC consultants" work for the stone industry. Furthermore, he claimed, leaders in asbestos research believe that the tremolite found in sand is indeed asbestos.

'They're Both Dangerous'

"What [the CPSC] is saying is not supported by any factual evidence whatsoever," said Dr. Germine. "All experimental evidence to date indicates that there is only one variable relevant to the carcinogenicity of a mineral fiber, and that's the length and width of the fiber. And these sands have abundant fibers in the ranges known to be carcinogenic in animals."

Dr. Germine added that what he and others are seeing under the microscope when they look at play sands "totally contradicts" the claims made by the

CPSC regarding what they call nonfibrous tremolite.

According to Kaye H. Kilburn, M.D., professor of medicine at the University of Southern California and a specialist in asbestos-related lung disease, Drs. Germine and Abraham are correct. "There are variations in the diseases produced by various asbestos types, and the [asbestos] industry has made a lot of these differences," he said. "But it's the difference between the medical consequences of eating half a pound of arsenic or a full pound. We're talking degrees here, and they're both dangerous."

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Tremolite fiber over 25 microns long. 0.1-0.2 microns wide.

Dr. Kilburn added. "We shouldn't have to wait 20 years for disease or death in our children exposed to [contaminated sand] to proscribe that this is not healthy for our kids to play in."

Said Dr. Abraham: "I propose that the CPSC be pushed to take some action on this to require testing of such products before they are marketed so that products like [the ones he has studied] can't reach the market," he said.

The white and lightest-colored sands are the ones most likely to derive from crushed limestone and thus contain tremolite.

**Call tremolite asbestos
just as carcinogenic
as other kinds are**